

2022-2023 PRODUCT SDS SHEETS VOLUME 2 US

Prepared by:

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**PLEASE NOTE THAT PORTIONS OF CERTAIN LABELS HAVE BEEN REMOVED SINCE THEY ARE NOT
APPLICABLE TO BARTLETT OPERATIONS. COMPLETE LABELS AND SDS CAN BE FOUND IN OUR COMPANY ELECTRONIC
LIBRARY.**

2022-2023 SDS VOLUME 2 US

PLEASE NOTE THAT PORTIONS OF CERTAIN LABELS HAVE BEEN REMOVED SINCE THEY ARE NOT APPLICABLE TO OUR BARTLETT OPERATION. A COMPLETE LABEL CAN BE FOUND ON BANYAN.

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1 Identification

· Product identifier

· **Trade name:** *M-Pede® Insecticide-Miticide-Fungicide*

EPA Registration No.: 10163-324

· **CAS Number:** *Active Ingredient: Potassium Salts of Fatty Acids (49%), CAS:067701-09-1*

· **Application of the substance / the mixture** *Agricultural Insecticide-Miticide-Fungicide*

· Details of the supplier of the safety data sheet

· **Manufacturer/Supplier:**

Gowan Company

P.O. Box 5569

Yuma, Arizona 85366-5569

(928) 783-8844

· **Information department:** *sds@gowanco.com*

· **Emergency telephone number:**

Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300

Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency (Prosar®): (888) 478-0798

2 Hazard(s) identification

· Classification of the substance or mixture



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

· Label elements

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** *Warning*

· **Hazard statements**

H315 Causes skin irritation.

· **Precautionary statements**

P264 Wash thoroughly after handling.

P280 Wear protective gloves.

P302+P352 If on skin: Wash with plenty of water.

P321 Specific treatment (see on this label).

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

· **Hazard description:**

Causes substantial but temporary eye injury and skin irritation.

Do not get in eyes, on skin or clothing. Wear goggles or face shield. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 06/25/2019

Reviewed on 06/25/2019

Trade name: M-Pede® Insecticide-Miticide-Fungicide
EPA Registration No.: 10163-324

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
 Fire = 1
 Reactivity = 0

HAZARD INDEX:

4 Severe Hazard
 3 Serious Hazard
 2 Moderate Hazard
 1 Slight Hazard
 0 Minimal Hazard

- **Other hazards**
- **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable in US.
 - **vPvB:** Not applicable in US.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed.

· **Dangerous components:**

CAS: 67701-09-1	Potassium Salts of Fatty Acids	49.0%

4 First-aid measures

- **Description of first aid measures**
- **General information:**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

You may also contact 1-888-478-0798 for emergency medical treatment information.

No special measures required.
- **After inhalation:**
 - Move person to fresh air.
 - If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
 - Call poison control center or doctor for further treatment advice.
- **After skin contact:**
 - Take off contaminated clothing.
 - Rinse skin immediately with plenty of water for 15-20 minutes.
 - Call a poison control center or doctor for treatment advice.
- **After eye contact:**
 - Hold eye open and rinse slowly and gently with water for 15-20 minutes.
 - Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.
 - Call a poison control center or doctor for treatment advice.
- **After swallowing:**
 - Call a poison control center or doctor immediately for treatment advice.
 - Have person sip a glass of water if able to swallow.
 - Do not induce vomiting unless told to do so by a poison control center or doctor.
 - Do not give anything by mouth to an unconscious person.

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EPA Registration No.: 10163-324

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- **Information for doctor:**
 - **Most important symptoms and effects, both acute and delayed** Unknown
 - **Indication of any immediate medical attention and special treatment needed**
 Probable mucosal damage may contraindicate the use of gastric lavage.

5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
 CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
 Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Use water spray. Cool tank/container with water spray. If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water will increase contamination hazard.
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 Keep unnecessary people away and isolate hazard area. Wear appropriate personal protective equipment described in Section 8.
- **Environmental precautions:**
 Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
- **Methods and material for containment and cleaning up:**
 Contain spilled material if possible. Small spills: Absorb with materials such as clay, dirt, sand, or Zorb-all®. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Gowan Company for clean-up assistance.
- **Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
 Causes substantial but temporary eye injury and skin irritation. Do not get in eyes, on skin or clothing. Wear goggles or face shield. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.
 - **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:**
 Store only in original container; in a dry place; inaccessible to children and pets. Keep container tightly sealed when not in use.
 - **Information about storage in one common storage facility:** Store away from foodstuffs.
 - **Further information about storage conditions:** Store in a dry place.

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Trade name: M-Pede® Insecticide-Miticide-Fungicide
EPA Registration No.: 10163-324

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· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:**

The lists that were valid during the creation were used as basis.

Causes substantial but temporary eye injury and skin irritation. Do not get in eyes, on skin or clothing.

Wear goggles or face shield. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

· **Breathing equipment:** Not required.

· **Protection of hands:**



Protective gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Safety glasses

· **Body protection:**

• Coveralls

• Waterproof gloves

• Shoes plus socks

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:**

Liquid

· **Color:**

Yellow

· **Odor:**

Musty

· **Odor threshold:**

Not determined.

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Trade name: M-Pede® Insecticide-Miticide-Fungicide
EPA Registration No.: 10163-324

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· pH-value at 20 °C (68 °F):	10.2
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.
· Flash point:	160 °C (320 °F)
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.02 g/cm ³ (8.5119 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
· Water:	Dispersible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal conditions
 - **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
Oral	LD50	>5,050 mg/kg (rat)
Dermal	LD50	>2,020 mg/kg (rabbit)
Inhalative	LC50/4 h	>2.15 mg/l (rat)

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- **Primary irritant effect:**

- **on the skin:**

Brief contact may cause skin irritation with local redness. Prolonged contact may cause severe skin irritation with local redness and discomfort. Effects may be delayed. Prolonged skin contact is unlikely to result in absorption of harmful amounts.

- **on the eye:**

May cause moderate eye irritation. May cause corneal injury. Mist may cause eye irritation. Effects may be delayed.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

- **NTP (National Toxicology Program)**

None of the ingredients are listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

12 Ecological information

- **Toxicity**

This product may be hazardous to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:** Do not allow product to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

- **Uncleaned packagings:**

- **Recommendation:**

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in sanitary landfill or by incineration, if allowed by state and local authorities. If burned, stay out of

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Trade name: M-Pede® Insecticide-Miticide-Fungicide
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smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

14 Transport information

· UN-Number · DOT, ADR, ADN · IMDG, IATA	Not Regulated UN3082
· UN proper shipping name · DOT · ADR, ADN · IMDG · IATA	Non Bulk: Not Regulated Bulk (greater than 11,235 pounds): UN3082, RQ, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (Potassium Hydroxide), 9, PGIII Not Regulated ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
· Transport hazard class(es) · DOT, ADR, ADN · Class	Not Regulated
· IMDG, IATA  · Class · Label	9 Miscellaneous dangerous substances and articles 9
· Packing group · DOT, ADR · IMDG, IATA	Not Regulated III
· Environmental hazards: · Marine pollutant: · Special marking (IATA):	Yes Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · EMS Number:	Not applicable F-A,S-F

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· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

· **UN "Model Regulation":**

Non-bulk: Not regulated

Bulk (greater than 11,235 pounds): UN3082, RQ, Environmentally Hazardous Substance, Liquid, N.O.S., (contains Potassium Hydroxide), 9, PGIII

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

EPA /FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

· **SARA Title III**

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**

CAS: 67701-09-1 Potassium Salts of Fatty Acids

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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- **Hazard pictograms**

Not applicable

- **Signal word**

(USA EPA) WARNING

- **Hazard statements**

Causes substantial but temporary eye injury and skin irritation.

Do not get in eyes or on clothing.

Wear goggles or face shield.

Wash thoroughly with soap and water after handling.

Remove contaminated clothing and wash before reuse.

H315 Causes skin irritation.

- **Precautionary statements**

P264 Wash thoroughly after handling.

P280 Wear protective gloves.

P302+P352 If on skin: Wash with plenty of water.

P321 Specific treatment (see on this label).

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Supply Chain

- **Contact:** sds@gowanco.com

- **Date of preparation / last revision** 06/25/2019 / 7

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

- **Sources** M-Pede® is a registered trademark of Gowan Company, L.L.C.

- *** Data compared to the previous version altered.**

US



SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : Myclotect
Product code : EPA Reg. No. 42750-166-74779

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Fungicide

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

Hazard Identification Summary

White liquid

GHS Labeling Elements

Hazard pictograms (CLP)



GHS07

Signal word : WARNING

HEALTH HAZARDS

: Causes moderate eye irritation. Harmful if swallowed or absorbed through the skin.

PHYSICAL HAZARDS

: May release toxic fumes if burned.

ENVIRONMENTAL HAZARDS

: Toxic to aquatic life.

SECTION 3: Composition/information on ingredients

Component	Percentage	CAS Number
Myclobutanil	19.7	88671-89-0
Petroleum distillates	25.0	64742-94-5
Naphthalene	3.5	91-20-3



Myclotect

Safety Data Sheet

US and GHS

Revision date: March 25, 2015

Version: 1.0

Component	Percentage	CAS Number
Cyclohexanone	10.0	108-94-1

SECTION 4: First aid measures

4.1. Description of first aid measures

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

- IF IN EYES** : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
- IF SWALLOWED** : Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.
- IF ON SKIN OR CLOTHING** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
- IF INHALED** : Move person to fresh air, if person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
- NOTE TO PHYSICIAN** : Contains petroleum distillate – vomiting may cause aspiration pneumonia.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5: Firefighting measures

National Fire Protection Rating (NFPA)

HEALTH	2
FLAMMABILITY	1
REACTIVITY	0
4 = Severe 3 = Serious 2 = Moderate 1 = Slight 0 = Minimal	

FLASHPOINT: > 200°F (95°C)

5.1. Extinguishing media

- EXTINGUISHING MEDIA** : Water fog or fine spray, dry chemical, carbon dioxide or alcohol resistant foam.

5.2. Special hazards arising from the substance or mixture

- FIRE AND EXPLOSION HAZARD** : Vapors from product can be flammable. Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.
- HAZARDOUS DECOMPOSITION PRODUCTS** : Hydrogen chloride, hydrogen cyanide, oxides of nitrogen, carbon monoxide



Myclotect

Safety Data Sheet

US and GHS

Revision date: March 25, 2015

Version: 1.0

5.3. Advice for firefighters

FIRE FIGHTING INSTRUCTIONS

: Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Fire exposed containers can build up pressure and should be kept cool with water spray if possible. Dike and collect water used to fight fire to prevent environmental damage due to run off. Minimize use of water to prevent environmental contamination

FIRE FIGHTING EQUIPMENT

: Self-contained breathing apparatus with full facepiece and protective clothing.

SECTION 6: Accidental release measures

Clean up spills immediately. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Wear appropriate personal protection equipment. (See Section 8 Exposure Controls, Personal Protection.)

SMALL SPILL

: Absorb small spills on sand, vermiculite, or other inert absorbent. Place contaminated material in appropriate container for disposal.

LARGE SPILL

: Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, scrub the area with detergent and water and neutralize with dilute alkaline solutions of soda ash, or lime.

This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. After removal, flush contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container.

Minimize use of water to prevent environmental contamination.

SECTION 7: Handling and storage

KEEP OUT OF REACH OF CHILDREN!

Do not contaminate water, food or feed by storage or disposal

7.1. Precautions for safe handling

HANDLING

: Use only in a well-ventilated area. Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate.

7.2. Conditions for safe storage, including any incompatibilities

STORAGE

: Store in a cool, dry secure area at temperatures above freezing. Store in original container. Keep away from food, feed and drinking water. Store in a well-ventilated, dry place away from heat and other sources of ignition.



SECTION 8: Exposure controls/personal protection

EXPOSURE LIMITS (8 hour TWA, ppm):

COMPONENT	OSHA PEL	ACIGH TLV
Myclobutanil	Not listed	Not listed
Cyclohexanone	25	20
Naphthalene	10	10

ENGINEERING CONTROLS

: Proper ventilation is required when handling or using this product to minimize exposure to airborne contaminants. Local mechanical exhaust ventilation may be required. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Personal Protective Equipment

EYE PROTECTION

: Safety goggles, face shield or full face respirator if vapors cause eye discomfort.

CLOTHING

: Long-sleeved shirt and long pants. Shoes plus socks.

GLOVES

: Chemical resistant gloves such as barrier laminate.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

Wash hands before eating, drinking or chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: White liquid
Odor	: Fuel oil like
pH	: 5.5 – 6.6
Melting point	: Not applicable
Boiling point	: No data
Flash point	: > 200°F (95°C)
Evaporation rate	: No data
Flammability	: 60°C
Flammability limits	: Not applicable
Vapor pressure	: 0.213 mPa (24°C) (myclobutanil)
Vapor density	: Not applicable



Myclotect

Safety Data Sheet

US and GHS

Revision date: March 25, 2015

Version: 1.0

Density	: 0.99 – 1.03 g/ml (8.22 – 8.6 lb/gal)*
Solubility	: Emulsifies
Partition coefficient	: Log P _{ow} = 2.94 (pH 7-8, 25°C), -0.45 (pH7) (myclobutanil)
Auto-ignition temperature	: No data
Decomposition temperature	: No data
Viscosity	: 528.8 mPa/s (20°C); 491.3 mPa/s (40°C)

*Listed density is an approximate value and does not necessarily represent that of a specific batch.

SECTION 10: Stability and reactivity

10.1. Reactivity

PRODUCT REACTIVITY: None known

10.2. Chemical stability

CHEMICAL STABILITY: Stable under normal storage conditions. However may decompose if heated.

10.3. Possibility of hazardous reactions

Product will not undergo polymerization.

10.4. Conditions to avoid

CONDITIONS TO AVOID: Avoid ignition sources and temperatures below 35°F and above 120°F

10.5. Incompatible materials

INCOMPATIBLE MATERIALS: Acidic and oxidizing materials.

10.6. Hazardous decomposition products

Hydrogen chloride, oxides of nitrogen

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity values are from a similar but not identical formulation.

ACUTE TOXICITY

Oral LD ₅₀ (rat)	: >3,500 mg/Kg
Dermal LD ₅₀ (rat)	: >2,000 mg/Kg
Inhalation LC ₅₀ (rat)	: Unknown
Eye Irritation (rabbit)	: Moderately irritating
Skin Irritation (rabbit)	: Slightly irritating
Sensitization (guinea pig)	: Non-sensitizer

CARCINOGEN STATUS

OSHA	: Not listed
NTP	: Not listed
IARC	: Not listed

TERATOGENICITY

: Myclobutanil exhibited reproductive toxicity in long term rat and rabbit studies at moderate doses.



Myclotect

Safety Data Sheet

US and GHS

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MUTAGENICITY

: In-vitro and animal evidence indicates that myclobutanil is non-mutagenic

SECTION 12: Ecological information

12.1. Toxicity

ENVIRONMENTAL SUMMARY: Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift or runoff from areas treated.

FATE: Myclobutanil is moderately persistent with a half-life > 365 days and moderately mobile in soil.

FISH TOXICITY (technical)

96 hour LC₅₀, Rainbow trout : 4.2 ppm

96 hour LC₅₀, Bluegill : 2.4 ppm

AVIAN TOXICITY (technical)

Dietary LC₅₀, Bobwhite quail : >5,000 ppm

Dietary LC₅₀, Mallard duck : >5,000 ppm

BEE TOXICITY (technical)

Triclopyr acid - : >200 ug/bee

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Do not contaminate water, food or feed by storage or disposal.

WASTE: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER: Non-refillable containers: Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Refer to the product label for additional and complete Container Handling instructions.

Refillable container: Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Refer to the container label to determine if it is refillable and complete cleaning and disposal instructions



SECTION 14: Transport information

SHIPPING DESCRIPTION : Not regulated by DOT
(Non-bulk ground transport)

TRANSPORT HAZARD CLASS : N/A
UN NUMBER : N/A
DOT PACKING GROUP : PG III

SECTION 15: Regulatory information

CERCLA REPORTABLE QUANTITY : 100 lb Naphthalene (approximately 325 gallons of product)
5,000 lb Cyclohexanone (approximately 5,900 gallons of product)

SARA TITLE III STATUS
311/312 Hazard Categories : Immediate, Delayed
313 Toxic Chemicals : Myclobutanil (88671-89-0)

CALIFORNIA PROP 65 : Contains myclobutanil

TSCA : This product is exempted from TSCA because it is solely for FIFRA regulated use.

SECTION 16: Other information

HMIS HAZARD RATINGS	HEALTH	2
	FLAMMABILITY	1
	PHYSICAL HAZARD	0
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

MSDS US

It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of Rainbow Treecare Scientific Advancements' knowledge. Rainbow Treecare Scientific Advancements makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling.

1. Identification

Product identifier	ALCO™ OLIVE STOP™	
Other means of identification		
SDS number	156	
Product registration number	5481-66	
Recommended use	Synthetic plant growth regulator.	
Recommended restrictions	None known.	
EPA Registration number	EPA: 5481-66	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	AMVAC Chemical Corporation	
Address	4695 MacArthur Court Suite 1200 Newport Beach, CA 92660 United States	
Telephone	AMVAC Chemical Corp	949-260-1200
	AMVAC Chemical Corp	949-260-6270(FAX)
Website	www.amvac.com	
E-mail	CustServ@amvac.com	
Emergency phone number	Medical	888-681-4261
	CHEMTREC® (USA+Canada)	800-424-9300
	Product Use	888-462-6822
	CHEMTREC® (Outside USA)	+1-703-527-3887

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	5.68% of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Ammonium naphthalene-1-acetate		25545-89-5	5.68
Other components			94.32

Additional components

Chemical name	Common name and synonyms	CAS number	%
AMMONIA		7664-41-7	Trace amounts

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Not applicable, non-combustible.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	None (non-combustible).
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: For waste disposal, see section 13 of the SDS. Large Spills: Dike the spilled material. Siphon the spilled liquid into a recovery drum for reuse or disposal, depending on the circumstances. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Additional components	Type	Value
AMMONIA (CAS 7664-41-7)	PEL	35 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Additional components	Type	Value
		50 ppm

US. ACGIH Threshold Limit Values

Additional components	Type	Value
AMMONIA (CAS 7664-41-7)	STEL	35 ppm
	TWA	25 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Additional components	Type	Value
AMMONIA (CAS 7664-41-7)	STEL	27 mg/m3
		35 ppm
	TWA	18 mg/m3
		25 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Not applicable.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Physical state Liquid.
Form Liquid.
Color Colourless to light yellow.

Odor Slight Ammoniacal.

Odor threshold Not available.

pH 9 - 10 (as is)

Melting point/freezing point 30 °F (-1 °C)

Initial boiling point and boiling range 213.8 °F (101 °C)

Flash point Not applicable - water based solution

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	1.10E-05 hPa estimated
Vapor density	Not available.
Relative density	1.016
Relative density temperature	68 °F (20 °C)
Solubility(ies)	
Solubility (water)	Miscible
Solubility (solvents)	Alcohols
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	1.016 @ 20°C/4°C

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	Prolonged skin contact may cause temporary irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.

Product	Species	Test Results
ALCO™ OLIVE STOP™		
Oral		
<i>Liquid</i>		
LD50	Rat	> 5050 mg/kg (male) > 4400 mg/kg (female)
<u>Acute</u>		
Dermal		
<i>Liquid</i>		
LD50	Rabbit	> 2020 mg/kg
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.	

Irritation Corrosion - Skin
ALCO™ OLIVE STOP™

Result: irritant
Species: Rabbit
Organ: skin
Severity: minimal

Serious eye damage/eye irritation

Direct contact with eyes may cause temporary irritation.

Irritation Corrosion - Eye
ALCO™ OLIVE STOP™

Result: Irritant
Species: Rabbit
Organ: eye
Severity: minimal

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Skin sensitization
ALCO™ OLIVE STOP™

Result: Not a sensitizer
Species: Guinea pig
Organ: skin

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

Structurally related compounds, sodium salt of Naphthaleneacetic acid (NAA) and Naphthaleneacetamide (NAD), have shown no evidence of carcinogenicity when tested in laboratory animals.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects. No evidence of reproductive toxicity has been observed with the sodium salt, 1-NAANA. At the highest dose tested there was some evidence of parental toxicity with accompanying associated effects on offspring survival and growth.

Specific target organ toxicity - single exposure

Not classified.

Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

12. Ecological information

Ecotoxicity

This product is a plant growth regulator. Do not contaminate bodies of water with product.

Additional components

Species

Test Results

AMMONIA (CAS 7664-41-7)

Aquatic

Acute

Fish

LC50

Silver carp (*Hypophthalmichthys molitrix*) 0.38 mg/l, 96 hours

Persistence and degradability

No data is available on the degradability of this product.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal methods/information). Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not established.

15. Regulatory information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.
United States Environmental Protection Agency (EPA) Labeling Requirements: This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

CAUTION! Harmful if swallowed, absorbed through skin or inhaled. Avoid contact with eyes, skin, and clothing. In case of eye contact, immediately flush eyes with plenty of water. Get medical attention if irritation persists.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater. Avoid drift of spray mist.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

AMMONIA (CAS 7664-41-7) Listed.

SARA 304 Emergency release notification

Ammonia (CAS 7664-41-7) 100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
AMMONIA	7664-41-7	100	500		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

AMMONIA (CAS 7664-41-7)

Safe Drinking Water Act (SDWA) Contains component(s) regulated under the Safe Drinking Water Act.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date May-31-2015

Revision date Jul-06-2021

References

ACGIH®: American Conference of Governmental Industrial Hygienists
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
EPA: Environmental Protection Agency
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
IARC: International Agency for Research on Cancer
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Agency
SARA: Superfund Amendments and Reauthorization Act
TSCA: Toxic Substances Control Act
DOT: Department of Transportation
IMDG: International Maritime Dangerous Goods
IATA: International Air Transport Association

Version # 3.1

HMIS® ratings
Health: 1
Flammability: 0
Physical hazard: 0

NFPA ratings
Health: 1
Flammability: 0
Instability: 0

Disclaimer

This information is provided for the limited guidance to the user. While AMVAC believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.

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HMIS is a trademark of the American Coatings Association.

NFPA is a trademark of the National Fire Protection Association, Inc.

Revision information

Product and Company Identification: Product and Company Identification

Hazard(s) identification: Supplemental information

Physical & Chemical Properties: Multiple Properties

Toxicological information: Acute toxicity

Toxicological information: Skin contact

Regulatory information: California Proposition 65

Regulatory information: US state regulations

Other information, including date of preparation or last revision: Disclaimer

1. Identification

Product identifier used on the label

Orchestra Intrinsic Brand Fungicide

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, fungicide

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number: 619111
EPA Registration number: 7969-370
Synonyms: fluxapyroxad + pyraclostrobin

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	3 (oral)	Acute toxicity
Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
Repr.	Add. cat. lact.	Reproductive toxicity
STOT SE	3 (irritating to)	Specific target organ toxicity — single exposure

Aquatic Acute	1	respiratory system)	Hazardous to the aquatic environment - acute
Aquatic Chronic	1		Hazardous to the aquatic environment - chronic
Skin Sens.	1		Skin sensitization

Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:

H315	Causes skin irritation.
H332	Harmful if inhaled.
H301	Toxic if swallowed.
H317	May cause an allergic skin reaction.
H362	May cause harm to breast-fed children.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P260	Do not breathe dust/mist/vapours.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash contaminated body parts thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P263	Avoid contact during pregnancy and while nursing.
P270	Do not eat, drink or smoke when using this product.

Precautionary Statements (Response):

P312	Call a POISON CENTER or physician if you feel unwell.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P330	Rinse mouth
P391	Collect spillage.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P332 + P313	If skin irritation occurs: Get medical attention.
P308 + P313	IF exposed or concerned: Get medical attention.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

pyraclostrobin

CAS Number: 175013-18-0

Content (W/W): 21.26 %

Synonym: Carbamic acid, [2-[[[1-(4-chlorophenyl)-1H-pyrazol-3-yl]oxy]methyl]phenyl]methoxy-, methyl ester

Fluxapyroxad

CAS Number: 907204-31-3

Content (W/W): 21.26 %

Synonym: 3-(difluoromethyl)-1-methyl-N-(3',4',5'-trifluoro[1,1'-biphenyl]-2-yl)-1H-pyrazole-4-carboxamide

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, carbon dioxide, foam, dry powder

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, carbon dioxide, Hydrogen chloride, hydrogen fluoride, hydrogen bromide, nitrogen oxides, halogenated compounds, sulfur oxides
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect against heat. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation.

Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

Protect from temperatures below: 0 °C

The product can crystallize below the limit temperature.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

No substance specific occupational exposure limits known.

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid	
Odour:	fruity, faint odour	
Odour threshold:	Not determined since harmful by inhalation.	
Colour:	beige	
pH value:	approx. 6 - 8 (1 %(m), 20 °C)	(pH Meter)
crystallization temperature:	approx. -6.7 °C	
Boiling point:	approx. 100 °C	
Flash point:	No flash point - Measurement made up to the boiling point.	
Flammability:	not applicable	
Autoignition:	517 °C	(Directive 92/69/EEC, A.15)
SADT:	> 75 °C Heat accumulation / Dewar 500 ml (SADT, UN-Test H.4, 28.4.4)	
Vapour pressure:	approx. 23 hPa (20 °C)	
Density:	Information applies to the solvent. approx. 1.18 g/cm3 (20 °C)	(OECD Guideline 109)
Vapour density:	not applicable	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Thermal decomposition:	160 °C, 110 kJ/kg (DSC (OECD 113)) (onset temperature) 270 °C, 320 kJ/kg (DSC (OECD 113)) (onset temperature) 410 °C, > 80 kJ/kg (DSC (OECD 113)) (onset temperature) Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	
Viscosity, dynamic:	approx. 50 mPa.s (20 °C)	(OECD 114)
Solubility in water:	dispersible	
Evaporation rate:	not applicable	

10. Stability and Reactivity
Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:

not fire-propagating (Directive 2004/73/EC, A.21)

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

Incompatible materials

strong oxidizing agents, strong bases, strong acids

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

160 °C, 2.5 K/min (DSC (OECD 113))

(onset temperature)

270 °C, 2.5 K/min (DSC (OECD 113))

(onset temperature)

410 °C, 2.5 K/min (DSC (OECD 113))

(onset temperature) Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.

11. Toxicological information**Primary routes of exposure**

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/EffectsAcute toxicity

Assessment of acute toxicity: Of pronounced toxicity after single ingestion. Of moderate toxicity after short-term inhalation. Virtually nontoxic after a single skin contact. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Oral

Type of value: LD50

Species: rat (female)

Value: > 50 - < 300 mg/kg (OECD Guideline 423)

Inhalation

Type of value: LC50

Species: rat (female)

Value: 2.81 mg/l (OECD Guideline 403)

Exposure time: 4 h

An aerosol was tested.

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 5,000 mg/kg (OECD Guideline 402)

No mortality was observed.

Assessment other acute effects

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion

Assessment of irritating effects: May cause slight but temporary irritation to the eyes. May cause moderate irritation to the skin.

Skin

Species: rabbit

Result: Slightly irritating.

Method: OECD Guideline 404

Eye

Species: rabbit

Result: non-irritant

Method: OECD Guideline 405

Sensitization

Buehler test

Species: guinea pig

Result: Non-sensitizing.

Method: OECD Guideline 406

Aspiration Hazard

No aspiration hazard expected. The product has not been tested. The statement has been derived from the properties of the individual components.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Fluxapyroxad

Assessment of repeated dose toxicity: Adaptive effects were observed after repeated exposure in animal studies.

Information on: pyraclostrobin

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Fluxapyroxad

Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests. The effect is caused by an animal specific mechanism that has no human counter part.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Fluxapyroxad

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. May cause harm to children via breast-feeding.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic (acute effect) to fish. Very toxic (acute effect) to aquatic invertebrates. Acutely toxic for aquatic plants.

Toxicity to fish

Information on: Fluxapyroxad

LC50 (96 h) 0.29 mg/l, Cyprinus carpio (Fish test acute, semistatic)

LC50 (96 h) 0.546 mg/l, Oncorhynchus mykiss (OECD Guideline 203, static)

LC50 (96 h) 1.15 mg/l, Lepomis macrochirus (OECD Guideline 203, static)

LC50 (96 h) 0.466 mg/l, Pimephales promelas (OECD Guideline 203, static)

Information on: pyraclostrobin

LC50 (96 h) 0.00616 mg/l, Oncorhynchus mykiss (EPA 72-1, Flow through.)

Aquatic invertebrates

Information on: Fluxapyroxad

EC50 (48 h) 6.78 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Information on: pyraclostrobin

EC50 (48 h) 0.0157 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants

Information on: *Fluxapyroxad*

EC50 (72 h) 0.70 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

EC50 (96 h) 0.66 mg/l (growth rate), *Pseudokirchneriella subcapitata*

EC10 (72 h) 0.31 mg/l (growth rate), *Pseudokirchneriella subcapitata*

EC10 (96 h) 0.36 mg/l (growth rate), *Pseudokirchneriella subcapitata*

Information on: *pyraclostrobin*

EC50 (72 h) > 0.843 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

EC10 (72 h) 0.078 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

Chronic toxicity to fish

Information on: *Fluxapyroxad*

No observed effect concentration (33 d) 0.0359 mg/l, *Pimephales promelas* (OECD Guideline 210, Flow through.)

Information on: *pyraclostrobin*

No observed effect concentration (98 d) approx. 0.00235 mg/l, *Oncorhynchus mykiss* (OECD Guideline 210, Flow through.)

Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Hazard class: 6.1

Packing group: III

ID number: UN 2902

Hazard label: 6.1, EHS

Proper shipping name: PESTICIDE, LIQUID, TOXIC, N.O.S. (contains PYRACLOSTROBIN, FLUXAPYROXAD)

Sea transport

IMDG

Hazard class: 6.1
Packing group: III
ID number: UN 2902
Hazard label: 6.1, EHS
Marine pollutant: YES
Proper shipping name: PESTICIDE, LIQUID, TOXIC, N.O.S. (contains PYRACLOSTROBIN, FLUXAPYROXAD)

Air transport

IATA/ICAO

Hazard class: 6.1
Packing group: III
ID number: UN 2902
Hazard label: 6.1
Proper shipping name: PESTICIDE, LIQUID, TOXIC, N.O.S. (contains PYRACLOSTROBIN, FLUXAPYROXAD)

Further information

This product may be classified as limited quantity in selected package sizes.

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection TSCA, US released / exempt

Chemical TSCA, US blocked / not listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

State regulations

State RTK

PA

NJ

CAS Number

57-55-6

57-55-6

Chemical name

Propylene glycol

Propylene glycol

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s), this product does not require a California Proposition 65 Warning.

Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

WARNING:
KEEP OUT OF REACH OF CHILDREN.
May be fatal if swallowed.
Avoid contact with the skin, eyes and clothing.

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2021/09/14

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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END OF DATA SHEET

Issue Date 22-Jan-2015

Revision Date 19-Sep-2019

Version 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier.

Product Name ORNAMEC® Over-The-Top Grass Herbicide

Other means of identification

Product Code PBI FP 7781086

EPA Pesticide Registration Number 2217-728

Product Size 12/1 U.S. Quart

Recommended use of the chemical and restrictions on use

Recommended Use Herbicide

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address

PBI-Gordon Corporation
P.O. Box 860350
Shawnee, KS 66286

Company Name

PBI-Gordon Corporation
P.O. Box 860350
Shawnee, KS 66286

Manufacturer

PBI-Gordon Corporation
P.O. Box 860350
Shawnee, KS 66286

Emergency telephone number

24 Hour Emergency Phone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute Inhalation Toxicity - Gases	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2
Aspiration hazard	Category 1
Acute Aquatic Toxicity	Category 2
Chronic Aquatic Toxicity	Category 2
Flammable liquids	Category 3

Label elements

Emergency Overview

Signal word

Danger

Hazard statements

- Toxic if inhaled
- May cause genetic defects
- May cause cancer
- Suspected of damaging fertility or the unborn child
- Toxic to aquatic life with long lasting effects
- May be fatal if swallowed and enters airways
- Flammable liquid and vapor



Appearance Liquid

Physical state Liquid

Odor Solvent

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
In case of fire: Use CO₂, dry chemical, or foam to extinguish

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Have the product label with you when calling a poison control center or doctor or going in for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.

Other information

Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS-No	Weight-%
Trade Secret	Trade secret	40 - 50%
Trade Secret	Trade secret	40 - 50%
Fluazifop-p-butyl	79241-46-6	6.75
Trade Secret	Trade secret	0 - 10%
Trade Secret	Trade secret	0 - 10%

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Inhalation	Remove to fresh air. Aspiration into lungs can produce severe lung damage. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Delayed pulmonary edema may occur. Call a physician.
Ingestion	ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. Dizziness.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Contains petroleum distillate - vomiting may cause aspiration pneumonia.

5. FIRE-FIGHTING MEASURES

<u>Suitable Extinguishing Media</u>	Dry chemical. Carbon dioxide (CO ₂). Alcohol resistant foam.
<u>Unsuitable extinguishing media</u>	CAUTION: Use of water spray when fighting fire may be inefficient.
<u>Specific hazards arising from the chemical</u>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<u>Explosion data</u>	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	Yes.
<u>Special protective equipment for fire-fighters</u>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take

precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so Prevent product from entering drains Do not flush into surface water or sanitary sewer system See Section 12 for additional ecological information Avoid release to the environment Dispose of contents/container to an approved waste disposal plant Collect spillage

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Keep out of the reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Trade Secret	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³ Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles.
Hand protection	Chemical resistant gloves.
Skin and body protection	Wear long-sleeved shirt, long pants, socks and shoes. Chemical resistant apron. Antistatic boots.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General hygiene considerations	Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Color	Amber
Odor	Solvent
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not applicable	None known
Melting point/freezing point	<35 °F	
Boiling point / boiling range	> 110 °C / 230 °F	
Flash point	44 °C / 111 °F	
Evaporation rate	< 1	
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	7.0	
Lower flammability limit:	1.1	
Vapor pressure	<2 mm Hg	
Vapor density	>1	
Specific Gravity	0.89121	
Water solubility	Emulsifiable	
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known

Other Information

Oxidizing properties	No information available
Liquid Density	7.43 pounds/gallon
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No information available.

Stability

No information available

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

Will not occur.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

May emit toxic fumes under fire conditions. Carbon dioxide (CO₂). Carbon monoxide. Nitrogen oxides (NO_x). Halogens.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract.
Eye contact	May cause irritation.
Skin contact	Repeated exposure may cause skin dryness or cracking. May be harmful in contact with skin.
Ingestion	Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Trade Secret	-	-	= 3900 mg/m ³ (Rat) 4 h
Trade Secret	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h
Fluazifop-p-butyl 79241-46-6	= 2712 mg/kg (Rat)	> 2 g/kg (Rabbit)	-
Trade Secret	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h
Trade Secret	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness.

Acute toxicity

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	6644 mg/kg
ATEmix (dermal)	2034 mg/kg
ATEmix (inhalation-gas)	705 mg/L
ATEmix (inhalation-dust/mist)	2 mg/L

Unknown Toxicity

99 % of the mixture consists of ingredient(s) of unknown toxicity
49 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

49 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
13 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
99 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
13 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity Contains a known or suspected mutagen.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Trade Secret	A2	Group 1	Known	X
Trade Secret	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity Contains a known or suspected reproductive toxin.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organ Effects Central nervous system, blood, Eyes, Respiratory system, Skin.

Aspiration hazard May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Trade Secret	-	5000: 96 h Oncorhynchus mykiss mg/L LC50	-	1000: 48 h Daphnia magna mg/L EC50
Trade Secret	-	9.22: 96 h Oncorhynchus mykiss mg/L LC50	-	6.14: 48 h Daphnia magna mg/L EC50
Trade Secret	2.5: 72 h Skeletonema costatum mg/L EC50	41: 96 h Pimephales promelas mg/L LC50 1740: 96 h Lepomis macrochirus mg/L LC50 static 19: 96 h Pimephales promelas mg/L LC50 static 2.34: 96 h Oncorhynchus mykiss mg/L LC50 45: 96 h Pimephales	-	0.95: 48 h Daphnia magna mg/L EC50

		promelas mg/L LC50 flow-through		
Trade Secret	12.5: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 433: 96 h Pseudokirchneriella subcapitata mg/L EC50	5.8: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 5.89 - 7.81: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 15.22 - 19.05: 96 h Pimephales promelas mg/L LC50 flow-through 12.6: 96 h Pimephales promelas mg/L LC50 static 50.87 - 70.34: 96 h Poecilia reticulata mg/L LC50 static 11.0 - 15.0: 96 h Lepomis macrochirus mg/L LC50 static 14.1 - 17.16: 96 h Oncorhynchus mykiss mg/L LC50 static 54: 96 h Oryzias latipes mg/L LC50 static 28.2: 96 h Poecilia reticulata mg/L LC50 semi-static	EC50 = 19.7 mg/L 30 min	5.46 - 9.83: 48 h Daphnia magna mg/L EC50 Static 11.5: 48 h Daphnia magna mg/L EC50

Persistence and degradability	No information available.
Bioaccumulation	No information available.
Other adverse effects	Toxic to fish and aquatic invertebrates.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Should not be released into the environment. Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.
US EPA Waste Number	D001.

14. TRANSPORT INFORMATION

Note: Limited quantity applies with an inner packaging less than 5 L or gross package weight less than 30 kg.

DOT

UN/ID no.	UN2903
Proper shipping name	PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S.
Hazard class	6.1
Subsidiary class	3
Packing group	III
Special Provisions	B1, IB3, T7, TP2
Description	UN2903, PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Fluazifop-p-butyl), 6.1 (3), III, Limited quantity

TDG

UN/ID no.	UN2903
Proper shipping name	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S.
Hazard class	6.1
Subsidiary class	3
Packing group	III
Description	UN2903, PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Fluazifop-p-butyl), 6.1 (3),

III, Limited quantity

MEX

UN/ID no. UN2903
Proper shipping name PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S.
Hazard class 6.1
Special Provisions 61, 223, 274
Packing group III
Description UN2903, PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Fluazifop-p-butyl), 6.1 (3), III, Limited quantity

ICAO (air)

UN/ID no. UN2903
Proper shipping name PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S.
Hazard class 6.1
Subsidiary hazard class 3
Packing group III
Special Provisions A3, A4
Description UN2903, PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Fluazifop-p-butyl), 6.1 (3), III

IATA

UN number UN2903
UN proper shipping name PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S.
Transport hazard class(es) 6.1
Subsidiary hazard class 3
Packing group III
Special Provisions A3, A4
Description UN2903, PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Fluazifop-p-butyl), 6.1 (3), III

IMDG

UN number UN2903
UN proper shipping name PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S.
Transport hazard class(es) 6.1
Subsidiary hazard class 3
Packing group III
EmS-No. F-E, S-D
Special Provisions 61, 223, 274
Description UN2903, PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (FLUAZIFOP-P-BUTYL), 6.1 (3), III, (44°C C.C.), LIMITED QUANTITY

15. REGULATORY INFORMATION

U.S. EPA Label Information

EPA Pesticide Registration Number 2217-728

Federal Insecticide, Fungicide, Rodenticide Act Regulations

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide Label

CAUTION

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS

Hazards To Humans And Domestic Animals

CAUTION: Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals

Environmental Hazards

This product is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the

mean high water mark. Do not contaminate water when disposing of equipment washwater. Do not apply when weather conditions favor drift from target area. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas

Physical and Chemical Hazards

Do not use or store near heat or open flame

International Inventories

TSCA	Not Listed
DSL/NDSL	Not Listed
EINECS/ELINCS	Not Listed
ENCS	Not Listed
IECSC	Not Listed
KECL	Not Listed
PICCS	Not Listed
AICS	Not Listed

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Trade Secret -	1.0
Trade Secret -	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Trade Secret	1000 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Trade Secret	1000 lb 1 lb	-

US State Regulations

U.S. State Right-to-Know Regulations

US State Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Trade Secret	-	X	-
Trade Secret	X	X	X

Trade Secret	X	X	X

16. OTHER INFORMATION

NFPA	Health hazards 3	Flammability 2	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 3 *	Flammability 2	Physical hazards 0	Personal protection X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of PBI Gordon Corporation's knowledge, information and belief at the date of this publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process, unless specified in the text. PBI GORDON CORPORATION MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of this product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. Each user is also responsible for evaluating the conditions of use and designing the appropriate protective mechanisms to prevent employee exposures, property damage, or release to the environment. PBI Gordon Corporation assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the product.

End of Safety Data Sheet

1. Identification

Product identifier used on the label

Pageant Intrinsic Brand Fungicide

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, fungicide

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number: 97988
EPA Registration number: 7969-251
Molecular formula: C₁₈ H₁₂ Cl₂ N₂ O ; C₁₉ H₁₈ Cl N₃ O₄
Chemical family: strobilurine, carboxylic acid amide
Synonyms: pyraclostrobin + boscalid

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	2B	Serious eye damage/eye irritation
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic

Combustible Dust

Combustible Dust (1)

Combustible Dust

Label elements

Pictogram:



Signal Word:
Warning

Hazard Statement:

H320	May form combustible dust concentration in air.
H302	Causes eye irritation.
H400	Harmful if swallowed.
H410	Very toxic to aquatic life.
	Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth
P391	Collect spillage.
P337 + P311	If eye irritation persists: Call a POISON CENTER or physician.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Hazards not otherwise classified

Labeling of special preparations (GHS):

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 30 % dermal

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 11 % oral

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 33 % Inhalation - dust

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

pyraclostrobin

CAS Number: 175013-18-0

Content (W/W): 12.8 %

Synonym: No data available.

Boscalid

CAS Number: 188425-85-6

Content (W/W): 25.2 %

Synonym: BAS 510 F

Kaolin

CAS Number: 1332-58-7

Content (W/W): < 5.0%

Synonym: No data available.

sodium-di-ethyl-hexyl-sulfosuccinate

CAS Number: 577-11-7

Content (W/W): 0.1 - 1.0%

Synonym: Sulfobutanedioic acid 1,4-bis(2-ethylhexyl) ester, sodium salt; Docosate sodium, Sodium dioctyl sulfosuccinate, Dioctyl sodium sulfosuccinate

Ammonium sulphate

CAS Number: 7783-20-2

Content (W/W): 10.0 - 15.0%

Synonym: Sulfuric acid, diammonium salt

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Wash thoroughly with soap and water

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, Hydrogen chloride, carbon dioxide, nitrogen oxides, sulfur oxides, organochloric compounds, silica compounds
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Avoid raising dust. Sweep/shovel up. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid dust formation. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and

clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed. Keep away from heat. Protect against moisture. Protect from direct sunlight. Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with occupational exposure limits

Kaolin	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ; TWA value 10 mg/m3 Total dust ;
	ACGIH TLV	TWA value 2 mg/m3 Respirable fraction ; The value is for particulate matter containing no asbestos and <1% crystalline silica.

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear a NIOSH approved (or equivalent) particulate respirator if ventilation is inadequate to control dust.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	granules, extrudates	
Odour:	moderate odour, smoky	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
Colour:	brown	
pH value:	approx. 6 - 8 (1 %(m), 20 °C) (as suspension)	
melting range:	approx. 50 °C	
Boiling point:	The product has not been tested.	
Flash point:	not applicable, the product is a solid	
Flammability:	not highly flammable	(Directive 84/449/EEC, A.10)
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
SADT:	> 75 °C Heat accumulation / Dewar 500 ml (SADT, UN-Test H.4, 28.4.4)	
Vapour pressure:	not applicable	
Density:	approx. 1.51 g/cm ³ (20 °C) approx. 12.6016 Lb/USg (68 °F)	(OECD Guideline 109)
Bulk density:	600 kg/m ³ 689 kg/m ³ Apparent density after tamping	
Vapour density:	not applicable	
Self-ignition temperature:	328 °C	(Directive 92/69/EEC, A.16)
Thermal decomposition:	150 °C, 350 kJ/kg (DSC (OECD 113))	

	172 °C
	carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, To be archived: Hydrocarbons
	Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.
Viscosity, dynamic:	not applicable, the product is a solid
Solubility in water:	dispersible
Evaporation rate:	not applicable
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:

not fire-propagating (Directive 92/69/EEC, A.17)

Not an oxidizer.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage. This product may form an explosive mixture if: 1. the dust is suspended in the atmosphere as a dust cloud AND 2. the concentration of the dust is above the lower explosion limit (LEL) AND 3. the limiting oxygen concentration (LOC) is exceeded.

Incompatible materials

strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

150 °C, 2 K/min (DSC (OECD 113))

172 °C

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, To be archived: Hydrocarbons

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Oral

Type of value: LD50

Species: rat

Value: approx. 1,490 mg/kg

Inhalation

Type of value: LC50

Species: rat

Value: > 5.4 mg/l

Exposure time: 4 h

No mortality was observed.

Dermal

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

No mortality was observed.

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion

Assessment of irritating effects: The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. May cause slight irritation to the eyes. Not irritating to the skin.

Eye

Species: rabbit

Result: moderately irritating

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

modified Buehler test

Species: guinea pig

Result: Non-sensitizing.

Aspiration Hazard

No aspiration hazard expected. The product has not been tested. The statement has been derived from the properties of the individual components.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Assessment of repeated dose toxicity: Adaptive effects were observed after repeated exposure in animal studies.

Information on: pyraclostrobin

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation.

Information on: Kaolin

Assessment of repeated dose toxicity: Repeated inhalative uptake of particles/dust reaching the alveoli may cause damage to the lungs.

Information on: Silica gel, precipitated, crystalline free

Assessment of repeated dose toxicity: The substance may cause damage to the lung after repeated inhalation of high doses.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Assessment of carcinogenicity: In long-term studies in rats the substance induced thyroid tumors. The effect is caused by an animal specific mechanism that has no human counter part. In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.

Information on: Kaolin

Assessment of carcinogenicity: The American Conference of Governmental Industrial Hygienists (ACGIH) has classified this substance as Group A4 - Not classifiable as human carcinogen.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Medical conditions aggravated by overexposure

Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic (acute effect) to fish. Very toxic (acute effect) to aquatic invertebrates. Acutely toxic for aquatic plants.

Toxicity to fish

LC50 (96 h) 0.042 mg/l, *Oncorhynchus mykiss* (OECD Guideline 203)

Aquatic invertebrates

EC50 (48 h) 0.08 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Aquatic plants

ErC50 (72 h) 4.99 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

EC10 (72 h) 1.29 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

Chronic toxicity to fish

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

*No observed effect concentration (97 d) 0.116 mg/l, *Oncorhynchus mykiss**

Information on: pyraclostrobin

*No observed effect concentration (98 d) approx. 0.00235 mg/l, *Oncorhynchus mykiss* (OECD Guideline 210, Flow through.)*

Chronic toxicity to aquatic invertebrates

Information on: pyraclostrobin

*No observed effect concentration (21 d) 0.004 mg/l, *Daphnia magna* (OECD Guideline 202, part 2, semistatic)*

The details of the toxic effect relate to the nominal concentration.

*No observed effect concentration (28 d) 0.00128 mg/l, *Mysidopsis bahia* (OPP 72-4 (EPA-Guideline), Flow through.)*

The statement of the toxic effect relates to the analytically determined concentration.

Assessment of terrestrial toxicity

With high probability not acutely harmful to terrestrial organisms.

Other terrestrial non-mammals

Information on: pyraclostrobin

*LD50 > 2,000 mg/kg, *Colinus virginianus**

Colinus virginianus

*LC50, *Anas platyrhynchos**

*LD50 > 100 ug/bee, *Apis mellifera**

Information on: Boscalid

LD50 > 2,000 mg/kg, *Colinus virginianus*
LC50, *Colinus virginianus*
LC50, *Anas platyrhynchos*
LD50 > 200 ug/bee, *Apis mellifera*

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Not readily biodegradable (by OECD criteria).

Information on: pyraclostrobin

Not readily biodegradable (by OECD criteria).

Mobility in soil

Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Information on: pyraclostrobin

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Additional information

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:

This product is not regulated by RCRA.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Marine pollutant: YES
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains BOSCALID, PYRACLOSTROBIN)

Air transport

IATA/ICAO

Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains BOSCALID, PYRACLOSTROBIN)

Further information

The following provisions may apply for product in packages containing a net quantity of 5 kg or less
ADR, RID, ADN: Special Provision 375;
IMDG: 2.10.2.7;
IATA: A197;
TDG: Special Provision 99(2);
49CFR: §171.4 (c) (2).

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection TSCA, US released / listed

Chemical TSCA, US blocked / not listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

State regulations

State RTK

PA

CAS Number

7757-82-6

Chemical name

Sodium sulfate

MA	7783-20-2	Ammonium sulphate
	1332-58-7	Kaolin
	112926-00-8	Silica gel, precipitated, crystalline free
	7757-82-6	Sodium sulfate
	7783-20-2	Ammonium sulphate
NJ	1332-58-7	Kaolin
	112926-00-8	Silica gel, precipitated, crystalline free
	7783-20-2	Ammonium sulphate
	1332-58-7	Kaolin
	112926-00-8	Silica gel, precipitated, crystalline free

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s), this product does not require a California Proposition 65 Warning.

NFPA Hazard codes:

Health: 1 Fire: 1 Reactivity: 0 Special:

Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:

Causes eye irritation.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

Avoid contact with the skin, eyes and clothing.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2020/08/11

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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END OF DATA SHEET

SAFETY DATA SHEET

SDS DATE: 7/8/2015

PENTRA-BARK®

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PENTRA-BARK®

DISTRIBUTOR: Quest Products Corp.
ADDRESS: 11712 230th Street, Linwood, KS 66052
PHONE: (785) 542-2577 www.questproducts.us

EMERGENCY CHEMTREC PHONE: US: 1-800-424-9300 International: 1-202-483-7616

CHEMICAL NAME: Proprietary mixture
CHEMICAL FAMILY: Silicone-Polyether Copolymer
CHEMICAL FORMULA: Mixture

PRODUCT USE: Adjuvant

SECTION 1 NOTES: None

SECTION 2: HAZARDOUS INGREDIENTS

GHS Ratings:

Toxicity Categories:
Acute Toxicity Inhalation Category 4
Eye Damage/ Irritant Category 2B
Skin Sensitizer Category 1



Signal Word: WARNING

GHS HAZARDS

H317 May cause an allergic skin reaction.
H320 Causes eye irritation.
H332 Harmful if inhaled.

GHS PRECAUTIONS

P102 Keep out of reach of children.
P103 Read label before use.
P233 Keep container tightly closed.
P234 Keep only in original container.
P261 Avoid breathing dust, fume, gas, mist, vapors or spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well ventilated area.
P272 Contaminated work clothing should not be allowed out of the work place.
P280 Wear protective gloves, protective clothing, eye protection and face protection.
P301+310 IF SWALLOWED: Call a POISON CENTER, doctor or physician if you feel unwell.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P304+341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a poison center, doctor or physician if you feel unwell.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do then continue rinsing.
P332+313 If skin irritation occurs: Get medical advice or attention.
P337+313 If eye irritation persists: Get medical advice or attention.

SECTION 3: HAZARDS IDENTIFICATION

INGREDIENT	CAS NO.	% WT
Proprietary	Proprietary	50 –60%
Proprietary	Proprietary	20 – 30%
Proprietary	Proprietary	5 – 10%
Polyethylene glycol	25322-68-3	1 – 5%

NOTE: Product does NOT contain any pesticides or pest control agents.

SECTION 3 NOTES: These specific chemical identities and or exact percentage (concentration) of composition have been withheld as a trade secret.

CARCINOGENICITY OSHA: No ACGIH: No NTP: No IARC: No OTHER: No

SAFETY DATA SHEET

PENTRA-BARK®

SDS DATE: 7/8/2015

SECTION 4: FIRST AID MEASURES

Have the product container with you when calling a poison control center or doctor, or going for treatment.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present, after the first 5 minutes, then continue cautiously rinsing eye. If eye irritation persists: Get medical advice or attention.

IF ON SKIN OR CLOTHING: Take off contaminated clothing and wash it before reuse. Wash skin with plenty of soap and water. If skin irritation occurs: Get medical advice or attention.

IF SWALLOWED: Unless advised otherwise by a poison control center or doctor, have person rinse mouth with water, if able. Do not give anything by mouth to an unconscious person.

IF INHALED: If breathing is difficult, remove person to fresh air and keep at rest in a position comfortable for breathing. If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth to mouth if possible. Call a poison center, doctor or physician if you feel unwell.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

SECTION 4 NOTES: None

SECTION 5: FIRE FIGHTING MEASURES

NFPA HAZARD CLASSIFICATION

HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 OTHER: -

IN CASE OF FIRE: Use carbon dioxide or dry chemical for small fires and water fog or foam (alcohol, polymer, or ordinary) for large fires. Water stream may spread flames.

SPECIAL FIRE FIGHTING PROCEDURES: Use alcohol-type or universal-type foams on larger fires. Smaller fires should be extinguished with carbon dioxide or dry chemical. Do not use water or foam directly on the fire. Use self-contained breathing apparatus with fighting any fire in an enclosed area.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not use water or foam directly on the fire.

HAZARDOUS DECOMPOSITION PRODUCTS: None

SECTION 5 NOTES: None

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Surround and absorb all spills. Material should be collected and disposed in proper manner. Dike the area to prevent spill from spreading. Soak up spill with a suitable absorbent such as clay, sawdust or kitty litter. Sweep up absorbed material and place in a chemical waste container for disposal. Wear suitable protective equipment.

SECTION 6 NOTES: None

SECTION 7: HANDLING AND STORAGE

HANDLING Keep out of reach of children. Read label before use. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the work place. Wear protective gloves, protective clothing, eye protection and face protection.

STORAGE: Store in a cool well-ventilated place. Keep in original container tightly closed. Do not reuse empty container. Do not store with food, feed, or other material to be used or consumed by humans or animals. Do not contaminate water supplies. For optimal storage, store between 40° and 90° F.

SECTION 7 NOTES: None

SAFETY DATA SHEET

PENTRA-BARK®

SDS DATE: 7/8/2015

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

VENTILATION:	Use only outdoors or in a well ventilation (mechanical) use should be satisfactory.
RESPIRATORY PROTECTION:	Wear a NIOSH/OSHA approved respirator, approved for use with propionic acid, if necessary.
EYE PROTECTION:	Chemical goggles and face shield.
SKIN PROTECTION:	Impervious gloves, long-sleeved shirts and pants.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:	Eye wash and safety shower should be easily accessible.
WORK HYGIENIC PRACTICES:	Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products. Clean affected clothing, shoes, and protective equipment before reuse.
EXPOSURE GUIDELINES:	If exposed, see section 4 for acute exposure first aid.
SECTION 8 NOTES:	None

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear to amber liquid	FLAMMABLE LIMITS IN AIR, UPPER:	Unknown
ODOR:	Slight polyether odor	(% BY VOLUME) LOWER:	Unknown
ORDER THRESHOLD:	Not known	VAPOR PRESSURE (mmHg):	@ Unknown F: Unknown C: Unknown
PHYSICAL STATE:	Liquid	VAPOR DENSITY (AIR = 1):	@ Unknown F: Unknown C: Unknown
pH AS SUPPLIED:	Not applicable	RELATIVE DENSITY:	1.034 to 1.066
pH (Other):		EVAPORATION RATE:	Unknown
INITIAL BOILING POINT:	F: Unknown C: Unknown	BASIS (butyl acetate=1):	
BOILING POINT RANGE:	F: Unknown C: Unknown	SOLUBILITY IN WATER:	Soluble
MELTING POINT:	F: Unknown C: Unknown	PARTITION COEFFICIENT: (n-octanol/water):	Unknown
FREEZING POINT:	F: Unknown C: Unknown	AUTO-IGNITION TEMPERATURE:	Unknown
FLASH POINT:	F: >200 C: >93	DECOMPOSITION TEMPERATURE:	Unknown
METHOD USED:	PMCC	VISCOSITY:	@ Unknown F: Unknown C: Unknown
FLAMMABILITY (solid, gas):	Can burn		

SECTION 9 NOTES: Values are not product specifications.

Note: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

SAFETY DATA SHEET

PENTRA-BARK®

SDS DATE: 7/8/2015

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable ☒ Unstable ☐

CONDITIONS TO AVOID (STABILITY): None known

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID (POLYMERIZATION): None known

SECTION 10 NOTES: None

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

MIXTURE TOXICITY LD50 Acute oral toxicity >2360mg/kg (Rat)
LD50 Acute dermal toxicity >5000mg/kg (Rabbit)
Acute eye Irritation (Rabbit) effects cleared in 7 days
Acute Dermal irritation (Rabbit) 0.04 based on a 48 hour observation

COMPONENT TOXICITY None

SECTION 11 NOTES: None

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Not available

ECOTOXICITY: Not available

BIOACCUMULATIVE POTENTIAL: Not available

MOBILITY IN SOIL: Not available

OTHER ADVERSE EFFECTS: Not available

SECTION 12 NOTES: None

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not contaminate water, food or feed by storage or disposal. Dispose of contents in container to an approved waste disposal facility in accordance with all federal, state and local regulations.

CONTAINER DISPOSAL: Triple rinse (or equivalent) adding rinse water to application tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by local regulations.

RCRA HAZARD CLASS: None

SECTION 13 NOTES: None

SAFETY DATA SHEET

PENTRA-BARK®

SDS DATE: 7/8/2015

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

DOT Shipping Description: Not Regulated

U.S. Surface Freight Classification: ADHESIVES, ADJUVANTS, SPREADERS OR STICKERS (NMFC 4610; CLASS: 60) Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.

OTHER AGENCIES: None

SECTION 14 NOTES: None

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): Mixture not listed

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): Not Regulated

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): Not Regulated

311/312 HAZARD CATEGORIES: None

313 REPORTABLE INGREDIENTS: None

INTERNATIONAL REGULATIONS: None

SECTION 15 NOTES: None

SECTION 16: OTHER INFORMATION

OTHER INFORMATION: None

DISCLAIMER:

The recommendation for safe handling and protection procedures is believed to be generally suitable for the standard uses of this compound. However, each user should identify his intended uses of this material and determine whether they are appropriate. All data included in this document is released as typical values and should not be utilized to determine the suitability of this material for a particular use or purpose. No warranty, either expressed or implied, is hereby made, nor do we give permission, inducement, or recommendations to practice any patented invention without a license. All data is offered for consideration, investigation and verification purposes only.

Leg Up Enterprises Predator Urines

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations : December 1, 2018



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name: Leg Up Enterprises 100% Urines: Coyote, Fox, Wolf, Mountain Lion

Product Form: Liquid

1.2. Intended Use of Product

Use of Substance/Mixture: Cover scent

1.3. Details of the supplier of the safety data sheet

RTM, Inc. d/b/a Leg Up Enterprises

PO Box K

Lovell, Maine 04051

T (207) 647-4484

www.legupenterprises.com

1.4. Emergency telephone number

Emergency Number (800) 218-1749

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Not Classified

2.2. GHS-US labeling

No labeling applicable

2.3. Other hazards

No additional information is available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

Mixture

Component	Product Identifier	%	Classification (GHS-US)
Predator Urine	liquid	100%	NA

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show label where possible).
First-aid measures after inhalation	: Remove to fresh air. Seek medical help if coughing and other symptoms do not subside.
First-aid measures after skin contact	: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.
First-aid measures after eye contact	Hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye.
First-aid measures after ingestion	: Call poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	: Not expected to present a significant hazard under anticipated conditions of normal use

4.3. Indication of any immediate medical attention and special treatment needed :No additional information available

Leg Up Enterprises Predator Urines

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations: December 1, 2018



SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: None Required, non-flammable
Unsuitable extinguishing media	: None Required, non-flammable

5.2 Special hazards arising from the substance or mixture

N/A

5.3 Advice for firefighters

Firefighting instructions: Exercise caution

Protection during firefighting: Firefighters should wear full protective gear. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel: Evacuate unnecessary personnel

6.1.2 For emergency responders: Equip cleanup crew with proper

protection **Environmental precautions:** Avoid contact with liquid

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	Flush area with plenty of water

6.4 Reference to other sections

See Section 8. Exposure controls and personal protection

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Precautions for safe handling	: Avoid contact with skin and eyes. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions	: Store in a cool, dry place. Keep container closed when not in use. Store in original container

7.3 Specific end use(s)

Cover scent

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Component	OSHA: TWA	ACGIH: TWA
N/A	N/A	N/A
	N/A	N/A

8.2 Appropriate engineering controls

None required

8.3 Exposure controls

Personal protective equipment	: Avoid all unnecessary exposure
Hand protection	: Wear protective gloves
Eye protection	: Wear goggles or safety glasses
Respiratory protection	: Use only with adequate ventilation. Wear approved mask
Other information	: Avoid contact of mouth, skin or eyes. Wash hands before eating, drinking, chewing gum, using tobacco or bathroom facilities.

Leg Up Enterprises Predator Urines

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SECTION 9: Physical and chemical properties

9.1 Information on the basic physical properties and chemical properties

Appearance	: Liquid
Odor	: Distinct
Odor threshold	: No data available
PH	: No data available
Melting point	: Not applicable
Freezing point	: Not applicable
Initial boiling point	: Not applicable
Boiling range	: Not applicable
Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: Not applicable
Upper/lower flammability limits or explosive limits	: Not applicable
Vapor pressure	: Not applicable
Vapor density	: Not applicable
Relative density	: No data available
Solubility(ies)	: In water: soluble
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not applicable
Viscosity	: Not applicable

9.2 Other information

No additional information is available

SECTION 10: Stability and Reactivity

10.1 Reactivity

- No additional information is available

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- Will not occur

10.4 Conditions to avoid

- No additional information is available

10.5 Incompatible materials

None

10.6 Hazardous decomposition products

None

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	: Not classified

N/A	N/A
N/A	N/A
N/A	N/A

Leg Up Enterprises Predator Urines

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations December 1, 2018



11.1 Information on toxicological effects (continued)

Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	:Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspirational hazard	: Not classified
Potential Adverse human health effects and symptoms	: May cause irritation after: inhalation, eye contact, or ingestion

SECTION 12: Ecological information

12.1 Toxicity

No recognized unusual toxicity to plants or animals.

SECTION 13: Disposal information

13.1 Waste treatment methods

Waste disposal recommendations	: Do not reuse the container. Place container in trash or offer for recycling if available. If container is partially filled, call local solid waste agency or 1-800-CLEANUP for disposal instructions. Never place unused product down any indoor or outdoor drain.

SECTION 14: Transport information

In accordance with D.O.T. – not a controlled material (USA)
No dangerous goods in sense of transport regulations

ADR

Transport document description

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1 US Federal Regulations

This product is not regulated

15.2 Canada

No additional information available

EU – Regulations

No additional information available

15.3 US State regulation

No additional information available

Leg Up Enterprises Predator Urines

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations December 1, 2018



SECTION 16: Other information

Other Information	: None

Full Text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
H302	Harmful if swallowed

SDS US (GHS HazCom 2012) o Cover scents

SDS Revision written December 1, 2018

DISCLAIMER AND LIMITATION OF LIABILITY

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1. Identification

Product identifier used on the label

Pristine Fungicide

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, fungicide

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number: 97988
EPA Registration number: 7969-199
Molecular formula: C₁₈ H₁₂ Cl₂ N₂ O ; C₁₉ H₁₈ Cl N₃ O₄
Chemical family: strobilurine, carboxylic acid amide
Synonyms: pyraclostrobin + boscalid

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	2B	Serious eye damage/eye irritation
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	1	Hazardous to the aquatic environment - chronic

Combustible Dust

Combustible Dust (1)

Combustible Dust

Label elements

Pictogram:



Signal Word:
Warning

Hazard Statement:

H320	May form combustible dust concentration in air.
H302	Causes eye irritation.
H400	Harmful if swallowed.
H410	Very toxic to aquatic life.
	Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth
P391	Collect spillage.
P337 + P311	If eye irritation persists: Call a POISON CENTER or physician.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Hazards not otherwise classified

Labeling of special preparations (GHS):

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 30 % dermal

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 11 % oral

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 33 % Inhalation - dust

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

pyraclostrobin

CAS Number: 175013-18-0

Content (W/W): 12.8 %

Synonym: No data available.

Boscalid

CAS Number: 188425-85-6

Content (W/W): 25.2 %

Synonym: BAS 510 F

Kaolin

CAS Number: 1332-58-7

Content (W/W): < 5.0%

Synonym: No data available.

sodium-di-ethyl-hexyl-sulfosuccinate

CAS Number: 577-11-7

Content (W/W): 0.1 - 1.0%

Synonym: Sulfobutanedioic acid 1,4-bis(2-ethylhexyl) ester, sodium salt; Docosate sodium, Sodium dioctyl sulfosuccinate, Dioctyl sodium sulfosuccinate

Ammonium sulphate

CAS Number: 7783-20-2

Content (W/W): 10.0 - 15.0%

Synonym: Sulfuric acid, diammonium salt

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Wash thoroughly with soap and water

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
carbon monoxide, Hydrogen chloride, carbon dioxide, nitrogen oxides, sulfur oxides, organochloric compounds, silica compounds
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Avoid raising dust. Sweep/shovel up. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid dust formation. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and

clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed. Keep away from heat. Protect against moisture. Protect from direct sunlight. Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with occupational exposure limits

Kaolin	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ; TWA value 10 mg/m3 Total dust ;
	ACGIH TLV	TWA value 2 mg/m3 Respirable fraction ; The value is for particulate matter containing no asbestos and <1% crystalline silica.

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear a NIOSH approved (or equivalent) particulate respirator if ventilation is inadequate to control dust.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	granules, extrudates	
Odour:	moderate odour, smoky	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
Colour:	brown	
pH value:	approx. 6 - 8 (1 %(m), 20 °C) (as suspension)	
melting range:	approx. 50 °C	
Boiling point:	The product has not been tested.	
Flash point:	not applicable, the product is a solid	
Flammability:	not highly flammable	(Directive 84/449/EEC, A.10)
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
SADT:	> 75 °C Heat accumulation / Dewar 500 ml (SADT, UN-Test H.4, 28.4.4)	
Vapour pressure:	not applicable	
Density:	approx. 1.51 g/cm ³ (20 °C) approx. 12.6016 Lb/USg (68 °F)	(OECD Guideline 109)
Bulk density:	600 kg/m ³ 689 kg/m ³ Apparent density after tamping	
Vapour density:	not applicable	
Self-ignition temperature:	328 °C	(Directive 92/69/EEC, A.16)
Thermal decomposition:	150 °C, 350 kJ/kg (DSC (OECD 113))	

	172 °C
	carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, To be archived: Hydrocarbons
	Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.
Viscosity, dynamic:	not applicable, the product is a solid
Solubility in water:	dispersible
Evaporation rate:	not applicable
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:

not fire-propagating (Directive 92/69/EEC, A.17)

Not an oxidizer.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage. This product may form an explosive mixture if: 1. the dust is suspended in the atmosphere as a dust cloud AND 2. the concentration of the dust is above the lower explosion limit (LEL) AND 3. the limiting oxygen concentration (LOC) is exceeded.

Incompatible materials

strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

150 °C, 2 K/min (DSC (OECD 113))

172 °C

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, To be archived: Hydrocarbons

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

Oral

Type of value: LD50

Species: rat

Value: approx. 1,490 mg/kg

Inhalation

Type of value: LC50

Species: rat

Value: > 5.4 mg/l

Exposure time: 4 h

No mortality was observed.

Dermal

Type of value: LD50

Species: rat

Value: > 2,000 mg/kg

No mortality was observed.

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion

Assessment of irritating effects: The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. May cause slight irritation to the eyes. Not irritating to the skin.

Eye

Species: rabbit

Result: moderately irritating

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

modified Buehler test

Species: guinea pig

Result: Non-sensitizing.

Aspiration Hazard

No aspiration hazard expected. The product has not been tested. The statement has been derived from the properties of the individual components.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Assessment of repeated dose toxicity: Adaptive effects were observed after repeated exposure in animal studies.

Information on: pyraclostrobin

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation.

Information on: Kaolin

Assessment of repeated dose toxicity: Repeated inhalative uptake of particles/dust reaching the alveoli may cause damage to the lungs.

Information on: Silica gel, precipitated, crystalline free

Assessment of repeated dose toxicity: The substance may cause damage to the lung after repeated inhalation of high doses.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Assessment of carcinogenicity: In long-term studies in rats the substance induced thyroid tumors. The effect is caused by an animal specific mechanism that has no human counter part. In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.

Information on: Kaolin

Assessment of carcinogenicity: The American Conference of Governmental Industrial Hygienists (ACGIH) has classified this substance as Group A4 - Not classifiable as human carcinogen.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Medical conditions aggravated by overexposure

Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic (acute effect) to fish. Very toxic (acute effect) to aquatic invertebrates. Acutely toxic for aquatic plants.

Toxicity to fish

LC50 (96 h) 0.042 mg/l, *Oncorhynchus mykiss* (OECD Guideline 203)

Aquatic invertebrates

EC50 (48 h) 0.08 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Aquatic plants

ErC50 (72 h) 4.99 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

EC10 (72 h) 1.29 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)

Chronic toxicity to fish

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

*No observed effect concentration (97 d) 0.116 mg/l, *Oncorhynchus mykiss**

Information on: pyraclostrobin

*No observed effect concentration (98 d) approx. 0.00235 mg/l, *Oncorhynchus mykiss* (OECD Guideline 210, Flow through.)*

Chronic toxicity to aquatic invertebrates

Information on: pyraclostrobin

*No observed effect concentration (21 d) 0.004 mg/l, *Daphnia magna* (OECD Guideline 202, part 2, semistatic)*

The details of the toxic effect relate to the nominal concentration.

*No observed effect concentration (28 d) 0.00128 mg/l, *Mysidopsis bahia* (OPP 72-4 (EPA-Guideline), Flow through.)*

The statement of the toxic effect relates to the analytically determined concentration.

Assessment of terrestrial toxicity

With high probability not acutely harmful to terrestrial organisms.

Other terrestrial non-mammals

Information on: pyraclostrobin

*LD50 > 2,000 mg/kg, *Colinus virginianus**

Colinus virginianus

*LC50, *Anas platyrhynchos**

*LD50 > 100 ug/bee, *Apis mellifera**

Information on: Boscalid

LD50 > 2,000 mg/kg, *Colinus virginianus*
LC50, *Colinus virginianus*
LC50, *Anas platyrhynchos*
LD50 > 200 ug/bee, *Apis mellifera*

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Not readily biodegradable (by OECD criteria).

Information on: pyraclostrobin

Not readily biodegradable (by OECD criteria).

Mobility in soil

Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: boscalid (ISO); 2-chloro-N-(4'-chloro[1,1'-biphenyl]-2-yl)-nicotinamide

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Information on: pyraclostrobin

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Additional information

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:

This product is not regulated by RCRA.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Marine pollutant: YES
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains BOSCALID, PYRACLOSTROBIN)

Air transport

IATA/ICAO

Hazard class: 9
Packing group: III
ID number: UN 3077
Hazard label: 9, EHSM
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(contains BOSCALID, PYRACLOSTROBIN)

Further information

The following provisions may apply for product in packages containing a net quantity of 5 kg or less
ADR, RID, ADN: Special Provision 375;
IMDG: 2.10.2.7;
IATA: A197;
TDG: Special Provision 99(2);
49CFR: §171.4 (c) (2).

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection TSCA, US released / listed

Chemical TSCA, US blocked / not listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

State regulations

State RTK

PA

CAS Number

7757-82-6

Chemical name

Sodium sulfate

MA	7783-20-2	Ammonium sulphate
	1332-58-7	Kaolin
	112926-00-8	Silica gel, precipitated, crystalline free
	7757-82-6	Sodium sulfate
	7783-20-2	Ammonium sulphate
NJ	1332-58-7	Kaolin
	112926-00-8	Silica gel, precipitated, crystalline free
	7783-20-2	Ammonium sulphate
	1332-58-7	Kaolin
	112926-00-8	Silica gel, precipitated, crystalline free

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s), this product does not require a California Proposition 65 Warning.

NFPA Hazard codes:

Health: 1 Fire: 1 Reactivity: 0 Special:

Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:

Causes eye irritation.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

KEEP OUT OF REACH OF CHILDREN.

KEEP OUT OF REACH OF DOMESTIC ANIMALS.

Avoid contact with the skin, eyes and clothing.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2020/08/11

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT

PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET

SAFETY DATA SHEET



Propizol

Section 1. Identification

GHS product identifier : Propizol

Product use : Fungicide

Supplier's details : Arborjet
99 Blueberry Hill Road
Woburn, MA 01801, USA
1-781-935-9070

e-mail address of person responsible for this SDS : ajinformation@arborjet.com

Emergency telephone number (with hours of operation) : 1-800-255-3924 (CHEM-TEL)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 4
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
TOXIC TO REPRODUCTION (Fertility) - Category 2
TOXIC TO REPRODUCTION (Unborn child) - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2

GHS label elements

Hazard pictograms :



Signal word :

Warning

Hazard statements :

Combustible liquid.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation.
May cause drowsiness and dizziness.
May cause damage to organs through prolonged or repeated exposure. (liver)

Precautionary statements

Prevention :

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Wear protective gloves. Wear eye or face protection.
Keep away from flames and hot surfaces. - No smoking.
Use only outdoors or in a well-ventilated area.
Do not breathe vapor.
Wash hands thoroughly after handling.

Section 2. Hazards identification

Response	: Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Storage	: Store locked up. Store in a well-ventilated place. Keep cool.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

CAS number/other identifiers

CAS number	: Not applicable.
Product code	: Not available.

Ingredient name	%	CAS number
propiconazole (ISO)	≥10 - <25	60207-90-1
Tetrahydrofurfuryl alcohol	≥50 - <75	97-99-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

: Do not store below the following temperature: 4.4°C (39.9°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Tetrahydrofurfuryl alcohol	AIHA WEEL (United States, 10/2011). TWA: 0.5 ppm 8 hours.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Yellow to orange.
- Odor** : Aromatic.
- Odor threshold** : Not available.
- pH** : 6 to 8 [1% solution in H₂O]
- Melting point** : Not available.
- Boiling point** : 166°C (330.8°F)
- Flash point** : Closed cup: 82.8°C (181°F) [Setaflash.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : 4.2 x 10⁻⁷ mmHg @ 77°F (25°C)
- Vapor density** : Not available.
- Relative density** : 1.09 g/cc @ 20°C (68°F) ; 9.09 lb/gal @ 20°C (68°F)
- Solubility** : Not available.
- Solubility in water** : 0.1 g/l
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Tetrahydrofurfuryl alcohol	LD50 Oral	Rat	1600 mg/kg	-
propiconazole (ISO)	LC50 Inhalation Dusts and mists	Rat	1264 mg/m ³	4 hours
	LD50 Oral	Rat	1517 mg/kg	-
Propizol	LC50 Inhalation Gas.	Rat	>2.6 mg/l	4 hours
	LD50 Dermal	Rat	>2020 mg/kg	-
	LD50 Oral	Rat - Female	4340 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Tetrahydrofurfuryl alcohol	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Propizol	skin	Guinea pig	Not sensitizing

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Section 11. Toxicological information

- Skin contact** : No known significant effects or critical hazards.
Ingestion : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
- Inhalation** : Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
Potential delayed effects : Not available.

Long term exposure

- Potential immediate effects** : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

- General** : May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : Suspected of damaging the unborn child.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (dusts and mists)	8.839 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
propiconazole (ISO)	Acute EC50 0.8 µg/l Fresh water	Algae - Chlamydomonas noctigama	3 days
	Acute EC50 1.29 mg/l Fresh water	Algae - Chlorella vulgaris	96 hours
	Acute EC50 3.2 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1 to 1.1 mg/l Marine water	Crustaceans - Litopenaeus vannamei - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 0.85 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic IC10 6.8 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Chronic NOEC 0.31 ppm Marine water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 0.18 µg/l Fresh water	Fish - Oncorhynchus mykiss	30 days

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
propiconazole (ISO)	3.72	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	NA1993	NA1993	NA1993	NA1993	NA1993	NA1993
UN proper shipping name	Combustible liquid, n.o.s. (tetrahydro-2-furylmethanol)	Combustible liquid, n.o.s.	Combustible liquid, n.o.s.	Combustible liquid, n.o.s.	Combustible liquid, n.o.s.	Combustible liquid, n.o.s.

Section 14. Transport information

Transport hazard class(es)	Combustible liquid.	3	3	3	3	3
Transport Label				 	 	
Packing group	III	III	III	III	III	III
Environmental hazards	No.	No.	No.	Yes.	Marine Pollutant: Yes	No.
Additional information	Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials. <u>Limited quantity</u> Yes. <u>Packaging instruction</u> Passenger aircraft Quantity limitation: 60 L Cargo aircraft Quantity limitation: 220 L <u>Special provisions</u> B1, B52, IB3, T4, TP1, TP29	<u>Explosive Limit and Limited Quantity Index</u> 5 <u>Passenger Carrying Road or Rail Index</u> 60 <u>Special provisions</u> 16	<u>Special provisions</u> 223, 274	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Hazard identification number</u> 30 <u>Limited quantity</u> 5 L <u>Special provisions</u> 274, 601, 640E <u>Tunnel code</u> (D/E)	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Emergency schedules (EmS)</u> F-E, _S-E_ <u>Special provisions</u> 223, 274, 955	The environmentally hazardous substance mark may appear if required by other transportation regulations. <u>Passenger and Cargo Aircraft</u> Quantity limitation: 60 L Packaging instructions: 355 <u>Cargo Aircraft Only</u> Quantity limitation: 220 L Packaging instructions: 366 <u>Limited Quantities - Passenger Aircraft</u> Quantity limitation: 10 L Packaging instructions: Y344 <u>Special provisions</u> A3

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Exempt.
United States inventory (TSCA 8b): Exempt.

FIFRA Information: This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Warning

Causes substantial but temporary eye injury.
Do not get in eyes or on clothing.
Harmful if swallowed, inhaled, or absorbed through skin.
Avoid contact with eyes, skin or clothing.
Avoid breathing vapor or spray mist.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Tetrahydrofurfuryl alcohol	≥50 - <75	No.	No.	No.	Yes.	Yes.
propiconazole (ISO)	≥10 - <25	No.	No.	No.	Yes.	No.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	propiconazole (ISO)	60207-90-1	≥10 - <25
Supplier notification	propiconazole (ISO)	60207-90-1	≥10 - <25

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: TETRAHYDROFURFURYL ALCOHOL

New York : None of the components are listed.

Section 15. Regulatory information

- New Jersey** : The following components are listed: PROPICONAZOLE; 1H-1,2,4-TRIAZOLE, 1-[[2-(2,4-DICHLOROPHENYL)-4-PROPYL-1,3-DIOXOLAN-2-YL]METHYL]-
- Pennsylvania** : The following components are listed: 2-FURANMETHANOL, TETRAHYDRO-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

- Australia** : All components are listed or exempted.
- Canada** : Not determined.
- China** : Not determined.
- Europe** : All components are listed or exempted.
- Japan** : All components are listed or exempted.
- Malaysia** : Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : Not determined.
- Republic of Korea** : All components are listed or exempted.
- Taiwan** : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Section 16. Other information

Classification	Justification
Flam. Liq. 4, H227 Eye Irrit. 2A, H319 Repr. 2, H361 (Fertility) Repr. 2, H361 (Unborn child) STOT SE 3, H335 STOT SE 3, H336 STOT RE 2, H373 (liver)	On basis of test data Calculation method Calculation method Calculation method Expert judgment Expert judgment Expert judgment

History

Date of printing : 03/31/2015.

Date of issue/Date of revision : 03/31/2015.

Date of previous issue : 06/01/2014.

Version : 2

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: PROTECT DF™

EPA Reg. No.: 1001-77

Product Type: Fungicide

Company Name: Nufarm Americas, Inc.
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:

Combustible Dust

HEALTH HAZARDS:

Skin Sensitizer	Category 1A
Eye Irritation	Category 2B
Reproductive Toxicity	Category 1B
Carcinogen	Category 2
Specific Target Organ Toxicity – Repeated Exposure	Category 1

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 1
Hazardous to aquatic environment, chronic	Category 1

SIGNAL WORD:

DANGER

HAZARD STATEMENTS:

May form combustible dust concentrations in air. May cause an allergic skin reaction. Causes eye irritation. May damage the unborn child. Suspected of causing cancer of the thyroid and liver by ingestion. Causes damage to thyroid through prolonged and repeated exposure.



PRECAUTIONARY STATEMENTS

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. Use personal protective equipment as required. Avoid release to the environment.

IF exposed or concerned: Get medical advice. Get medical advice if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice. Wash contaminated clothing before reuse. Collect spillage.

Store locked up.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Mancozeb	8018-01-7	72.8 - 77.2
Other Ingredients containing Ethylene thiourea	96-45-7	<25

Synonyms: Mancozeb

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. Call a poison control center or doctor for further treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for several minutes. Call a poison control center or doctor for treatment advice.

Most Important symptoms/effects, acute and delayed: Causes eye irritation. May cause mild skin irritation. May cause an allergic skin reaction. Prolonged or repeated contact may damage the thyroid. May damage the unborn child. May cause thyroid or kidney cancer.

Indication of Immediate medical attention and special treatment if needed, if necessary: Should not be required.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Avoid creation of dusty conditions. Scrape up and place in appropriate closed container. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING: Do not get in eyes or on clothing or skin. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in the original container in a dry area. If allowed to become wet the product will deteriorate and represent a fire hazard. Keep away from sources of ignition (e.g. sparks and open flame). Close bag when not in use. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling sweep up spillage and dispose of in accordance with the Pesticide Disposal Instructions. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Eye/Face Protection: Not normally required. To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Mancozeb	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow to brown solid
Odor:	Must odor
Odor threshold:	No data available
pH:	6.5 – 7.5
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	0.63 g/ml
Solubility(ies):	Dispersible
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not expected to be reactive.

Chemical Stability: Stable.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Keep away from moisture, heat, or flames.

Incompatible Materials: Avoid contact with oxidizing agents and acids.

Hazardous Decomposition Products: Under fire conditions may produce hydrogen sulphide, sulphur oxides, and carbon oxides.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Skin contact, skin absorption, eye contact

Symptoms of Exposure:

Eye Contact: Mildly irritating based on toxicity studies.

Skin Contact: Minimally toxic and slightly irritating based on toxicity studies.

Ingestion: Slightly toxic if ingested based on toxicity studies.

Inhalation: Low inhalation toxicity based on toxicity studies.

Delayed, immediate and chronic effects of exposure: None reported.

Toxicological Data:

Data from laboratory studies conducted are summarized below:

Oral: Rat LD₅₀: > 5,000 mg/kg

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >5.14 mg/L

Eye Irritation: Rabbit: Moderately irritating

Skin Irritation: Rabbit: Practically non-irritating

Skin Sensitization: May cause skin sensitization following repeated skin exposure.

Subchronic (Target Organ) Effects: Causes damage to the thyroid through prolonged or repeated exposure.

Carcinogenicity / Chronic Health Effects: May cause cancer of the thyroid or liver.

Reproductive Toxicity: No known effects

Developmental Toxicity: Causes damage to the unborn child.

Genotoxicity: Not expected to cause genetic damage.

Assessment of Carcinogenicity:

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Component	Regulatory Agency Listing As Carcinogen			
	ACGIH	IARC	NTP	OSHA
Mancozeb	None	None	None	None
Ethylene thiourea	None	3	R	None

R = Reasonably Anticipated to be a Human Carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data from laboratory studies conducted on a similar, but not identical, formulation:

48-hour LC₅₀ Rainbow Trout: 2.2 mg/l Bobwhite Quail LC₅₀: >10,000 ppm

96-hour LC₅₀ Rainbow Trout: 0.11 mg/l

48-hour EC₅₀ Daphnia: 1.3 mg/l

Non-toxic to Bees

Environmental Fate:

No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide is a violation of Federal law.

Container Handling and Disposal: Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Completely empty container into application equipment. Dispose of container in a sanitary landfill, by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

DOT

< 250 lbs per completed package:

Non Regulated

>250 < 882 lbs per completed package:

UN3077, Environmentally hazardous substance, solid, n.o.s, (Ethylenethiourea), 9, III, RQ

≥882 lbs per completed package

UN3077, Environmentally hazardous substance, solid, n.o.s, (Ethylenethiourea), 9, III, RQ, Marine Pollutant (Mancozeb)

IMDG

UN3077, Environmentally hazardous substance, solid, n.o.s, (Ethylenethiourea), 9, III, Marine Pollutant

IATA

UN3077, Environmentally hazardous substance, solid, n.o.s, (Ethylenethiourea), 9, III, Marine Pollutant

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Harmful if absorbed through skin. Causes moderate eye irritation. Harmful if swallowed. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Acute Health, Chronic Health

Section 313 Toxic Chemical(s):

Ethylene thiourea (CAS No. 96-45-7) <25% by weight in product

Reportable Quantity (RQ) under U.S. CERCLA:

Ethylene thiourea (CAS No. 96-45-7) 10 pounds

RCRA Waste Code:

Ethylenethiourea (CAS No. 96-45-7) U116

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 2 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition

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Revision Date: 29-Oct-2019

Version: 4

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product Name: PyGanic® Crop Protection EC 5.0 II

EPA Registration Number: 1021-1772

Other means of identification

Part Code: 7444

Recommended use of the chemical and restrictions on use:

Recommended Use: An Insecticide for Organic Crop Protection.

Details of the supplier of the safety data sheet

Manufacturer Address:

McLaughlin Gormley King Company
7325 Aspen Lane North
Minneapolis, MN 55428
USA

FAX #:

(763) 544-6437

Telephone Number: (800) 645-6466, or (763) 544-0341

e-Mail Address: mgk-sds@mgk.com

Emergency telephone numbers:

24 Hour TRANSPORTATION Emergency: CHEMTREC®: (800) 424-9300

International: (703) 527-3887

24 Hour MEDICAL Emergency: SafetyCall®: (888) 740-8712, or (952) 852-9509

Comments:

MGK® Hours of operation are 8:00 a.m. to 4:30 p.m. CST, 14:00 to 22:30 GMT.
For MEDICAL EMERGENCIES or PESTICIDE INCIDENTS, call 24 hours a day to
(888) 740-8712, or (952) 852-9509.

2. HAZARDS IDENTIFICATION

Classification:

OSHA Regulatory Status:

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin sensitization	Category 1

Label elements

Emergency Overview

WARNING

Hazard statements

- H332 - Harmful if inhaled
- H317 - May cause an allergic skin reaction

**Appearance:** Clear , amber / brown**Physical state:** Liquid**Odor** Sweet**Precautionary Statements - Prevention:**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P271 - Use only outdoors or in a well-ventilated area

P272 - Contaminated work clothing should not be allowed out of the workplace

P280 - Wear protective gloves

Precautionary Statements - Response:

P321 - Specific treatment (see Section 4/ First Aid).

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P363 - Wash contaminated clothing before reuse

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage:

P404 - Store in a closed container

Precautionary Statements - Disposal:

P501 - Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC):

Not applicable

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Pyrethrins	8003-34-7	5.00

*The exact percentage (concentration) of composition has been withheld as a trade secret

Comments: Ingredients not identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES**Aspiration pneumonia hazard:** • Not applicable**Description of first aid measures:****Eye contact:**

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Ingestion:	If swallowed, IMMEDIATELY call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or a doctor. Never give anything by mouth to an unconscious person.
Inhalation:	Remove affected person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Self-protection of the First Responder:	Use personal protective equipment as required.
Note to physicians:	For skin effects, a highly efficient therapeutic agent for Pyrethrin/ Pyrethroid exposure is topical application of tocopherol acetate (Vitamin E).

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media:

Caution: Use of water spray when fighting fire may be inefficient.

Hazardous combustion products: Carbon monoxide, Carbon dioxide (CO₂).

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

Protective equipment and precautions for firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions: Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: Pick up and transfer to properly labeled containers. Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic

sheet or tarp to minimize spreading. Dam up. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling: Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation. For more information, see product label.

Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. For more information, see product label.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Control parameters

Exposure Guidelines:

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Supplier OEL
Pyrethrins 8003-34-7	TWA: 5 mg/m ³	TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³	IDLH: 5000 mg/m ³ TWA: 5 mg/m ³	-

NIOSH IDLH

Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Controls: Safety showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection: Protective eyewear is recommended, but is not required.

Skin and body protection: Wear protective gloves and protective clothing.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations: When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Clear , amber / brown
Odor Sweet
Odor threshold: No information available
Color (Gardner Scale): No information available

<u>Property:</u>	<u>Values:</u>	<u>Comment: • Method</u>
pH:	5.9	@ 5% in H ₂ O
Melting point / freezing point:	No information available	
Boiling point / boiling range:	No information available	
Flash point:	> 93.3 °C / > 200.0 °F	Tag Closed Cup

Evaporation rate: No information available
Flammability (solid, gas): No information available
Upper flammability limit (UEL): No information available
Lower flammability limit (LEL): No information available
Vapor pressure: No information available
Vapor density: No information available
Specific Gravity: No information available
Water solubility: No information available
Partition coefficient; n-Octanol/ Water: No information available
Autoignition temperature: No information available
Decomposition temperature: No information available
Kinematic viscosity: No information available
Dynamic viscosity: 34.8 cPs @ 24.0 °C
Refractive Index: No information available

Other Information:
Density: 0.932 g/cm³ @ 20.0 °C
VOC Content (%): 0%

Miscibility/ Solubility:
Water: Partially miscible

10. STABILITY AND REACTIVITY

Reactivity
 No data available

Chemical stability
 Stable under recommended storage conditions.

Possibility of Hazardous Reactions
 None under normal processing.

Hazardous polymerization: Hazardous polymerization does not occur.

Conditions to avoid
 Extremes of temperature and direct sunlight.

Incompatible materials:
 Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Hazardous Decomposition Products
 Carbon monoxide, Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION

Numerical measures of toxicity - Product Information

Oral LD ₅₀	>2,000 mg/kg (rat)
Dermal LD ₅₀	>2,000 mg/kg (rabbit)
Inhalation LC ₅₀	>2.12 mg/L, (rat; 4 hours)
Eye contact:	Irritation clearing in 48 hours. (rabbit).
Skin Contact:	Slight irritation at 72 hours. (rabbit).
Skin Irritation Index:	1.3
Sensitization:	Positive. (guinea pig).
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive toxicity:	No information available.
Developmental Toxicity	No information available.
Teratogenicity:	No information available.
STOT - single exposure:	No information available.
STOT - repeated exposure:	No information available.
Chronic toxicity:	Avoid repeated exposure.
Target Organ Effects:	Central nervous system, Respiratory system, Skin.

12. ECOLOGICAL INFORMATION**Ecotoxicity:****Persistence and degradability**

No information available.

Bioaccumulation

No information available.

Other adverse effects: No information available**Environmental hazards (EPA):**

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

Disposal of wastes:	Disposal should be in accordance with applicable regional, national and local laws and regulations. For more information, see product label.
Contaminated packaging:	For more information, see product label.

14. TRANSPORT INFORMATION**DOT (Department of Transportation)**

UN/ID Number: UN3082
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s., RQ (Pyrethrins)
Hazard Class: 9
Packing Group: III

Other DOT Shipping Information: This material is **not** regulated as a hazardous material by the **DOT** in quantities less than 20 Lbs. per shipping unit.

Shipping name for quantities less than 20 Lbs. per shipping unit:

Insecticides, Insect or Animal Repellent, Liquid

Hazard Class: This material is not hazardous.

Air (IATA/ ICAO)

UN/ID Number: UN3082
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s., RQ (Pyrethrins)
Hazard Class: 9
Packing Group: III

Other IATA / ICAO Shipping Information: This material is **not** regulated as a hazardous material by **IATA / ICAO** in quantities less than 20 Lbs. per shipping unit.

Shipping name for quantities less than 20 Lbs. per shipping unit:

Insecticides, Insect or Animal Repellent, Liquid

Hazard Class: This material is not hazardous.

Vessel (IMO/ IMDG)

UN/ID Number: UN3082
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s., RQ (Pyrethrins)
Hazard Class: 9
Packing Group: III

Other IMO / IMDG Shipping Information: This material is **not** regulated as a hazardous material by **IMO / IMDG** in quantities less than 20.0 Lbs. per shipping unit.

Shipping name for quantities less than 20.0 Lbs. per shipping unit:

Insecticides, Insect or Animal Repellent, Liquid

Hazard Class: This material is not hazardous.

15. REGULATORY INFORMATION

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard

Categories

Acute health hazard	Yes

Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Pyrethrins 8003-34-7	1 lb	-	-	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ):
Pyrethrins 8003-34-7	1 lb	-	RQ 1 lb final RQ RQ 0.454 kg final RQ

US State Regulations:**California Proposition 65:**

This product does not contain any intentionally added Proposition 65 chemicals

U.S. EPA Label Information:

EPA Registration Number: 1021-1772

Difference between SDS and EPA (FIFRA) Pesticide label:

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for Safety Data Sheets (SDS), and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use. The hazard information required on the pesticide label is reproduced below:

Signal word: **CAUTION**

Precautionary Statements:

- Causes moderate eye irritation.
- Harmful if swallowed.
- Harmful if absorbed through the skin.
- Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

International Inventories:

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies

PICCS Does not comply
AICS Does not comply

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION.**

<u>NFPA</u>	Health hazards 2	Flammability 1	Instability 0	Physical and Chemical Properties
				-
<u>HMIS</u>	Health hazards 2*	Flammability 1	Physical hazards 0	Personal protection
				X

Chronic Hazard Star Legend * = Chronic Health Hazard**Issue Date:**
29-Oct-2019**Revision Date:**
29-Oct-2019**Revision Note:**
- SDS sections updated
- 5
- 8
- 15
- 16**SDS Prepared By:**
e-Mail Address:Troy Azzivitto, MGK® Chemistry Department.
mgk-sds@mgk.com**Disclaimer:**

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This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of

pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.

End of Safety Data Sheet.

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Pyronyl Crop Spray
Synonyms : 100208915; 100208916; 100209026; 100542216; EPA Reg. No.: 89459-26

1.2. Recommended use and restrictions on use

Recommended use : Insecticide.
Restrictions on use : Keep out of reach of children. Avoid contact with eyes and clothing. Do NOT take internally. Do not use or store near heat or open flame. Avoid inhalation of vapors or fumes.

1.3. Supplier

Central Garden & Pet
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173 - United States
www.central.com

1.4. Emergency telephone number

Emergency number : 1-800-248-7763
1-800-424-9300 - CHEMTREC
1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 4	Combustible liquid
Skin corrosion/irritation Category 2	Causes skin irritation
Serious eye damage/eye irritation Category 2A	Causes serious eye irritation
Skin sensitization, Category 1	May cause an allergic skin reaction
Aspiration hazard Category 1	May be fatal if swallowed and enters airways

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Combustible liquid
May be fatal if swallowed and enters airways
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation

Precautionary statements (GHS US) :

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash hands, forearms and face thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If swallowed: Immediately call poison center or doctor.
IF ON SKIN: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Do NOT induce vomiting.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use foam, water fog, dry chemical or CO2 to extinguish.

Pyronyl Crop Spray

Safety Data Sheet

Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : This pesticide is toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Pyrethrins	(CAS-No.) 8003-34-7	6
Piperonyl Butoxide	(CAS-No.) 51-03-6	60
Distillates (petroleum), hydrotreated light	(CAS-No.) 64742-47-8	19
Non-hazardous and/or does not meet criteria for classification	(CAS-No.) N/A	Balance

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. Wash skin with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice and attention.

First-aid measures after ingestion : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : May cause an allergic reaction in individuals with a sensitivity to piperonyl butoxide. Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : Aspiration Hazard - may be fatal if swallowed and enters airways.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use water fog, foam, carbon dioxide, or dry chemical.

Unsuitable extinguishing media : Avoid heavy hose streams.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid. Containers may explode when heated. Contains petroleum distillates, liquid may float and may re-ignite on surface of water.

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Do not allow fire fighting water to escape into waterways or sewers. LARGE FIRES: Move containers from fire area if you can do it without risk. Keep unauthorized personnel away. Stay upwind. Ventilate closed spaces before entering. Do not breathe gas/fumes/vapor/spray.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Pyronyl Crop Spray

Safety Data Sheet

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or fumes. Do not touch or walk on the spilled product. No flames, no sparks. Eliminate all sources of ignition. Wear appropriate personal protective equipment, avoid direct contact.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure controls/personal protection.

Emergency procedures : Do not touch spilled material. Do NOT wash away into sewer. Avoid release to the environment. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate unnecessary personnel. Stay upwind. Stop release. Ventilate area. Wear appropriate personal protective equipment, avoid direct contact.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Absorb spills with an inert material, clay granules or other inert absorbent material and put in container for disposal. Wear appropriate personal protective equipment, avoid direct contact. Non-sparking tools should be used. All equipment used when handling the product must be grounded.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid breathing fumes. Avoid contact with heat and ignition sources. Ground/bond container and receiving equipment. Keep container tightly closed. Use only outdoors or indoors in a well-ventilated area.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store locked up. Do not expose to temperatures exceeding 50 °C/ 122 °F. Store in cool, dry, secure place. Keep out of reach of children. Keep from freezing.

Incompatible materials : Heat, sparks, open flame. Strong oxidizers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Pyrethrins (8003-34-7)		
ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
ACGIH	Remark (ACGIH)	Liver dam; LRT irr
OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
IDLH	US IDLH (mg/m³)	5000 mg/m³
NIOSH	NIOSH REL (TWA) (mg/m³)	5 mg/m³

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Wear chemical resistant gloves made of barrier laminate, nitrile rubber, neoprene rubber or viton

Eye protection:

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Wear chemical splash safety goggles

Skin and body protection:

Wear long-sleeved shirt, long pants, socks and shoes

Respiratory protection:

Applicators using hand held foggers in an enclosed area must wear a half-face, full-face, or hood-style NIOSH-approved respirator with: a filtering cartridge (NIOSH approval number prefix TC-21C), or a canister (NIOSH approval number prefix TC-14G), or a cartridge or canister with any R, P or HE filter. Applicators using a high pressure wand in an enclosed area must wear at least a NIOSH-approved respirator with a filter with NIOSH approval number prefix TC-21C or any R, P, or HE filter. See product label for specific respirator requirements



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Yellow to amber liquid
Color	: Yellow to amber
Odor	: Pleasant woody
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 68 °C (154° F)
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 0.993
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Lower explosive limit (LEL): 0.6 vol % (Solvent) Upper explosive limit (UEL): 7 vol % (Solvent)
Explosive properties	: Not explosive
Oxidizing properties	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Protect from sunlight. Excessive heat > 50 °C (> 110° F.) . Do not freeze.

Pyronyl Crop Spray

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10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. May decompose upon heating to produce toxic vapors which may include oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Pyrethrins (8003-34-7)	
LD50 oral rat	2370 mg/kg Adult male; 1030 mg/kg Adult female
LD50 dermal rat	2000 mg/kg
LC50 inhalation rat (mg/l)	3.4 mg/l/4h
Piperonyl Butoxide (51-03-6)	
LD50 oral rat	4300 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l

GHS-US Properties	Classification
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	May be fatal if swallowed and enters airways.

Potential health effects

Inhalation

Acute : May cause drowsiness and dizziness.

Skin

Acute : Causes skin irritation. May cause an allergic reaction in individuals with a sensitivity to piperonyl butoxide.

Eye

Acute : Causes serious eye irritation.

Ingestion

Acute : Aspiration Hazard - may be fatal if swallowed and enters airways.

Mutagenicity

: Pyrethrins were not found to be genotoxic and did not damage DNA in any study conducted which included: Ames assay, chromosome aberration in Chinese hamster ovaries (CHO) cells and in the unscheduled DNA synthesis (UDS) assay in cultured human liver cells. Piperonyl butoxide was not mutagenic in a battery of tests.

Carcinogenicity

: Pyrethrins are not listed as a carcinogen by OSHA, IARC, or NTP. Piperonyl butoxide is not classified as carcinogen by NTP, IARC and OSHA.

Reproductive Effects

: Pyrethrins did not produce any birth defects or adverse effects on reproductive parameters in tests with rats and rabbits. Piperonyl butoxide did not produce any birth defects or adverse effects on reproductive parameters in tests with rats and rabbits.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : This pesticide is toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds.

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Pyrethrins (8003-34-7)	
LC50 Acute fish 1	0.0051 mg/l (Exposure time: 96h - Rainbow trout)
LC50 Acute fish 2	0.016 mg/l (Exposure time: 96h - Sheepshead minnow)
LC50 Acute crustacea 1	0.0014 mg/l (Exposure time: 96h - Mysid shrimp)
LC50 Acute crustacea 2	0.0116 mg/l (Exposure time: 48h - Daphnia magna)
NOEC Chronic fish 1	0.0019 mg/l
NOEC Chronic fish 2	0.0059 mg/l (Sheepshead minnow - Estimated)
NOEC Chronic crustacea 1	0.00086 mg/l (Daphnia magna)
NOEC Chronic crustacea 2	0.0001 mg/l (Mysid shrimp - Estimated)
Piperonyl Butoxide (51-03-6)	
LC50 Acute fish 1	1.9 mg/l (Rainbow trout)
LC50 Acute fish 2	3.94 mg/l (Sheepshead minnow)
LC50 Acute crustacea 1	0.49 mg/l (Mysid shrimp)
LC50 Acute crustacea 2	0.51 mg/l Gammarus fasciatus (amphipod))
NOEC Chronic fish 1	0.04 mg/l (Fathead minnow)
NOEC Chronic crustacea 1	0.03 mg/l (Daphnia magna)
Distillates (petroleum), hydrotreated light (64742-47-8)	
LC50 Acute fish 2	2.2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

12.2. Persistence and degradability

Pyrethrins (8003-34-7)	
Persistence and degradability	Pyrethrins have low persistence in the environment due to rapid breakdown in presence of UV light.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Other adverse effects

Pyronyl Crop Spray	
Ecological Fate	This product is toxic to aquatic organisms, including fish and invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: Transport information

	UN number	Proper Shipping Name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	NA1993	Packaging 16 lbs. or greater: Combustible liquid, n.o.s. (Pyrethrins, Piperonyl butoxide)	Combustible liquid	III	RQ = Pyrethrins = 1 lb.
IMDG	UN3082	Packaging greater than 5 L: Environmentally hazardous substance, liquid, n.o.s (Pyrethrins, Piperonyl butoxide)	9	III	Marine pollutant
IATA	UN3082	Packaging greater than 5 L: Environmentally hazardous substance, liquid, n.o.s (Pyrethrins, Piperonyl butoxide)	9	III	Acute aquatic toxicity

SECTION 15: Regulatory information

15.1. US Federal regulations

Pyrethrins (8003-34-7)	
CERCLA RQ	1 lb listed under Pyrethrins

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Piperonyl Butoxide (51-03-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1 %
Distillates (petroleum), hydrotreated light (64742-47-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA Labelling	
EPA Registration Number	89459-26
This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.	
FIFRA Hazard statements	Caution
FIFRA Precautionary statements	KEEP OUT OF REACH OF CHILDREN.
FIFRA Hazards to Humans and Domestic Animals	Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
FIFRA First aid	IF SWALLOWED: Immediately call a poison control center or doctor for treatment advice. Do not induce vomiting unless told to do so by the poison control center or physician. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or physician for treatment advice. IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or physician for treatment advice. IF SWALLOWED: Immediately call a poison control center or doctor for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. NOTE TO PHYSICIAN: Contains petroleum distillate – vomiting may cause aspiration pneumonia.
FIFRA Environmental hazards	ENVIRONMENTAL HAZARDS For terrestrial applications: This product is toxic to aquatic organisms, including fish and invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. This product may contaminate water through runoff. This product has a potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. For wide area mosquito adulticide applications: This pesticide is toxic to aquatic organisms, including fish and invertebrates. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to fish and aquatic invertebrates. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are foraging the treatment area. Before making the first application in a season, it is advisable to consult with the state or tribal agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist. Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material away from the water in order to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or washwaters. {For containers equal to or greater than 5 gallons} Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on this label.

15.2. US State regulations

No additional information available

Pyronyl Crop Spray

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SECTION 16: Other information

Date of issue	: 10 March 2015
Revision date	: 11 November 2020
Supersedes	: 16 December 2015

Indication of changes:

Revised Sec. 1: Revised material number(s). Revised Sec. 8 - Respiratory protection.

SDS US (GHS HazCom 2012) - CGP

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

Safety Data Sheet

Issue Date: 12-04-13

Revision Date: 09-09-15

1. IDENTIFICATION

Product Identifier

Product Name Reliant[®] Systemic Fungicide

Other means of identification

SDS # EPA Reg No 83416-1

Recommended use of the chemical and restrictions on use

Recommended Use Fungicide.

Details of the supplier of the safety data sheet

Supplier Address

Quest Products LLC
11712 230th Street
Linwood, KS 66052

Emergency Telephone Number

Company Phone Number Business Phone: 785-542-2577
Fax Phone: 785-542-2531

Emergency Telephone 785-542-2577

2. HAZARDS IDENTIFICATION

Appearance Clear liquid

Physical State Liquid

Odor Odorless

Classification

Acute toxicity - Oral

Category 4

Signal Word

Warning

Hazard Statements

Harmful if swallowed



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Precautionary Statements - Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Phosphorous acid	10294-56-1	Proprietary
Potassium hydroxide	1310-58-3	Proprietary

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES**First Aid Measures**

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash off immediately with plenty of water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
Inhalation	Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.
Ingestion	Do not induce vomiting. Rinse mouth. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms and effects

Symptoms	May cause eye, skin and respiratory tract irritation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Product is not flammable.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Ventilate affected area. Wear protective clothing as described in Section 8 of this safety data sheet. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.

Environmental Precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Soak up and contain spill with an inert (i.e. vermiculite, dry sand or earth) absorbent material.

Methods for Clean-Up Sweep up absorbed material and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Do not eat or drink while handling this material. Do not contaminated water, food or feed by storage or disposal.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

Appropriate engineering controls

Engineering Controls Maintain eye wash fountain and quick-drench facilities in work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Use safety goggles, safety glasses with side shields and/or a full face shield as described by OSHA's eye and face protection regulations in 29CFR 1910.133.
Skin and Body Protection	Wear impervious protective clothing, long pants and long-sleeved shirt, waterproof gloves, including socks and boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Respiratory Protection	Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator.
General Hygiene Considerations	Harmful if swallowed, absorbed through skin or inhaled. Avoid contact with skin, eyes and clothing. Avoid breathing spray mist or vapors. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Liquid	Odor	Odorless
Appearance	Clear liquid	Odor Threshold	Not determined
Color	Clear		
Property	Values	Remarks • Method	
pH	5.04		
Melting Point/Freezing Point	Not determined		
Boiling Point/Boiling Range	Not determined		
Flash Point	Not determined		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	n/a-liquid		
Upper Flammability Limits	Not determined		
Lower Flammability Limit	Not determined		
Vapor Pressure	Not determined		
Vapor Density	Not determined		
Specific Gravity	1.38	(1=Water)	
Water Solubility	Not determined		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Auto-ignition Temperature	Not determined		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		

10. STABILITY AND REACTIVITY**Reactivity**

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Keep away from heat, sparks and open flame.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Product Information**

Eye Contact	Direct contact with eyes may cause temporary irritation.
Skin Contact	Prolonged contact may cause redness and irritation.
Inhalation	Avoid breathing vapors or mists.
Ingestion	Ingestion may cause irritation to mucous membranes.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

Symptoms	Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Harmful to aquatic life with long lasting effects. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium hydroxide 1310-58-3		80: 96 h Gambusia affinis mg/L LC50 static		

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Potassium hydroxide 1310-58-3	0.65 0.83

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods****Disposal of Wastes**

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility..

Contaminated Packaging

Non refillable container. Do not reuse or refill this container. Containers with a capacity of equal to or less than 5 gallons: Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Containers with a capacity of greater than 5 gallons: Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip the container on its side and roll it back and forth, insuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, keep out of smoke.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Potassium hydroxide 1310-58-3	Toxic Corrosive

14. TRANSPORT INFORMATION**Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Not regulated

IATA

Not regulated

IMDG**Marine Pollutant**

This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Harmful if swallowed, absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist or vapors. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse. Wear the appropriate Personal Protective Equipment (PPE).

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Phosphorous acid	*	X		Present		Present	X	Present	X	X
Potassium hydroxide	*	X		Present		Present	X	Present	X	X

Legend:

*This product is exempted from TSCA because it is solely for FIFRA regulated use.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations**CERCLA**

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Potassium hydroxide 1310-58-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide	1000 lb			X

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Potassium hydroxide 1310-58-3	X	X	X

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	1	0	0	Not determined
<u>HMIS</u>	Health Hazards	Flammability	Physical Hazards	Personal Protection
	1	0	0	Not determined

Issue Date: 12-04-13
Revision Date: 09-09-15
Revision Note: GHS Compliant

Warranty and Disclaimer

To the extent permitted by applicable law, all conditions and warranties and statutory or other rights of action which buyer or any other user may have against Quest Products LLC. are hereby excluded. To the extent permitted by applicable law, Quest Products LLC. hereby gives notice to buyer and other users that it will not accept responsibility for any indirect or consequential loss arising from reliance on product information provided by Quest Products LLC. or on its behalf unless it is established that such information or advice was provided negligently and that the product has been used strictly as directed. To the extent permitted by applicable law, Quest Products LLC's liability shall in all circumstances be limited to replacement of product or a refund of the purchase price thereof.

End of Safety Data Sheet



RTSA Horticultural Oil

Safety Data Sheet

US and GHS

Revision date: February 9, 2015

Version: 1.0

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : RTSA Horticultural Oil
Product code : EPA Reg. No. 74779-9

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Pesticidal Spray Oil. (Only to be used as indicated on the label)

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Classification of RTSA Horticultural Oil

CLP/GHS CLASSIFICATION: Regulation (EC) no. 1272/2008

Hazard Class	Category	Hazard Statement
Aspiration Toxicity	1	H304

DSD/DPD CLASSIFICATION: Directives 67/548/EC; 199/45EC

Xn; R65 Harmful: may cause lung damage if swallowed.

For full text of the R-phrases mentioned in this Section, see Section 16.

For full text of the H-Statements mentioned in the Section, see Section 16.

2.2. Label elements

NOTE: This is a US FIFRA regulated product – GHS Label does not apply – see section 15 for further details.

Pictogram: GHS08





RTSA Horticultural Oil

Safety Data Sheet

US and GHS

Revision date: February 9, 2015

Version: 1.0

NOTE: This is a US FIFRA regulated product – GHS Label does not apply – see section 15 for further details.

Pictogram: GHS08

Signal word : DANGER

Hazard statements : May be fatal if swallowed and enters airways.

SECTION 3: Composition/information on ingredients

3.1. Mixtures

This material is a mixture.

Name	Product identifier	Classification 67/548/EEC Symbol / Risk Phrases	Classification (Regulation EC. No 1272/2008)	Amount (%/wt.)
Mineral Oil (Petroleum Hydrocarbon)	(CAS No.) 64742-56-9	R65	H304	98-100
Ethoxylated Fatty Alcohol (Non-Ionic Emulsifier)	(CAS No.) 9002-92-0	Xi: R41	Eye Dam. 1:H318	0-2

For full text of the R-phrases mentioned in this Section, see Section 16.

For full text of the H-Statements mentioned in the Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

INHALATION

: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, if possible. If breathing is difficult, give oxygen and continue to monitor. Call a poison control center or doctor for further treatment advice.

SKIN or Clothing

: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 - 20 minutes followed by washing with soap and water. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. For contact with heated product, flush immediately with plenty of cool water for at least 20 minutes.

EYES

: Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present after the first 5 minutes, then continue rinsing the eye. For contact with heated product, flush immediately with plenty of cool water for at least 20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION

: Immediately call a poison control center or doctor. DO NOT INDUCE VOMITING, unless told to do so by a poison control center or doctor! Do not give **any** liquid to the person! Do not give anything by mouth to an unconscious person.



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4.2. Most important symptoms and effects, both acute and delayed

INHALATION

: Excessive exposure to mists or vapors generated by heat may cause irritation to eyes, nose, throat, lungs and respiratory tract. Prolonged or frequently repeated exposure may cause allergic reactions in some individuals. The following diseases or disorders may be aggravated by exposure to this product: Respiratory system disorders, lung disorders (asthma-like conditions).

SKIN

: Harmful if absorbed through the skin. Substance may cause slight skin irritation. Contact with heated product may cause thermal burns. Prolonged or frequently repeated exposure may cause allergic reactions in some individuals. The following diseases or disorders may be aggravated by exposure to this product: Dermatitis.

EYES

: Contact with product at elevated temperatures can result in thermal burns.

INGESTION

: Harmful or fatal if swallowed. Pulmonary aspiration hazard. May be fatal if swallowed and enters airways. While ingesting or vomiting, may enter lungs and produce damage.

4.3. Indication of any immediate medical attention and special treatment needed

None Known

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray; Regular foam; Dry chemical; Carbon dioxide

5.2. Special hazards arising from the substance or mixture

Fire hazard : Do not breathe fumes: fire can form harmful compounds.

5.3. Advice for firefighters

Firefighting instructions : Wear structural fire fighting gear. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

FLAMMABLE PROPERTIES

	Typical	Minimum	Maximum	Text Result	Units	Method
Flash Point	184	172			°C	D92
Autoignition Temperature	650			Estimated	°F	D2155
Lower Explosion Limit				No data	%	N/A
Upper Explosion Limit				No data	%	N/A

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate personal protective equipment as stated in Section 8 of this SDS. Surfaces on which the product has been spilled may become slippery.



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6.2. Environmental precautions

Prevent the material from entering the soil, sewers, and water sources. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Contain spilled liquid with sand or earth. DO NOT use combustible materials such as saw dust. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Vacuum or sweep up material and place in a disposable container.

6.4. Reference to other sections

None

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a cool dry place. Keep container closed when not in use. NFPA class IIIB storage. Flash point is greater than 200 degrees F.

7.3. Specified end use(s)

Specified end use(s) : Emulsifiable pesticidal spray oil

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OCCUPATIONAL EXPOSURE LIMITS:

Component	TWA	STEL
Mineral Oil (Petroleum Hydrocarbon)	5 mg/m ³	10 mg/m ³

8.2. Exposure controls

Engineering Controls : Use with adequate ventilation. Ventilation is normally required when handling or using this product to keep exposure to airborne contaminants below the recommended exposure limit. Mechanical ventilation recommended.

Personal Protective Equipment

EYE PROTECTION

: Safety glasses with side shields or splash proof chemical goggles are recommended to protect against the splash of product.

GLOVES or HAND PROTECTION

: Protective gloves are recommended when prolonged skin contact cannot be avoided. The glove(s) listed below may provide protection against permeation. Polyvinyl chloride (PVS); Neoprene; Nitrile; Polyvinyl alcohol; Viton. Gloves of other chemically resistant materials may not provide adequate protection.



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RESPIRATORY PROTECTION

: Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Respiratory protection is not usually needed unless product is heated or misted. Half-mask air purifying respirator with dust / mist filters or HEPA filter cartridges is acceptable to exposures to ten (10) times the exposure limit. Full-face air purifying respirator with dust / mist filters or HEPA cartridges is acceptable for exposures to fifty (50) times the exposure limit. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive-pressure demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full face piece airline respirator in the positive pressure mode with emergency escape provisions.

OTHER

: Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required. The following materials are acceptable for use as protective clothing: Polyvinyl alcohol (PVA); Polyvinyl chloride (PVC); Neoprene; Nitrile; Viton; Polyurethane. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse. For non-fire emergencies, respiratory protection may be necessary and wear appropriate protective clothing to avoid contact with material.

ENVIRONMENTAL EXPOSURE CONTROLS

: See relevant/applicable community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The data below are typical values and do not constitute a specification



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Physical Property	Typical	Units	Text Results	Reference
Appearance	Colorless liquid	N/A		
Physical State	Liquid			
Boiling Range	318-363	°C		D2887
Bulk Density	7.08	lb/gal		D1250
Pour Point	-15	°C		D97 / D5950
Molecular Weight	300	g/mol		D2502
Octanol/Water Coefficient		N/A	No data	
pH		N/A	No data	
Specific Gravity	0.856		60/60F	D1298
Solubility in Water	Miscible	Wt%		
Odor	Slight Petroleum	N/A		
Odor Threshold		ppm	No data	
Vapor Pressure	<0.0001	mmHg	@ 20°C	
Viscosity (F)	66.4	SUS	@ 100°F	D2161
Viscosity (C)	11.2	cSt	@ 40°C	D445
% Volatile	Nil	Wt%		D2369

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is not expected to react

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will not polymerize

10.4. Conditions to avoid

Avoid heat, spark, and open flame

10.5. Incompatible materials

Strong oxidizers

10.6. Hazardous decomposition products

Combustion may produce carbon monoxide, carbon dioxide and other asphyxiants.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

The product not tested, based on data of individual components or a similar material. Samples of highly refined base oils have been tested in acute oral, dermal and inhalation studies.

Acute Oral Toxicity : Rat Oral LD50 >5000 mg/kg body weight

Acute Dermal Toxicity : Rabbit Dermal LD50 >2000 mg/kg body weight

Acute Inhalation Toxicity : LC50 >5 mg/L

Eye Irritation : Highly refined base oils were not irritating in a guideline test for eye irritation.



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Skin Corrosion/Irritation

: Samples of highly refined base oils were tested in rabbit skin irritation studies. Results obtained indicate that exposure to highly refined base oils does not induce skin irritation. There was no evidence of skin corrosion.

Skin Sensitization

: Highly refined base oils were tested and showed no evidence of skin sensitization.

Germ Cell Mutagenicity

: The mutagenic potential of highly refined base oils has been tested via in vitro and in vivo tests. Results showed no evident mutagenic activity. Based on available data highly refined base oils are not considered to be germ cell mutagens.

Carcinogenicity

: Carcinogenic bioassays have been conducted and confirm that highly refined base oils are non-carcinogenic.

Reproductive Toxicity

: Highly refined base oil was not a reproductive toxicant (OECD 421). NOAEL for oral exposure = >1000 mg/kg bw/day and the NOAEL for dermal exposure = >2000 mg/kg bw/day.

Specific Target Organ Toxicity – Single Exposure: Acute exposure studies do not indicate any specific organ toxicity following single exposure to highly refined base oils.

Specific Target Organ Toxicity – Repeated Exposure: The repeat dose toxicity of highly refined base oils has been studied and there is no toxicity associated with these materials, therefore there is no specific target organ toxicity following exposure.

SECTION 12: Ecological information

12.1. Toxicity

TOXICITY

Acute (Short-term) Aquatic Hazard : Fish not classified. >100 mg/L based on similar components.

Chronic (Long-term) Aquatic Hazard : No chronic toxicity data is available for highly refined base oils. Read across data for other lubricating base oils indicate a NOEL = 3 mg/L based on reproduction for aquatic invertebrates.

12.2. Persistence and degradability

Not classified. Product not tested but expected to be inherently biodegradable but not expected to meet criteria for ready degradability.

12.3. Bioaccumulative potential

Constituents of highly refined base oils show measured or predicted values for log Kow >4 and are considered potentially bioaccumulative.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

None identified.



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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Follow federal, state and local regulations. This material is not a RCRA hazardous waste, if not contaminated. If material has been "used", RCRA criteria (ignitability, reactivity, corrosivity and toxicity) must be determined. Do not flush material to drain or storm sewer. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal:

Rigid, nonrefillable plastic containers equal to or less than 5 gallons: Nonrefillable container. Do not reuse or refill the container. Offer for recycling if available. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty remaining contents into application equipment of mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. If recycling is not available, puncture and dispose of container in a sanitary landfill or by incineration.

Rigid, nonrefillable plastic containers greater than 5 gallons: Nonrefillable container. Do not reuse or refill the container. Offer for recycling if available. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment of mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

For plastic containers greater than 5 gallons: If recycling is not available, puncture and dispose of container in a sanitary landfill or by incineration.

For metal containers greater than 5 gallons: If recycling is not available, puncture and dispose of container in a sanitary landfill or by other procedures approved by State and Local authorities.

SECTION 14: Transport information

<u>Governing Body</u>	<u>Mode</u>	<u>Proper Shipping Name</u>		
IATA	Air	Not Determined		
IMDG	Marine	Not Regulated		
DOT	Ground	Petroleum Oil NOIBN		

<u>Governing Body</u>	<u>Mode</u>	<u>Hazard Class</u>	<u>UN/NA No.</u>	<u>Label</u>
IATA	Air	Not Determined		
IMDG	Marine			
DOT	Ground	N/A	N/A	



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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulatory List	Component	CAS No.
Inventory – Australia (AICS)	Distillate (Petroleum) Solvent Dewaxed Light Paraffinic	64742-56-9
Inventory – Canada – Domestic Substances List	Distillate (Petroleum) Solvent Dewaxed Light Paraffinic	64742-56-9
Inventory – China	Distillate (Petroleum) Solvent Dewaxed Light Paraffinic	64742-56-9
Inventory – Japan – (ENCS)	Distillate (Petroleum) Solvent Dewaxed Light Paraffinic	64742-56-9
Inventory – Korea – Existing and Evaluated	Distillate (Petroleum) Solvent Dewaxed Light Paraffinic	64742-56-9
Inventory – Philippines Inventory (PICCS)	Distillate (Petroleum) Solvent Dewaxed Light Paraffinic	64742-56-9
Inventory – TSCA Sect. 8(b) Inventory	Distillate (Petroleum) Solvent Dewaxed Light Paraffinic	64742-56-9
Massachusetts Right-To-Know List	Distillate (Petroleum) Solvent Dewaxed Light Paraffinic	64742-56-9

This product contains trace amounts of toluene, a chemical know to the state of California to cause birth defects or other reproductive harm.

Title III Classifications Sections 311, 312:

Acute Health Hazard: **Yes**

Chronic Health Hazard: **No**

Fire: **No**

Reactivity: **No**

Sudden Release of Pressure: **No**

FIFRA Information for SDS Section 15 (Regulatory Information)

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels for non-pesticide chemicals.

Following is the hazard information as required on the pesticide label:

CAUTION

Keep out of reach of Children

Harmful if absorbed through skin.

Avoid contact with eyes, skin or clothing.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Contains Petroleum Distillates – vomiting may cause aspiration pneumonia. Aspiration may occur after swallowing or vomiting and results in serious and sometimes delayed lung injury.



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SECTION 16: Other information

Revision Date: February 10, 2015

Full Text of R-Phrases:

R41: Risk of serious damage to eyes.

R65: Harmful: May cause lung damage if swallowed.

Full Text of CLP H-Statements:

H304: Asp Tox 1

H318: Causes serious eye damage.

Based upon the test results from the IP 346 analysis of the fully formulated product, RTSA Horticultural Oil, the weight percent of DMSO-extractable material is less than 3%.

Disclaimer: The information provided by Rainbow Treecare Scientific Advancements, contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.



Safety Data Sheet - GHS

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: Safari™ 20 SG Insecticide
EPA REGISTRATION NUMBER: 86203-11-59639; 33657-16-59639
VC NUMBER(S): 1455
SYNONYM(S): Dinotefuran 20% SG
PRODUCT DESCRIPTION: Insecticide for greenhouse, nursery, interior plantscape and outdoor landscape use.

Safari is a registered trademark of Valent U.S.A. LLC

MANUFACTURER/DISTRIBUTOR

VALENT U.S.A. LLC
 P.O. Box 5075
 4600 Norris Canyon Road
 San Ramon, CA 94583

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY OR SPILL (24 hr):
 (800) 892-0099
 TRANSPORTATION (24 hr.): CHEMTREC
 (800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION

PROFESSIONAL PRODUCTS: (800) 898-2536

The current SDS is available through our website (www.valent.com), or by calling the product information numbers listed above.

2. HAZARDS IDENTIFICATION

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA-required classifications on the product label. Certain sections of this SDS are superseded by federal law under EPA FIFRA for a registered pesticide. Please see Section 15, REGULATORY INFORMATION for an explanation.

Classification - (per U.S. OSHA 29 CFR 1910.1200 (Hazcom 2012))

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 3

Label elements

EMERGENCY OVERVIEW

WARNING



Hazard statements

Harmful if inhaled
Causes skin irritation

Precautionary statements**Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Avoid contact with eyes and skin

Response

Eyes None.

Skin Wash thoroughly with soap and water. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion None.

FIRE None.

Spill None.

Storage

None

Disposal

None

Hazards not otherwise classified (HNOC)**Other Information**

- Toxic to aquatic life with long lasting effects
- Harmful to aquatic life

For information on Transportation requirements, see Section 14.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	TRADE SECRET
Dinotefuran Technical (99% ai)	165252-70-0	20.2	
Sodium dodecylbenzene sulfonate	25155-30-0	1 - 5	
Others	(Various CAS#s)	Balance of formulation	

* The chemical name, CAS number and/or exact percentage have been withheld as a trade secret

Other ingredients, which may be maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling (800) 892-0099 at any time.

4. FIRST AID MEASURES**EMERGENCY NUMBER (800) 892-0099**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 2

SDS NO.: 0426
REVISION DATE: 08/21/2020

You may also contact **1-800-892-0099** for emergency medical treatment information.

EYE CONTACT:

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

SKIN CONTACT:

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION:

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person.

INHALATION:

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN:

None

5. FIRE FIGHTING MEASURES

Flash point °C Not Applicable

Flash point °F

EXTINGUISHING MEDIA: Water fog, carbon dioxide, foam, dry chemical

FLAMMABLE LIMITS IN AIR - LOWER (%):

Not applicable

FLAMMABLE LIMITS IN AIR - UPPER (%):

Not applicable

NFPA RATING:

Health:	1
Flammability:	3
Reactivity:	1
Special:	None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

FIRE FIGHTING INSTRUCTIONS: Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.

This material is not expected to burn or explode in normal conditions, but will burn violently if involved in a fire. Dinotefuran becomes self-reactive in high temperatures. Exposure to heat may promote violent decomposition.

HAZARDOUS DECOMPOSITION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce: oxides of nitrogen,.

6. ACCIDENTAL RELEASE MEASURES

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 2

SDS NO.: 0426
REVISION DATE: 08/21/2020

VALENT EMERGENCY PHONE NUMBER: (800) 892-0099
CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300
OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

UN/NA NUMBER: Not applicable

EMERGENCY RESPONSE GUIDEBOOK NO.: Not applicable

FOR SPILLS ON LAND:

CONTAINMENT: Remove all sources of ignition. Ventilate area of leak or spill. Clean-up personnel may require protection from inhalation of dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Clean up spill immediately in a manner that does not disperse dust into the air and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER:

CONTAINMENT: This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further release on to soil or into surface water.

CLEANUP: Clean up spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.

7. HANDLING AND STORAGE

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

HANDLING:

Keep away from all possible sources of ignition (sparks or flame). Avoid high temperatures exceeding 150°C. Keep container closed. Use only with adequate ventilation.

To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring the material. Use explosion-proof electrical equipment. Take precautionary measures against static discharges.

STORAGE:

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, out of direct sunlight. Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Do not store diluted spray.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

INFORMATION FOR END USERS

Mixers, loaders, applicators and other handlers should refer to the product label before use for detailed information on personal protective equipment (PPE).

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If operating conditions result in airborne concentrations of this material, the use of an approved respirator is recommended.

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 2

SDS NO.: 0426
REVISION DATE: 08/21/2020

SKIN & HAND PROTECTION: Applicators and other handlers must wear: long-sleeved shirt and long pants, shoes plus socks and chemical-resistant gloves made of any waterproof material.

Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENGINEERING CONTROLS: Use in a well ventilated area.

EXPOSURE LIMITS

Chemical name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Dinotefuran Technical (99% ai)	None	None	None
Sodium dodecylbenzene sulfonate	None	None	None
Others	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid		
Appearance	Granules	Odor	Odorless
Color	Off-white	Odor threshold	No information available

PROPERTIES	Values	Remarks • Method
pH	7.6	(1% aqueous solution)
Melting point/freezing point	107.5 °C	Melting point (Dinotefuran Technical)
Boiling point/boiling range	Decomposed at 208°C (Technical)	
Flash point	Not Applicable	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limits	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	
Liquid Density	No information available	
Bulk density	0.56 g/mL	

10. STABILITY AND REACTIVITY

Reactivity

Emergency Telephone: (800) 892-0099
 REVISION NUMBER: 2

SDS NO.: 0426
 REVISION DATE: 08/21/2020

Not an oxidizing or reducing agent.

Chemical stability

Stable under normal ambient conditions.

Possibility of Hazardous Reactions

This material is combustible and may form explosive dust-air mixture.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Heat and ignition sources. Oxidizers.

Hazardous Decomposition Products

Normal combustion forms carbon dioxide, water vapor and may produce: oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral Toxicity LD ₅₀ (rats)	> 2,000 mg/kg	EPA Tox Category	III
Dermal Toxicity LD ₅₀ (rabbits)	> 2,000 mg/kg	EPA Tox Category	III
Inhalation Toxicity LC ₅₀ (rats)	> 2.94 mg/L (4 hr)	EPA Tox Category	IV
Eye Irritation (rabbits)	Moderately irritating	EPA Tox Category	III
Skin Irritation (rabbits)	Mildly irritating	EPA Tox Category	III
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical name	IARC Group 1 or 2	OSHA - Select Carcinogens	NTP Carcinogen List
Others	Not listed	Not listed	Not listed
Dinotefuran Technical (99% ai)	Not listed	Not listed	Not listed
Sodium dodecylbenzene sulfonate	Not listed	Not listed	Not listed

TOXICITY OF DINOTEFURAN TECHNICAL

SUBCHRONIC: Dinotefuran technical was tested in 13-week dietary toxicity studies in rats, mice and dogs. In the rat study, a NOEL of 500 ppm was established, based on reduced body weight gain in females and adrenal cortical vacuolation in males and a NOAEL of 5,000 ppm based on marked growth retardation at 25,000 ppm (adrenal cortical vacuolation not adverse). A NOEL of 25,000 ppm was established in the mouse study based on reduced body weight gain at 50,000 ppm. In the dog 13-week dietary study, a NOEL of 8,000 ppm was established based on reduced body weight gain. No target organs were identified in subchronic inhalation or dermal toxicity studies in rats.

CHRONIC/CARCINOGENICITY: Dinotefuran technical was tested in lifetime studies with rats and mice and a one-year study with dogs. In common with the subchronic studies in these species, no specific target organs could be identified. In the 78-week mouse study a NOAEL of 2500 ppm was established, based on decreased weight gain and a decrease in circulating platelet counts. In the 104-week rat study a NOAEL of 2000 ppm was established, based on a decrease in weight gain in females. There were no treatment-related effects in rats or mice on survival or the nature and incidence of neoplastic and adverse non-neoplastic histomorphological findings in either species at any dose level. In the 52-week dog study a NOAEL of 16000 ppm was established based on decreased weight gain in both sexes and decreased food consumption in females.

NEUROTOXICITY: Dinotefuran did not produce any functional or histomorphological evidence of neurotoxicity in acute (gavage) and 13-week (dietary) neurotoxicity studies in rats. The NOEL for neurotoxicity in the acute study was 1,500 mg/kg, the highest dose level administered. The NOEL for neurotoxicity in the 13-week dietary study was

50,000 ppm. The NOEL for all effects in this study was 5,000 ppm based on reduced body weight gain and food consumption.

DEVELOPMENTAL TOXICITY: In a developmental toxicity study of Dinotefuran technical in rats the maternal NOAEL was 300 mg/kg/day based on reduced weight gain, food consumption and water intake at 1000 mg/kg/day. Dinotefuran technical did not produce developmental effects in rats at doses up to 1000 mg/kg/day (the highest doses tested). In a study with rabbits the maternal NOAEL was 52 mg/kg/day based on reduced weight gain, food consumption and water intake and clinical signs noted at 300 mg/kg/day and pathology findings in the liver and stomach at 125 mg/kg/day and higher. The developmental NOEL was 300 mg/kg/day.

REPRODUCTION: Dinotefuran technical was tested in a two-generation rat reproduction study at doses of 0, 300, 1000, 3000 and 10000 ppm. The NOAEL for systemic toxicity in parental animals was 3000 ppm based on decreased body weight gain and food consumption and decreased spleen and thyroid weights at the highest dose level evaluated (10000 ppm). The NOAEL for reproductive effects was 10000 ppm. The NOAEL for effects on the offspring was 3000 ppm based on reduced preweaning weight gain at 10000 ppm.

MUTAGENICITY: Dinotefuran technical was negative in the following in vitro assays: Ames Assay, mouse lymphoma (L5178Y), mammalian cytogenetics (CHL/IU) or DNA Repair. Dinotefuran technical was negative in the following in vivo assays: mouse micronucleus. Overall, Dinotefuran technical does not present a genetic hazard.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

12. ECOLOGICAL INFORMATION

AVIAN TOXICITY: Dinotefuran Technical is practically non-toxic to moderately toxic to avian species. Test results include:
 Oral LD₅₀ quail: greater than 2000 mg/kg
 Dietary LC₅₀ Mallard duck: greater than 997.9 ppm
 Dietary LC₅₀ quail: greater than 1301 ppm
 Reproduction quail: NOEL = 5000 ppm
 Reproduction Mallard duck: NOEL = 2000 ppm

AQUATIC ORGANISM TOXICITY: Dinotefuran Technical is practically non-toxic to fish and ranges from practically nontoxic to highly toxic to aquatic invertebrate species (especially shrimp.) Test results include:
 LC₅₀ (96 hr) Bluegill Sunfish: greater than 100 mg/L
 LC₅₀ (96 hr) Rainbow Trout: greater than 100 mg/L
 LC₅₀ (96 hr) Common Carp: greater than 100 mg/L
 LC₅₀ (96 hr) Sheepshead Minnow: greater than 109 mg/L
 NOEC (early life stage) Rainbow Trout: greater than 10 mg/L
 EC₅₀ (48 hr) Daphnia magna: greater than 1000 mg/L
 NOEC (lifecycle) Daphnia magna: > 10 mg/L
 LC₅₀ (96 hr) saltwater Mysid Shrimp: 0.79 mg/L
 NOEC (lifecycle) saltwater Mysid Shrimp: 0.089mg/L
 EC₅₀ (96 hr) Oyster Shell Deposition: greater than 141 mg/L
 ErC₅₀ (0-72 hr) Algae (P. subcapitata): greater than 100 mg/L

OTHER NON-TARGET ORGANISM TOXICITY: Dinotefuran Technical is highly toxic to bees. The acute oral and contact LD₅₀ in bees were 0.056 µg/bee and 0.022 µg/bee, respectively. This product is highly toxic to bees or other pollinating insects exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees or other pollinating insects are foraging in the treatment

area.

OTHER ENVIRONMENTAL INFORMATION:

This pesticide is toxic to shrimp. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below mean high water mark. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

PRODUCT DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Non-refillable container. Do not reuse or refill this container. Completely empty container by shaking and tapping sides and bottom to loosen clinging particles promptly after emptying. Then, offer for recycling if available, or reconditioning if appropriate, or puncture and dispose of container in a sanitary landfill, or by other procedures approved by state and local authorities. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill or by incineration.

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations.

14. TRANSPORTATION INFORMATION

DOT (ground) SHIPPING NAME: Not regulated for domestic ground transport by U.S. DOT

REMARKS: None

EMERGENCY RESPONSE Not applicable

GUIDEBOOK NO.:

ICAO/IATA SHIPPING NAME: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Dinotefuran), 9, III, Marine Pollutant

REMARKS:

- Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IATA Special Provision A197.
- For US shipping, Emergency Response Guidebook No. 171

IMDG SHIPPING NAME: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Dinotefuran), 9, III, Marine Pollutant

REMARKS:

- Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IMDG 2.10.2.7
- For US shipping, Emergency Response Guidebook No. 171

EMS NO.: F-A, S-F

15. REGULATORY INFORMATION

EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:

Pesticide products in the U.S. are registered by the EPA under FIFRA and are subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information

required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

EPA FIFRA SIGNAL WORD: CAUTION

- *Harmful if swallowed*
- *Harmful if absorbed through skin*
- *Causes moderate eye irritation*
- *Avoid contact with eyes, skin and clothing.*
- *Wash hands thoroughly with soap and water after handling.*
- *Remove contaminated clothing and wash before re-use.*
- *Keep out of reach of children.*

PESTICIDE REGULATIONS: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

U.S. FEDERAL REGULATIONS: Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

Sodium dodecylbenzene sulfonate

Clean Water Act - Hazardous Substances	Present
CERCLA Reportable Quantity (RQ):	1000 lb 454 kg

SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	No
Fire:	Yes
Sudden Pressure:	No
Reactivity:	No

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

Sodium dodecylbenzene sulfonate

California - Directors List of Hazardous Substances	Present
MA Right To Know	Present
NJ Right To Know	1698
PA Right To Know	Environmental hazard

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

16. OTHER INFORMATION

REASON FOR ISSUE: Updated Manufacturer/Distributor Address and General Review.
SDS NO.: 0426
EPA REGISTRATION NUMBER: 86203-11-59639; 33657-16-59639
REVISION NUMBER: 2
REVISION DATE: 08/21/2020
SUPERCEDES DATE: 08/21/2020
RESPONSIBLE PERSON(S): Valent U.S.A. LLC, Corporate EH&S, (925) 256-2803

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent U.S.A. LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent U.S.A. LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent U.S.A. LLC to confirm that you have the most current product label and SDS.

This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom").

The product label provides information specifically for product use in the ordinary course. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label.

2020 Valent U.S.A. LLC

1 Identification

· Product identifier

· Trade name: **SCYTHE® HERBICIDE**

EPA Registration No.: 10163-325

· CAS Number: Active Ingredient: Pelargonic acid (57.0%), CAS:112-05-0

· Application of the substance / the mixture Agricultural herbicide

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Gowan Company

P.O. Box 5569

Yuma, Arizona 85366-5569

(928) 783-8844

· Information department: sds@gowanco.com

· Emergency telephone number:

Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300

Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency (ProPharma Group®): (888) 478-0798

2 Hazard(s) identification

· Classification of the substance or mixture



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· Label elements

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS07

· Signal word Warning

· Hazard-determining components of labeling: Pelargonic Acid

· Hazard statements

H332 Harmful if inhaled.

H315 Causes skin irritation.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves.

P302+P352 If on skin: Wash with plenty of water.

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P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a poison center/doctor if you feel unwell.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

HAZARD INDEX:

4 Severe Hazard

3 Serious Hazard

2 Moderate

1 Slight Hazard

0 Minimal Hazard

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable in US.

· **vPvB:** Not applicable in US.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 112-05-0	Pelargonic Acid ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Aquatic Chronic 3, H412	57.0%
CAS: 64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic ⚠ Carc. 1B, H350	<29.7%
CAS: 64741-88-4	Distillates (petroleum), solvent-refined heavy paraffinic ⚠ Carc. 1B, H350	<10.5%

4 First-aid measures

· **Description of first aid measures**

· **General information:**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

You may also contact 1-888-478-0798 for emergency medical treatment information.

· **After inhalation:**

• Move person to fresh air.

• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.

• Call poison control center or doctor for further treatment advice.

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- **After skin contact:**
 - Take off contaminated clothing.
 - Rinse skin immediately with plenty of water for 15-20 minutes.
 - Call a poison control center or doctor for treatment advice.
- **After eye contact:**
 - Hold eye open and rinse slowly and gently with water for 15-20 minutes.
 - Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.
 - Call a poison control center or doctor for treatment advice.
- **After swallowing:**
 - Call a poison control center or doctor immediately for treatment advice.
 - Do not induce vomiting unless told to do so by the poison control center or doctor.
 - Do not give anything by mouth to an unconscious person.
- **Information for doctor:**
 - **Most important symptoms and effects, both acute and delayed** Unknown
 - **Indication of any immediate medical attention and special treatment needed**
 Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
 CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
 Carbon monoxide (CO)
 Carbon dioxide (CO₂)
- **Advice for firefighters**
 - **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
 Do not apply directly to water, areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.
- **Methods and material for containment and cleaning up:**
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Use neutralizing agent.
 Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.
- **Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

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7 Handling and storage

· Handling:

· **Precautions for safe handling**

Causes substantial but temporary eye injury. Causes skin irritation. Harmful if inhaled. Harmful if absorbed through the skin. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

· **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Keep container tightly sealed when not in use. Store only in original container in a dry place inaccessible to children and pets.

· **Information about storage in one common storage facility:** Store away from foodstuffs.

· **Further information about storage conditions:** Store in dry conditions.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

· **Protection of hands:**



Protective gloves

· **Material of gloves** Chemical-resistant gloves.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Goggles, face shield or safety glasses

· **Body protection:**

- Coveralls worn over short-sleeved shirt and short pants
- Chemical resistant-gloves such as barrier laminate, nitrile rubber, or neoprene rubber
- Chemical-resistant footwear plus socks

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- Protective eyewear (goggles, face shield or safety glasses)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

- Form: Liquid
- Color: Colorless to yellow
- Odor: Waxy
- Odor threshold: Not determined.

· pH-value at 20 °C (68 °F): 3.8

· Change in condition

- Melting point/Melting range: Undetermined.
- Boiling point/Boiling range: < 237 °C (< 458.6 °F)

· Flash point: > 94 °C (> 201.2 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 405 °C (761 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not self-igniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

- Lower: 1.2 Vol %
- Upper: Not determined.

· Vapor pressure: Not determined.

· Density: Not determined.

- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.

· Solubility in / Miscibility with

- Water: Dispersible.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

- Dynamic: Not determined.
- Kinematic: Not determined.

· Other information: No further relevant information available.

10 Stability and reactivity

· Reactivity: No further relevant information available.

· Chemical stability: Stable under normal conditions

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions: No dangerous reactions known.

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- **Conditions to avoid** Excessive heat.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

Scythe Herbicide		
Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50/4 h	>5.29 mg/l (rat)

· Primary irritant effect:

- **on the skin:** Irritating effect
- **on the eye:** Substantial but temporary eye injury.

· Sensitization: No sensitizing effects known.

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

· NTP (National Toxicology Program)

None of the ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

12 Ecological information

· Toxicity

Do not apply directly to water, areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

· Aquatic toxicity: No further relevant information available.

· Persistence and degradability No further relevant information available.

· Behavior in environmental systems:

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

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· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

· **Uncleaned packagings:**

· **Recommendation:**

Disposal must be made according to official regulations.

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT**

Not regulated

· **ADR, IMDG, IATA**

UN1760

· **UN proper shipping name**

· **ADR**

1760 Corrosive liquids, n.o.s. (Pelargonic Acid)

· **IMDG, IATA**

CORROSIVE LIQUID, N.O.S. (Pelargonic Acid)

· **Transport hazard class(es)**

· **DOT**

· **Class**

8 Corrosive substances

· **Label**

8

· **ADR, IMDG, IATA**



· **Class**

8 Corrosive substances

· **Label**

8

· **Packing group**

· **DOT, ADR, IMDG, IATA**

II

· **Environmental hazards:**

· **Marine pollutant:**

No

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· Special precautions for user · Danger code (Kemler): · EMS Number:	Warning: Corrosive substances 80 F-A,S-B
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable
· Transport/Additional information:	
· ADR · Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	US DOT: Non Bulk: Not regulated All Others: UN1760, Corrosive liquids, n.o.s. (Pelargonic Acid), 8, II

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

EPA /FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

· SARA Title III

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

CAS: 112-05-0	Pelargonic Acid
CAS: 64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic
CAS: 64741-88-4	Distillates (petroleum), solvent-refined heavy paraffinic

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

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· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

Not applicable

· **Signal word**

(USA EPA) WARNING

· **Hazard statements**

Causes substantial but temporary eye injury.

Causes skin irritation.

Harmful if inhaled

Harmful if absorbed through skin.

Do not get in eyes or on clothing.

Avoid breathing spray mist.

Wash thoroughly with soap and water after handling.

Remove contaminated clothing and wash before reuse.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves.

P302+P352 If on skin: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a poison center/doctor if you feel unwell.

P321 Specific treatment (see on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/04/2019

Reviewed on 11/04/2019

Trade name: SCYTHE® HERBICIDE
EPA Registration No.: 10163-325

(Contd. of page 9)

- **National regulations:**
- **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Supply Chain
- **Contact:** *sds@gowanco.com*
- **Date of preparation / last revision** 11/04/2019 / 5
- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Carc. 1B: Carcinogenicity – Category 1B
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
- **Sources** *Scythe® is a registered trademark of Gowan Company, L.L.C.*
- *** Data compared to the previous version altered.**

US

1 Identification

· **Product identifier**

· **Trade name:** *SedgeHammer® Turf Herbicide*

EPA Registration No.: 81880-I-10163

· **CAS Number:** *Active Ingredient: Halosulfuron-Methyl (75%), CAS:100784-20-1*

· **Application of the substance / the mixture** *Turf herbicide*

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Gowan Company

P.O. Box 5569

Yuma, Arizona 85366-5569

(928) 783-8844

· **Information department:** *sds@gowanco.com*

· **Emergency telephone number:**

Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300

Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency (Prosar®): (888) 478-0798

2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** *Warning*

· **Hazard statements**

H302 Harmful if swallowed.

· **Precautionary statements**

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Hazard description:**

CAUSES MODERATE EYE IRRITATION. HARMFUL IF SWALLOWED. Avoid contact with eyes or clothing.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: SedgeHammer® Turf Herbicide
EPA Registration No.: 81880-1-10163

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
 Fire = 0
 Reactivity = 0

HAZARD INDEX:

4 Severe Hazard
 3 Serious Hazard
 2 Moderate
 1 Slight Hazard
 0 Minimal Hazard

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable in US.
- **vPvB:** Not applicable in US.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed.

· **Dangerous components:**

CAS: 100784-20-1	Halosulfuron-methyl	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	75.0%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
 Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
 You may also contact 1-888-478-0798 for emergency medical treatment information.
- **After eye contact:**
 - Hold eye open and rinse slowly and gently with water for 15-20 minutes.
 - Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.
 - Call a poison control center or doctor for treatment advice.
- **After swallowing:**
 - Call a poison control center or doctor immediately for treatment advice.
 - Remove visible particles from mouth.
 - Have person rinse mouth thoroughly with water, spit out rinse water.
 - Have person sip a glass of water if able to swallow.
 - Do not induce vomiting unless told to do so by a poison control center or doctor.
 - Do not give anything by mouth to an unconscious person.
- **Information for doctor:**
 - **Most important symptoms and effects, both acute and delayed** No further relevant information available.
 - **Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: SedgeHammer® Turf Herbicide
EPA Registration No.: 81880-1-10163

(Contd. of page 2)

5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
Firefighters and others that may be exposed to vapors, mists, dusts, or products of combustion should wear full protective clothing and self-contained breathing apparatus. Equipment should be thoroughly cleaned after use.
 - **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
- **Methods and material for containment and cleaning up:**
Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Flush residual spill area with water. Refer to Section 13 for disposal information and Section 15 for reportable quantity information.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
No special measures required.
Avoid contact with eyes or clothing. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.
 - **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:**
Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Store under cool, dry conditions (below 120°F). Do not store under moist conditions.
 - **Information about storage in one common storage facility:** Store away from foodstuffs.
 - **Further information about storage conditions:** None.
 - **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: SedgeHammer® Turf Herbicide
EPA Registration No.: 81880-1-10163

(Contd. of page 3)

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:**

Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

- **Breathing equipment:** Not required.

- **Protection of hands:**



Protective gloves

- **Material of gloves**

chemical resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow instructions for category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Body protection:**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants

- Coveralls

- Shoes plus socks

- Chemical resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow instructions for category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- **Form:** Granulate

- **Color:** Beige

- **Odor:** Slightly Vanilla

- **Odor threshold:** Not determined.

- **pH-value at 20 °C (68 °F):** 6.6

- **Change in condition**

- **Melting point/Melting range:** Undetermined.

- **Boiling point/Boiling range:** Undetermined.

- **Flash point:** Not applicable.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: **SedgeHammer® Turf Herbicide**
EPA Registration No.: 81880-1-10163

(Contd. of page 4)

· Flammability (solid, gaseous):	Not determined.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor pressure:	Not applicable.
· Density at 20 °C (68 °F):	0.656 g/cm ³ (5.47432 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with	
· Water:	Dispersible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· Dynamic:	Not applicable.
· Kinematic:	Not applicable.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
This product should be stable for at least two years under normal conditions of warehouse storage. Store in a cool, well-ventilated place away from foodstuffs, reducing agents and acids.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Store under cool, dry conditions (below 120°F). Do not store under moist conditons.
- **Incompatible materials:** Reducing agents and acids
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
Oral	LD50	1287 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rat)
Inhalative	LC50/4 h	>5.7 mg/l (rat)

- **Primary irritant effect:**
 - **on the skin:** Slightly irritating
 - **on the eye:** Moderately Irritating
- **Sensitization:** No sensitizing effects known.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: SedgeHammer® Turf Herbicide
EPA Registration No.: 81880-1-10163

(Contd. of page 5)

· **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients are listed.

· **NTP (National Toxicology Program)**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

12 Ecological information

· **Toxicity**

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Other information:**

Ecotoxicity data shown is for the active ingredient, halosulfuron-methyl.

48-hr EC50 Daphnia magna: >107 mg/L; practically nontoxic.

96-hr LC50 Bluegill sunfish: >118 mg/L; practically nontoxic.

96-hr LC50 Rainbow trout: >131 mg/L; practically nontoxic.

5-day EC50 Algae (*Selenastrum capricornutum*): 0.0041/L; very highly toxic.

· **Ecotoxic effects:**

· **Other information:**

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: SedgeHammer® Turf Herbicide
EPA Registration No.: 81880-1-10163

(Contd. of page 6)

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill for pesticide disposal or in accordance with applicable Federal, state or local procedures.

· **Uncleaned packagings:**

· **Recommendation:**

Nonrefillable container. Do not reuse or refill this container. Triple rinse container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

14 Transport information

· **UN-Number**

· **DOT**

Not Regulated

· **ADR, IMDG, IATA**

UN3077

· **UN proper shipping name**

· **DOT**

Not Regulated

· **ADR**

3077 Environmentally hazardous substances, solid, n.o.s.
 (Halosulfuron-Methyl)

· **IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
 N.O.S. (Halosulfuron-Methyl), MARINE POLLUTANT

· **IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
 N.O.S. (Halosulfuron-Methyl)

· **Transport hazard class(es)**

· **DOT**

Not Regulated

· **Class**

N/A

· **ADR, IMDG, IATA**



· **Class**

9 Miscellaneous dangerous substances and articles

· **Label**

9

· **Packing group**

· **DOT**

N/A

· **ADR, IMDG, IATA**

III

· **Environmental hazards:**

Product contains environmentally hazardous substances:
 Halosulfuron-methyl

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: SedgeHammer® Turf Herbicide
EPA Registration No.: 81880-1-10163

(Contd. of page 7)

· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special marking (IATA):	Symbol (fish and tree)
· Special precautions for user	Warning: Miscellaneous dangerous substances and articles
· Danger code (Kemler):	90
· EMS Number:	F-A,S-F
· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable
· UN "Model Regulation":	US DOT: Not regulated All Others: UN3077, Environmentally hazardous substances, solid, n.o.s. (Halosulfuron-Methyl), 9, III

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

EPA /FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

· SARA Title III

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

None of the ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· Carcinogenicity categories

· EPA (Environmental Protection Agency)

None of the ingredients are listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: SedgeHammer® Turf Herbicide
EPA Registration No.: 81880-1-10163

(Contd. of page 8)

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

· **GHS label elements**

Not applicable

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

Not applicable

· **Signal word**

(US EPA) CAUTION

· **Hazard statements**

Causes moderate eye irritation.

Harmful if swallowed.

Avoid contact with eyes or clothing.

Wash thoroughly with soap and water after handling.

H302 Harmful if swallowed.

· **Precautionary statements**

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Supply Chain

· **Contact:** sds@gowanco.com

· **Date of preparation / last revision** 08/05/2019 / 6

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

(Contd. on page 10)

US

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/05/2019

Reviewed on 08/05/2019

Trade name: SedgeHammer® Turf Herbicide
EPA Registration No.: 81880-1-10163

(Contd. of page 9)

*TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Acute Tox. 4: Acute toxicity – Category 4**Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1**Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1**· Sources SEDGEHAMMER® is a registered trademark of Gowan Company, LLC.**· * Data compared to the previous version altered.*

-US-

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : Sightline
Product code : EPA Reg. No. 74779-8

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Herbicide

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

Hazard Identification Summary

Light yellow clear liquid

GHS Labeling Elements

Hazard pictograms (CLP) :



GHS07

Signal word : WARNING

HEALTH HAZARDS

: Moderate eye irritant. Potential skin sensitizer from exposure to concentrate.

PHYSICAL HAZARDS

: May release toxic fumes if burned.

ENVIRONMENTAL HAZARDS

: Triclopyr is highly toxic to certain terrestrial plant and aquatic organisms in its ester form.

SECTION 3: Composition/information on ingredients

Component	Percentage	CAS Number
Triclopyr Butoxy Ethyl Ester	61.6	64700-56-7
Petroleum distillates*	> 25.0	64742-94-5



Sightline

Safety Data Sheet

US and GHS

Revision date: March 23, 2015

Version: 1.0

Component	Percentage	CAS Number
Naphthalene (*contained)	2 – 5	91-20-3

SECTION 4: First aid measures

4.1. Description of first aid measures

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

- IF SWALLOWED** : Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. Do not give liquid to the person.
- IF IN EYES** : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
- IF ON SKIN OR CLOTHING** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
- IF INHALED** : Move person to fresh air, if person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
- NOTE TO PHYSICIAN** : May cause chemical pneumonitis if aspirated. If lavage is performed, suggest endotracheal and/or esophagoscopy control.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

SECTION 5: Firefighting measures

National Fire Protection Rating (NFPA)

HEALTH	2
FLAMMABILITY	2
REACTIVITY	0
4 = Severe 3 = Serious 2 = Moderate 1 = Slight 0 = Minimal	

FLASHPOINT: 142°F (61°C)

5.1. Extinguishing media

- EXTINGUISHING MEDIA** : Use foam, dry chemical, carbon dioxide, or water spray when fires involve this material

5.2. Special hazards arising from the substance or mixture

- FIRE AND EXPLOSION HAZARD** : May decompose in fire due to thermal decomposition, releasing toxic gases.



Sightline

Safety Data Sheet

US and GHS

Revision date: March 23, 2015

Version: 1.0

5.3. Advice for firefighters

FIRE FIGHTING INSTRUCTIONS

: Evacuate area and fight fire upwind from a safe distance to avoid possible hazardous fumes and decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff.

Minimize use of water to prevent environmental contamination. Contact your State Pesticide or Environmental Control Agency, or nearest EPA Regional Office for guidance on disposal.

FIRE FIGHTING EQUIPMENT

: Self-contained breathing apparatus with full facepiece and protective clothing.

SECTION 6: Accidental release measures

IN CASE OF SPILLS OR LEAKS

: Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

SMALL SPILL

: Absorb small spills on sand, vermiculite, or other inert absorbent. Place contaminated material in appropriate container for disposal.

LARGE SPILL

: Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow absorbed material to solidify, and scrape up for disposal. After removal, clean contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container. Minimize use of water to prevent environmental contamination.

SECTION 7: Handling and storage

KEEP OUT OF REACH OF CHILDREN!

Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate.

7.1. Precautions for safe handling

HANDLING

: Use only in a well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities

STORAGE

: Store above 28°F or agitate before use. Store in original container with lid tightly closed. Keep away from food, feed and drinking water. Combustible liquid, store in a well-ventilated, dry place away from heat and other sources of ignition.

SECTION 8: Exposure controls/personal protection

EXPOSURE LIMITS (8 hour TWA, ppm):

COMPONENT	OSHA PEL	ACIGH TLV
Triclopyr BEE ester	Not listed	Not listed
Naphthalene	10 ppm	10 ppm



Sightline

Safety Data Sheet

US and GHS

Revision date: March 23, 2015

Version: 1.0

ENGINEERING CONTROLS

: Proper ventilation is required when handling or using this product to minimize exposure to airborne contaminants. Local mechanical exhaust ventilation may be required. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Personal Protective Equipment

EYE PROTECTION

: Safety goggles, face shield or full face respirator if vapors cause eye discomfort.

CLOTHING

: Long-sleeved shirt and long pants. Shoes plus socks.

GLOVES

: Chemical resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC) or Viton.

RESPIRATOR

: When handling in enclosed areas use a respirator approved for pesticides.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

Wash hands before eating, drinking or chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: Light yellow clear liquid
Odor	: Paint like odor
pH	: 3.65 – 4.65
Melting point	: Not applicable
Boiling point	: No data
Flash point	: 59°C
Evaporation rate	: No data
Flammability	: No data
Flammability limits	: No data
Vapor pressure	: 0.2 mPa (25°C) (Triclopyr)
Vapor density	: Not applicable
Density	: 1.15 – 1.21 g/ml (9.60 – 10.10 lb/gal)*
Solubility	: Emulsifies
Partition coefficient	: Log P _{ow} = 0.42 (pH5), -0.45 (pH7), -0.96 (pH9), (Triclopyr)
Auto-ignition temperature	: No data
Decomposition temperature	: No data
Viscosity	: 14.49 cSt (20°C); 6.7 cSt (40°C)



*Listed density is an approximate value and does not necessarily represent that of a specific batch.

SECTION 10: Stability and reactivity

10.1. Reactivity

PRODUCT REACTIVITY: None known

10.2. Chemical stability

CHEMICAL STABILITY: Stable, however may decompose if heated.

10.3. Possibility of hazardous reactions

Product will not undergo polymerization.

10.4. Conditions to avoid

CONDITIONS TO AVOID: Avoid temperatures above 105°F (40°C) and below 30°F (6°C).

10.5. Incompatible materials

INCOMPATIBLE MATERIALS: Strong acids and oxidizing materials.

10.6. Hazardous decomposition products

May decompose to hydrogen chloride, oxides of nitrogen and phosgene when burning.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity values are from a similar but not identical formulation.

ACUTE TOXICITY

Oral LD ₅₀ (rat)	: >1,000 mg/Kg
Dermal LD ₅₀ (rat)	: >2,000 mg/Kg
Inhalation LC ₅₀ (rat)	: >4.0 mg/L
Eye Irritation (rabbit)	: Slight irritant
Skin Irritation (rabbit)	: Moderate irritant
Sensitization (guinea pig)	: Potential sensitizer from prolonged or repeated exposure.

CARCINOGEN STATUS

OSHA	: Not listed
NTP	: Not listed
IARC	: Not listed

TERATOGENICITY : Evidence of reproductive and developmental toxicity only at maternally toxic doses.

MUTAGENICITY : Little evidence of mutagenic effects during in vivo or in vitro studies.

SECTION 12: Ecological information

12.1. Toxicity

ENVIRONMENTAL SUMMARY: This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.



This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

FATE: Triclopyr BEE ester rapidly hydrolyzes to the parent acid. Triclopyr acid is slightly persistent with a soil half-life of 2 to 6 weeks depending on soil type and weather conditions. Triclopyr acid is water soluble and mobile in soil.

FISH TOXICITY (BEE ester formulation)

96 hour LC₅₀, Rainbow trout : 1.3 ppm

96 hour LC₅₀, Bluegill : 1.5 ppm

AVIAN TOXICITY (BEE ester formulation)

Dietary LC₅₀, Bobwhite quail : >9,000 ppm

Dietary LC₅₀, Mallard duck : >10,000 ppm

BEE TOXICITY (BEE ester formulation)

Triclopyr acid - : >100 ug/bee

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Do not contaminate water, food or feed by storage or disposal.

Pesticide Disposal: Pesticide, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to applicable federal, state, or local procedures.

Container Disposal: Non-refillable containers (1, 2.5, 30 & 55 gallon): Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

Refer to the product label for additional and complete Container Handling instructions.

SECTION 14: Transport information

SHIPPING DESCRIPTION:

(Ground transport)

Containers ≤ 119 gallons : Not regulated by DOT

Containers > 119 gallons : NA1993, Combustable Liquid, N.O.S., (contains petroleum distillates), PG III

DOT HAZARD CLASS : Combustable Liquid (>119 gallons)

IDENTIFICATION NUMBER : NA1993

DOT PACKING GROUP : PG III



SECTION 15: Regulatory information

CERCLA REPORTABLE QUANTITY : Not listed

SARA TITLE III STATUS

311/312 Hazard Categories : Immediate & Delayed Health Hazard, Fire Hazard
313 Toxic Chemicals : None known

CALIFORNIA PROP 65 : Not listed

TSCA : This product is exempted from TSCA because it is solely for FIFRA regulated use.

SECTION 16: Other information

HMIS HAZARD RATINGS	HEALTH	2
	FLAMMABILITY	2
	PHYSICAL HAZARD	0
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

MSDS US

It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of Rainbow Treecare Scientific Advancements' knowledge. Rainbow Treecare Scientific Advancements makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling.

1. Identification

Product Identifier

Trade name: Sluggo™ Slug and Snail Bait
EPA Reg. Number: 67702-3-70051

Details of the supplier of the safety data sheet

Manufactured for:

Certis USA LLC
9145 Guilford Road, Suite 175
Columbia, MD 21046

Emergency Phone Number: 1-800-255-3924

2. Hazard Identification

Signal Word: Caution

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, and using the toilet.

Environmental Hazards

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Sweeping any product that lands on a driveway, sidewalk, or street, back onto the treated area of the lawn or garden will help to prevent run off to water bodies or drainage systems.

Classification system:

NFPA ratings (scale 0-4)



Health = 1

Fire = 0

Reactivity = 0

HMIS-ratings (scale 0-4)

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

3. Composition/information on ingredients

Chemical characterization: Mixture

Hazardous Components		
<u>Components</u>	<u>% (w/w)</u>	<u>Hazard Information</u>
None	-	-

4. First-Aid Measure

Description of first aid measures

Inhalation: Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin: In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water. Take off contaminated clothing and was before reuse. If skin irritation occurs: Get medical advice/attention.

Eye: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: Do not induce vomiting. If person is drowsy or unconscious and vomiting, place on the left side with head down. Seek medical attention.

Most important symptoms and effects, both acute and delayed

No further relevant information available

Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

5. Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media: Regular foam, carbon dioxide, dry chemical, water.

Special hazards arising from the substance or mixture: No further relevant information available.

Advice for firefighters

Protective equipment: No special measures required.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal precautions: Wear appropriate protective equipment. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions: Avoid run off to waterways and sewers

Methods and material for containment and cleaning up

Containment/Clean-Up Measures: Sweep up spill and place in appropriate container for disposal.

7. Handling and Storage

Precautions for safe handling

Handling: No special precautions are necessary if used correctly.

Conditions for safe storage, including any incompatibilities

Storage: Store in ambient temperature, well-ventilated place away from excessive heat. Keep container closed when not in use. Keep away from incompatible materials.

Incompatible Materials: None identified.

8. Exposure Controls/Personal Protection

Control Parameters

Components with limited values that require monitoring at the workplace: Not required.

Exposure controls

Personal Protective Equipment



Pictograms:

Respiratory: In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 26 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face: Wear safety goggles

Hands: Wear protective gloves

Skin/Body: Where extensive dermal exposure may be expected, either a chemical suit or a chemical apron will be needed.

General Industrial Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, or drinking. Safety shower and eye wash should be available close to work areas.

Environmental Exposure Controls: Follow best practice for site management and disposal of waste. Avoid release to the environment.

9. Physical and Chemical Properties

Appearance: White to light brown pellets.

Odor: Wheat, flour smell.

pH: Not applicable.

Boiling Point: Not determined

Melting Point: Not determined

Flash Point: Non combustible

Flammability: Product is not flammable

Decomposition Temperature: Not determined

Heat of Decomposition: Not determined

Danger of Explosion: Product does not present an explosion hazard

Upper explosion limits: Not determined

Lower explosion limits: Not determined

Vapor Pressure: Not applicable

Vapor Density: Not applicable

Evaporation Rate: Not applicable

Density @ 20°C (68°F): 0.77 ± 0.07 g/mL

Water Solubility: Mainly insoluble

Partition coefficient (n-octanol/water): Not determined

Viscosity: Not applicable.

10. Stability and Reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical Stability: Stable under normal temperatures and pressures.

Possibility of Hazardous Reactions: No dangerous reactions known.

Conditions to avoid: Exposure to excessive heat.

Incompatible Materials: None identified.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, oxides of nitrogen.

11. Toxicological Information

Information on toxicological effects

Acute toxicity: LD₅₀ (oral) (rat) >5000 mg/kg; LD₅₀ (dermal) >5000 mg/kg

Routes of Entry

Skin: None identified.

Eyes: May causes irritation.

Ingestion: None identified.

Inhalation: May cause irritation.

Carcinogenic Categories

IARC (International Agency for Research on Cancer): Substance is not listed

NTP (National Toxicology Program): Substance is not listed

12. Ecological Information

Toxicity: No further relevant information available.

Persistence and Degradability: No further relevant information available.

Mobility in Soil: No further relevant information available.

Other Adverse Effects: No studies have been found

13. Disposal Considerations

Waste Treatment Methods

Product Waste: Dispose of content and/or container in accordance with local, regional, national, and/or international regulations

Packaging Waste: Dispose of content and/or container in accordance with local, regional, national, and/or international regulations

14. Transport Information

DOT Classification: Not regulated by US DOT Highway regulations.

U.S. Surface Freight Classification: NMFC item 155050, LTL Class: 70 Molluscicide

UN Number: Non-Hazardous. Not regulated.

IMDG Class (sea): Non-Hazardous. Not regulated.

IATA Class (air): Non-Hazardous. Not regulated.

Marine Pollutant: No

Packing Group: Not regulated.

Hazard Label(s): Non-Hazardous. Not regulated.

ADR Class (road): Not regulated.

Proper Shipping Name(s): Not regulated.

Reportable Quantity: None

15. Regulatory Information

Safety, Health, and Environmental Regulations/Legislation Specific for the Substance or Mixture

SARA: N/A

Section 355 (Extremely Hazardous Substance): Substance is not listed.

Section 313 (Specific Toxic Chemical Listings): Substance is not listed.

TSCA (Toxic Substance Control Act): Substance is not listed.

Proposition 65

Chemicals Known to Cause Cancer: Substance is not listed.

Chemicals Known to Cause Reproductive Toxicity for Females: Substance is not listed.

Chemicals Known to Cause Reproductive Toxicity for Males: Substance is not listed.

Chemicals Known to Cause Developmental Toxicity: Substance is not listed.

National Regulations: Substance is not listed.

State Right to Know: Substance is not listed.

16. Other Information

Last Revision Date: May 21, 2015

Preparation Date: September 16, 2014

Disclaimer/Statement of Liability: The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Key to Abbreviations:

SAFETY DATA SHEET

DOW AGROSCIENCES LLC

Product name: SNAPSHOT™ DG Herbicide

Issue Date: 05/15/2015

Print Date: 05/26/2015

DOW AGROSCIENCES LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: SNAPSHOT™ DG Herbicide

Recommended use of the chemical and restrictions on use

Identified uses: End use herbicide product

COMPANY IDENTIFICATION

DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN 46268-1053
UNITED STATES

Customer Information Number:

800-992-5994

info@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 800-992-5994

Local Emergency Contact: 352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Acute toxicity - Category 3 - Inhalation

Carcinogenicity - Category 1A

Specific target organ toxicity - repeated exposure - Category 1

Label elements

Hazard pictograms



Signal word: **DANGER!**

Hazards

Toxic if inhaled.

May cause cancer.

Causes damage to organs through prolonged or repeated exposure.

Precautionary statements**Prevention**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Use personal protective equipment as required.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician.

IF exposed or concerned: Get medical advice/ attention.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Isoxaben	82558-50-7	0.5%
Trifluralin	1582-09-8	2.0%
Clays, Fuller's earth	8031-18-3	>= 78.5 - <= 86.4 %
Silica, crystalline (quartz)	14808-60-7	>= 0.9 - <= 8.7 %
Balance	Not available	>= 2.4 - <= 18.1 %

4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture

Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen fluoride. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: None known.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination.

This material does not burn. Fight fire for other material that is burning. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Keep upwind of spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid breathing dust or mist. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling. Keep container closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Silica, crystalline (quartz)	OSHA Z-1		
	OSHA Z-3	TWA total dust	30 mg/m ³ / %SiO ₂ +2
	OSHA Z-3	TWA respirable	10 mg/m ³ / %SiO ₂ +2
	OSHA Z-3	TWA respirable	250 mppcf / %SiO ₂ +5
	ACGIH	TWA Respirable fraction	0.025 mg/m ³ , Silica

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Granules.
Color	Yellow
Odor	Aromatic
Odor Threshold	No test data available
pH	7.5 (50% dispersion)
Melting point/range	No test data available
Freezing point	Not applicable
Boiling point (760 mmHg)	Not applicable
Flash point	closed cup Not applicable
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	No
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	Not applicable
Relative Density (water = 1)	Not applicable

Water solubility	No test data available
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	> 537 °C (> 999 °F)
Decomposition temperature	No test data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	no data available
Oxidizing properties	no data available
Liquid Density	Not applicable
Bulk density	0.70 g/cm ³ <i>Loose Volumetric</i>
Molecular weight	No test data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Active ingredient decomposes at elevated temperatures. Avoid direct sunlight or ultraviolet sources.

Incompatible materials: Avoid contact with: Strong oxidizers. Strong acids.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Nitrogen oxides. Hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product:

LD50, Rat, > 2,500 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity

As product:
LC50, Rat, male, 4 Hour, Dust, > 4.6 mg/l
As product:
LC50, Rat, female, 4 Hour, Dust, > 0.5 - < 4.6 mg/l
Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
Prolonged excessive exposure may cause serious adverse effects, even death.

Skin corrosion/irritation

Prolonged contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

Solid or dust may cause irritation due to mechanical action.

Sensitization

Did not cause allergic skin reactions when tested in guinea pigs.
Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:
No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For the active ingredient(s):
In animals, effects have been reported on the following organs:
Kidney.
Liver.
Blood.
Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.

Carcinogenicity

Crystalline silica has been shown to cause cancer in laboratory animals and humans. An increase in nonmalignant liver tumors was observed with isoxaben in one of two species tested. A low incidence of urinary tract tumors was seen in only 1 of 5 chronic studies in rats with trifluralin. Trifluralin is not anticipated to be a carcinogenic risk to man.

Teratogenicity

For the active ingredient(s): Trifluralin. Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Isoxaben. Has caused birth defects in laboratory animals only at doses toxic to the mother.

Reproductive toxicity

For the active ingredient(s): Isoxaben. In animal studies, has been shown to interfere with reproduction in females.

Mutagenicity

For the active ingredient(s): Trifluralin. In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

Based on information for component(s): Crystalline Silica. In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity**Component****Silica, crystalline (quartz)****List**

IARC

ACGIH

Classification

Group 1: Carcinogenic to humans

A2: Suspected human carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity**Acute toxicity to fish**

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 230 mg/l

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Acute toxicity to aquatic invertebrates

EC50, Daphnia pulex (Water flea), 48 Hour, > 1,000 mg/l

Acute toxicity to algae/aquatic plants

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, > 1,000 mg/l

Toxicity to Above Ground Organisms

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

oral LD50, Colinus virginianus (Bobwhite quail), > 2000mg/kg bodyweight.

Toxicity to soil-dwelling organisms

LC50, Eisenia fetida (earthworms), 14 d, survival, > 10,000 mg/kg

Persistence and degradability**Isoxaben**

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. Biodegradation rate may increase in soil and/or water with acclimation.

Theoretical Oxygen Demand: 1.98 mg/mg

Chemical Oxygen Demand: 1.77 mg/g

Stability in Water (1/2-life)

Hydrolysis, half-life, > 5 d, pH 7.0

Photodegradation**Test Type:** Half-life (direct photolysis)**Method:** Measured**Photodegradation****Test Type:** Half-life (direct photolysis)**Photodegradation****Test Type:** Half-life (indirect photolysis)**Sensitizer:** OH radicals**Atmospheric half-life:** 0.628 Hour**Method:** Estimated.**Trifluralin****Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

Biodegradation: 5 %**Exposure time:** 28 d**Method:** OECD Test Guideline 301B or Equivalent**Chemical Oxygen Demand:** 1.37 mg/mg**Stability in Water (1/2-life)**

Hydrolysis, half-life, > 1 year, pH 3 - 9, Measured

Photolysis, half-life, 0.19 - 3.08 Hour, Measured

Photodegradation**Test Type:** Half-life (indirect photolysis)**Sensitizer:** OH radicals**Atmospheric half-life:** 5.347 Hour**Method:** Estimated.**Clays, Fuller's earth****Biodegradability:** Biodegradation is not applicable.**Silica, crystalline (quartz)****Biodegradability:** Biodegradation is not applicable.**Balance****Biodegradability:** No relevant data found.**Bioaccumulative potential****Isoxaben****Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).**Partition coefficient: n-octanol/water(log Pow):** 2.64 Measured**Trifluralin**

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Partition coefficient: n-octanol/water(log Pow): 5.27

Bioconcentration factor (BCF): 1,060 - 6,000 Pimephales promelas (fathead minnow)
Estimated.

Clays, Fuller's earth

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Silica, crystalline (quartz)

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Balance

Bioaccumulation: No relevant data found.

Mobility in soil

Isoxaben

Potential for mobility in soil is low (Koc between 500 and 2000).

Partition coefficient(Koc): 700 - 1290

Clays, Fuller's earth

No relevant data found.

Silica, crystalline (quartz)

No relevant data found.

Balance

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Environmentally hazardous substance, solid, n.o.s.(Trifluralin)
UN number	UN 3077
Class	9
Packing group	III
Reportable Quantity	Trifluralin

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard
Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Components

Trifluralin
Silica, crystalline (quartz)

CASRN

1582-09-8
14808-60-7

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

United States TSCA Inventory (TSCA)

This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number: 62719-175

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Causes moderate eye irritation

Harmful if swallowed or inhaled

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. OTHER INFORMATION

Hazard Rating System**NFPA**

Health	Fire	Reactivity
2	1	0

Revision

Identification Number: 101204129 / A211 / Issue Date: 05/15/2015 / Version: 3.0

DAS Code: FN-3278

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
TWA	8-hour, time-weighted average

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is

provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Strider™ Fungicide

EPA Reg. No.: 228-623

Product Type: Fungicide

Company Name: Nufarm Americas, Inc.
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

HEALTH HAZARDS:

Eye Irritation

Category 2A

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute

Category 1

Hazardous to aquatic environment, chronic

Category 1

SIGNAL WORD:

WARNING

HAZARD STATEMENTS:

Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

Wash thoroughly after handling. Wear eye protection. Avoid release to the environment.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice. Collect spillage.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Propiconazole	60207-90-1	14 - 15
Other Ingredients	Trade Secrets	Trade Secrets

Synonyms: Propiconazole: 1-[[2, (2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazole
Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. Call a poison control center or doctor for further treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin with plenty of water for several minutes. Call a poison control center or doctor for treatment advice.

Most Important symptoms/effects, acute and delayed: Causes serious eye irritation. May cause mild skin irritation.

Indication of Immediate medical attention and special treatment if needed, if necessary: Immediate medical attention should not be required. **Note Physician:** If ingested, induce emesis or lavage stomach. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Avoid creation of dusty conditions. Scrape up and place in appropriate closed container. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING: Do not get in eyes or on clothing or skin. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in original container in a cool area out of the reach of children. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Eye/Face Protection: Not normally required. To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Propiconazole	NE	NE	NE	NE	
Other ingredients	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber liquid
Odor:	No data available
Odor threshold:	No data available
pH:	5.5 – 6.5
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	>105°C
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.086 g/ml (@ 20°C)
Solubility(ies):	Soluble
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available

Viscosity:

46.233 (@ 20°C) 20.629 (@ 40°C)

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: Under fire conditions may produce gases such as hydrogen chloride and oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Skin contact, eye contact, inhalation

Symptoms of Exposure:

Eye Contact: Moderately irritating based on toxicity studies.

Skin Contact: Slightly toxic and slightly irritating based on toxicity studies.

Ingestion: Slightly toxic if ingested based on toxicity studies.

Inhalation: Low inhalation toxicity based on toxicity studies.

Delayed, immediate and chronic effects of exposure: None reported.

Toxicological Data:

Data from laboratory studies conducted are summarized below:

Oral: Rat LD₅₀: 3,129 mg/kg (female)

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >2.02 mg/L (no mortalities at highest dose given)

Eye Irritation: Rabbit: Moderately irritating (MM = 38.3)

Skin Irritation: Rabbit: Slightly irritating (PDII = 0.8)

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to propiconazole may cause effects to liver.

Carcinogenicity / Chronic Health Effects: Propiconazole has been shown to cause an increased incidence of benign liver tumors in male mice at extremely high doses. No treatment-related tumors were seen in female mice in the same study or in a separate rat study.

Reproductive Toxicity: Propiconazole did not demonstrate reproductive effects in animal studies.

Developmental Toxicity: Animal tests with propiconazole have not demonstrated developmental effects. Genotoxicity: Studies indicate that propiconazole did not produce genetic damage in mammalian or bacterial cell cultures or in animal studies.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Propiconazole Technical:

96-hour LC ₅₀ Bluegill:	1.3 ppm	Bobwhite Quail Oral LD ₅₀ :	2,825 mg/kg
96-hour LC ₅₀ Rainbow Trout:	0.85 ppm	Bobwhite Quail 8-day Dietary LC ₅₀ :	>5,620 ppm
48-hour LC ₅₀ Daphnia magna:	4.8 ppm	Mallard Duck Oral LD ₅₀ :	2,510 mg/kg
96-hour LC ₅₀ Mysid:	0.51 ppm	Mallard Duck 8-day Dietary LC ₅₀ :	>5,620 ppm
48-hour Honey Bee LD ₅₀ :	>25 µg/bee		

Environmental Fate:

Propiconazole is persistent and relatively immobile in most soil and aqueous environments. Propiconazole degradation in the aquatic environment appears to be dependent solely on aqueous photolysis. In the soil, propiconazole dissipation appears to be dependent on binding to soil organic matter content. The average half-life in soils ranges from months to a year.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide is a violation of Federal law.

Container Handling and Disposal: Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local ordinance, by burning. If burned stay out of smoke.

Nonrefillable containers larger than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

14. TRANSPORTATION INFORMATION**DOT:**

< 119 gallons per completed package

Non Regulated

≥ 119 gallons per completed package

UN 3082, Environmentally hazardous substances, liquid, n.o.s., (Propiconazole), 9, III, Marine Pollutant

IMDG:

UN 3082, Environmentally hazardous substance, liquid, n.o.s., (Propiconazole), 9, III, Marine Pollutant

IATA:

UN 3082, Environmentally hazardous substance, liquid, n.o.s., (Propiconazole), 9, III, Marine Pollutant

15. REGULATORY INFORMATION**EPA FIFRA INFORMATION**

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

WARNING. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing vapor or spray mist. Wear goggles or face shield. Wear rubber gloves and a long sleeve shirt when mixing, handling and/or applying the product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Acute Health

Section 313 Toxic Chemical(s):

Propiconazole (60207-90-1) 14-15%

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 2 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: May 23, 2015

Supersedes: October 31, 2014

SUBDUE® GR

Date: 8/3/2015
Replaces: 4/14/2015

1. PRODUCT IDENTIFICATION

Product identifier on label: **SUBDUE® GR**
Product No.: A9603A
Use: Granular Fungicide
Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419
Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications: Inhalation: Category 3
Specific Target Organ Toxicity: Repeated Category 2
Specific Target Organ Toxicity: Respiratory Irritation Category 3
Carcinogenicity: Category 1A
Reproductive Toxicity: Category 1B
Signal Word (OSHA): Danger
Hazard Statements: Toxic if inhaled
May cause respiratory irritation
May cause cancer
May damage fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements: Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust.
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing, eye protection.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If exposed or concerned: Get medical advice/attention.
Call a poison center, doctor or Syngenta if you feel unwell.
See Section 4 First Aid Measures.
Store locked up.

SUBDUE® GR

Date: 8/3/2015
Replaces: 4/14/2015

Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: May form combustible dust concentrations in air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
Crystalline Silica, Quartz and Cristobalite	Crystalline Silica, Quartz and Cristobalite	14808-60-7	<10.0%
Attapulgite Clay	Attapulgite Clay	8031-18-3	Trade Secret
n-Methylpyrrolidone	n-Methylpyrrolidone	872-50-4	<5.0%
Other ingredients	Other ingredients	Trade Secret	<84.0%
(R,S)-2-[(2,6-dimethylphenyl)-methoxyacetyl-amino]-propionic acid methyl ester	Mefenoxam	70630-17-0 & 69516-34-3	1.0%

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.

Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Most important symptoms/effects:

Respiratory irritation

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific Hazards:

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

SUBDUE® GR

Date: 8/3/2015

Replaces: 4/14/2015

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions in Protective Equipment Section. Sweep up material and place in a compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Crystalline Silica, Quartz and Cristobalite	10 mg/m ³ /(%SiO ₂ +2) (respirable dust)	0.025 mg/m ³ (respirable silica)	0.05 mg/m ³ (respirable dust)	NIOSH
Attapulgite Clay	Not Established	Not Established	2 mg/m ³ TWA	Manufacturer
n-Methylpyrrolidone	Not Established	Not Established	10 ppm TWA, Skin	AIHA
Other ingredients	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Mefenoxam	Not Established	Not Established	5 mg/m ³ TWA	Syngenta

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

Ingestion:

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:

Where eye contact is likely, use dust-proof chemical goggles.

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Skin Contact:

Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.

Inhalation:

A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use NIOSH certified respirator with any N, R, P or HE filter. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Reddish-brown granules

Odor: Sweet aromatic

Odor Threshold: Not Available

pH: 7 - 9 (1% solution in H₂O @ 77°F (25°C))

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Applicable

Flash Point (Test Method): 203°F (Pensky-Martens CC)

Flammable Limits (% in Air): Not Available

Flammability: Not Applicable

Vapor Pressure: Mefenoxam 2.5 x 10⁻⁵ mmHg @ 77°F (25°C)

Vapor Density: Not Available

Relative Density: 38 lbs/ft³

Solubility (ies): Mefenoxam 26 g/l @ 77°F (25°C)

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: 500°F

Decomposition Temperature: Not Available

Viscosity: Not Available

Other: None

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical stability: Stable under normal use and storage conditions.

Possibility of hazardous reactions: Will not occur.

Conditions to Avoid: None known.

Incompatible materials: None known.

Hazardous Decomposition Products: None known.

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11. TOXICOLOGICAL INFORMATIONHealth effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Respiratory irritation

Delayed, immediate and chronic effects of exposure: Possible carcinogenicity, Respiratory irritation

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion:	Oral (LD50 Rabbit) :	> 5000 mg/kg body weight
Dermal:	Dermal (LD50 Rat) :	> 2000 mg/kg body weight
Inhalation:	Inhalation (LC50 Rat) :	0.776 mg/l air - 4 hours
Eye Contact:	Minimally Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Mefenoxam: None observed.

Chronic/Subchronic Toxicity Studies

Mefenoxam: Liver effects at high dose animal tests.

Carcinogenicity

Mefenoxam: None observed.

Chemical Name	NTP/IARC/OSHA Carcinogen
Crystalline Silica, Quartz and Cristobalite	IARC 1; ACGIH A2
Attapulgite Clay	IARC 2B
n-Methylpyrrolidone	No
Other ingredients	No
(R,S)-2-[(2,6-dimethylphenyl)-methoxyacetyl-amino]-propionic acid methyl ester	No

Other Toxicity Information

None

Toxicity of Other Components

Attapulgite Clay

Repeated and prolonged inhalation may cause delayed injury to lungs (silicosis). Exposure may result in shortness of breath, cough, and sputum production.

Crystalline Silica, Quartz and Cristobalite

Chronic inhalation exposure to crystalline silica is known to cause silicosis and pulmonary fibrosis in humans. Experimental animals exposed to crystalline silica developed respiratory tract cancers.

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Other ingredients

Not Applicable

n-Methylpyrrolidone

Harmful if absorbed through the skin. May cause respiratory tract irritation. Repeated or prolonged exposure may cause drying and cracking of the skin.
Possible developmental hazard.

Target Organs

Active Ingredients

Mefenoxam: Liver

Inert Ingredients

Attapulgate Clay: Respiratory tract

Crystalline Silica, Quartz and
Cristobalite: Respiratory tract

Other ingredients: Not Applicable

n-Methylpyrrolidone: Eye, skin

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Mefenoxam:

Fish (Rainbow Trout) 96-hour LC50 > 121 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 113 ppm

Bird (Bobwhite Quail) 14-day LD50 981 mg/kg

Environmental Fate

Mefenoxam:

The information presented here is for the active ingredient, mefenoxam.

Does not bioaccumulate. Not persistent in soil or water. Moderate mobility in soil. Mixes/sinks (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal:

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA

Not regulated

Comments

Water Transport - International

Not regulated.

Air Transport

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Not regulated.

15. REGULATORY INFORMATION**Pesticide Registration:**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution: Causes moderate eye irritation. Harmful if inhaled or absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust.

EPA Registration Number(s):
100-794

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: n-Methylpyrrolidone <5.0% (CAS No. 872-50-4)

CERCLA/SARA 304 Reportable Quantity (RQ):

None

RCRA Hazardous Waste Classification (40 CFR 261):

Not Applicable

TSCA Status:

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATIONNFPA Hazard Ratings

Health: 2
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 2*
Flammability: 1
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: D

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 9/2/1997

Revision Date: 8/3/2015

Replaces: 4/14/2015

Section(s) Revised: 2, 4, 11, 16

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.



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SAFETY DATA SHEET

1. Identification

Product identifier	Sucker-Stopper® RTU	
Other means of identification		
Product registration number	5481-460-54705	
Recommended use	Plant growth regulator.	
Recommended restrictions	No other uses are advised. Keep out of the Reach of Children!	
EPA Registration number	EPA: 5481-460-54705	
Distributed by:		
Company name	Lawn and Garden Products, Inc.	
Address	PO Box 35000 Fresno, CA 93745	
Telephone	559-499-2100	
Website	www.montereylawngarden.com	
E-mail	info@montereylawngarden.com	
Emergency phone number	National Pesticide Information Center CHEMTREC® (USA+Canada)	800-858-7378 800-424-9300

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	Not available.
Precautionary statement	
Prevention	None known.
Response	None known.
Storage	None known.
Disposal	None known.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced in section 15. The pesticide label also includes other important information, including directions for use.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Naphthaleneacetic acid, Ethyl Ester		2122-70-5	1.15

Additional components

Chemical name	Common name and synonyms	CAS number	%
Inert Ingredients		N/A	98.85

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Siphon the majority of the liquid into drums for use or disposal, depending on the circumstances. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Solvent (CAS 8001-22-7)	PEL	5 mg/m3	Respirable fraction.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
		15 mg/m3	Total mist.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Solvent (CAS 8001-22-7)	TWA	5 mg/m3	Respirable mist.
		10 mg/m3	Total mist

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection For prolonged or repeated skin contact use suitable protective gloves.

Other Wear suitable protective clothing.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards Not applicable.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance White liquid.

Physical state Liquid.

Form Liquid.

Color White.

Odor Mild chemical odor

Odor threshold Not available.

pH 6 - 8 (5% emulsion)

Melting point/freezing point Not available.

Initial boiling point and boiling range 212 °F (100 °C)

Flash point > 300 °F (> 149 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 1.70E+01 mm Hg

Vapor density Heavier than air

Relative density Not available.

Solubility(ies)

Solubility (water) Insoluble

Auto-ignition temperature 840 °F (449 °C) estimated

Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Bulk density	7.8 lb/gal
Flammability class	Combustible IIIB estimated
Specific gravity	0.935

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Sucker-Stopper® RTU		
<u>Acute</u>		
Dermal		
<i>Liquid</i>		
LD50	Rabbit	> 2020 mg/kg
Oral		
<i>Liquid</i>		
LD50	Rat	> 5050 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.

Irritation Corrosion - Skin

Sucker-Stopper® RTU	Result: Slightly irritating Species: Rabbit Organ: Skin

Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Irritation Corrosion - Eye

Sucker Stopper® RTU	Result: Minimal irritation Species: Rabbit Organ: Eye

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal methods/information).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

Read safety instructions, SDS and emergency procedures before handling.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

This product is currently registered under EPA/FIFRA Regulations. It is a violation of Federal law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

CAUTION! Harmful if swallowed or inhaled. Causes skin and eye irritation. Avoid contact with eyes, skin, and clothing.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present (except for application to cranberry bogs) or to intertidal areas below the mean high water mark. Do not allow this material to drift onto neighboring crops or non crop areas or use in a manner or at a time other than in accordance with label directions because animal, plant or crop injury, illegal residues, or other undesirable results may occur.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Not regulated

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date May-23-2018 (AMVAC_Apr-02-2018)

Material name: Sucker-Stopper® RTU

Issue date: May-23-2018

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References

ACGIH®: American Conference of Governmental Industrial Hygienists
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
EPA: Environmental Protection Agency
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
IARC: International Agency for Research on Cancer
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Agency
SARA: Superfund Amendments and Reauthorization Act
TSCA: Toxic Substances Control Act
DOT: Department of Transportation
IMDG: International Maritime Dangerous Goods
IATA: International Air Transport Association

Version

2.0

HMIS® ratings

Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 0
Instability: 0

Disclaimer

This information is provided for the limited guidance to the user. While Lawn and Garden Products, Inc. believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.

Lawn and Garden Products, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Sucker-Stopper is a trademark owned by Lawn and Garden Products, Inc.
ACGIH is a trademark of the American Conference of Governmental Industrial Hygienists.
CHEMTREC is a trademark of the American Chemistry Council, Inc.
HMIS is a trademark of the American Coatings Association.
NFPA is a trademark of the National Fire Protection Association, Inc.

Revision information

Product and Company Identification: Product and Company Identification
Identification: Recommended restrictions
Hazard(s) identification: Disposal
Hazard(s) identification: Prevention
Hazard(s) identification: Response
Hazard(s) identification: Storage
Hazard(s) identification: Supplemental information
Composition / Information on Ingredients: Disclosure Overrides
Exposure controls/personal protection: Thermal hazards
Physical & Chemical Properties: Multiple Properties
Regulatory information: US federal regulations
Other information, including date of preparation or last revision: Disclaimer

Material Safety Data Sheet

TALSTAR® PROFESSIONAL INSECTICIDE

MSDS #: 1349-A

Revision Date: 2013-02-20
Version 1



This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200
And Canadian Workplace Hazardous Materials Information System (WHMIS) requirements.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	TALSTAR® PROFESSIONAL INSECTICIDE
Formula code	1349
Active Ingredient(s)	Bifenthrin
Chemical Family	Pyrethroid Pesticide
Recommended use:	Insecticide
<u>Manufacturer</u>	<u>Emergency telephone number</u>
FMC Corporation Agricultural Products Group 1735 Market Street Philadelphia, PA 19103 General Information: Phone: (215) 299-6000 E-Mail: msdsinfo@fmc.com	For leak, fire, spill or accident emergencies, call: 1 800 / 424 9300 (CHEMTREC - U.S.A.) 1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries) Medical Emergencies: 1 800 / 331-3148 (PROSAR - U.S.A. & Canada) 1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

<u>Appearance</u>	Beige liquid
<u>Physical state</u>	Liquid
<u>Odor</u>	Mild
<u>Potential health effects</u>	
Acute effects	
Eyes	May cause slight irritation.
Skin	May cause moderate skin irritation.
Inhalation	May cause irritation of respiratory tract. May cause additional effects as listed under "Ingestion".
Ingestion	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause drowsiness and dizziness.
Chronic effects	Repeated or prolonged exposure may cause central nervous system effects.
<u>Environmental hazard</u>	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

Chemical Name	CAS-No	Weight %
Bifenthrin	82657-04-3	7.9
Propylene glycol	57-55-6	5-10*

Notes * The exact percentage composition has been withheld as a trade secret

4. FIRST AID MEASURES

Eye contact	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Inhalation	Move person to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
Ingestion	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Notes to physician	This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

5. FIRE-FIGHTING MEASURES

Flash Point	> 100 °C / > 212 °F
Method	Tag Closed Cup
Sensitivity to Mechanical Impact	Not applicable
Sensitivity to Static Discharge	Not applicable
Suitable extinguishing media	Foam. Carbon dioxide (CO ₂). Dry chemical. Soft stream or water fog only if necessary.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus and full protective gear.

NFPA

Health Hazard	1
Flammability	1
Stability	0
Special Hazards	-

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Isolate and post spill area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
Environmental precautions	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
Methods for containment	Dike to confine spill and absorb with non-combustible absorbent such as clay, sand or soil.
Methods for cleaning up	To clean and neutralize a contaminated area, scrub area with a solution of detergent (e.g. commercial product such as SuperSoap™, Tide®, Spic and Span®, or other high pH detergent) and water. Let solution sit for 5 minutes. Use a stiff brush to scrub affected area. Repeat if necessary to remove visible staining. Additional decontamination can be made by applying bleach (Clorox® or equivalent) to affected area. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.
Other	For further clean-up instructions call CHEMTREC listed in Section 1 "Product and Company Identification" above.

7. HANDLING AND STORAGE

Handling	Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.
Storage	Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Store in original container only.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	British Columbia	Quebec	Ontario TWAEV	Alberta
Propylene glycol 57-55-6			TWA: 10 mg/m ³ TWA: 50 ppm TWA: 155 mg/m ³	

Occupational exposure controls

Engineering measures	Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.
Personal Protective Equipment	
General Information	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.
Respiratory protection	For dust, splash, mist or spray exposures wear a filtering mask.
Eye/face protection	For dust, splash, mist or spray exposure, wear chemical protective goggles or a face-shield
Skin and body protection	Wear long-sleeved shirt, long pants, socks, shoes, and gloves.
Hand protection	Protective gloves
Hygiene measures	Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Beige liquid
Color	Beige
Physical state	Liquid
Odor	Mild
pH	6.7
Melting Point/Range	No information available.
Freezing point	No information available
Boiling Point/Range	Not applicable
Flash Point	> 100 °C / > 212 °F Tag Closed Cup
Evaporation rate	Not applicable
Vapor pressure	No information available
Vapor density	No information available
Density	8.53 lb/gal
Specific Gravity	1.024 @ 201 °C
Water solubility	Dispersible in water
Percent volatile	No information available
Partition coefficient:	Not applicable
Viscosity	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Conditions to avoid	Heat, flames and sparks
Hazardous decomposition products	Carbon oxides, Hydrogen chloride, Hydrogen fluoride, Chlorine, Fluorine.
Hazardous polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION**Acute effects**

Eye contact	Slightly or non-irritating (rabbit)
Skin contact	May cause moderate skin irritation based on the components in this product.
Ingestion	Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.

LD50 Dermal	> 2,000 mg/kg (rabbit)
LD50 Oral	632 mg/kg (Rat)
LC50 Inhalation:	11.58 mg/L 1 hr (Rat)

Sensitization	Bifenthrin: May cause sensitization by skin contact.

Chronic effects

Chronic Toxicity	Repeated or prolonged exposure may cause central nervous system effects.
Carcinogenicity	Bifenthrin: Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH). Did not show carcinogenic effects in animal experiments.
Mutagenicity	Bifenthrin: Not genotoxic
Neurological Effects	Tremors were associated with chronic exposure of laboratory animals to bifenthrin, which may disappear with continued exposure
Developmental Toxicity	Bifenthrin: Not teratogenic in animal studies.

Target Organ Effects

Bifenthrin: A slight increase in male mouse urinary bladder tumors at the highest dose was probably not of toxicological concern.

Chronic Toxicity - Other Ingredient(s)

Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal kidney damage.

12. ECOLOGICAL INFORMATION

Ecotoxicity**Ecotoxicity effects**

Bifenthrin (82657-04-3)				
Active Ingredient(s)	Duration	Species	Value	Units:
Bifenthrin	EC50	Aquatic organisms	0.11 - 0.57	µg/L
Bifenthrin	96 h LC50	Fish	0.1 - 2.0	µg/L
Bifenthrin	LD50 Oral	Bobwhite quail	>1800	mg/kg
Bifenthrin	LD50 Oral	Mallard duck	>2150	mg/kg
Bifenthrin	LD50	Bee	0.1	µg/bee

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Bifenthrin		LC50 0.0001 - 0.00019 mg/L Oncorhynchus mykiss 96 h LC50 0.0003 - 0.00038 mg/L Lepomis macrochirus 96 h		EC50 0.00135 - 0.00195 mg/L 48 h
Propylene glycol	19000 mg/L EC50 96 h (Pseudokirchneriella subcapitata)	LC50= 51600 mg/L Oncorhynchus mykiss 96 h LC50 41 - 47 mL/L Oncorhynchus mykiss 96 h LC50= 51400 mg/L Pimephales promelas 96 h LC50= 710 mg/L Pimephales promelas 96 h		EC50 > 10000 mg/L 24 h EC50 > 1000 mg/L 48 h

Environmental Fate

Bifenthrin (82657-04-3)		
Active Ingredient(s)	Type of Test	Result
Bifenthrin	Bioconcentration factor (BCF)	1709
Bifenthrin	Half-life in soil	~85 days
Bifenthrin	log Pow	6.6
Bifenthrin	Mobility in soil	Not expected to reach groundwater
Bifenthrin	Stability in water	Stable to hydrolysis over a wide range of pH values.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

Contaminated packaging

Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT

This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

Packaging Type Bulk, Non-Bulk

TDG

Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

UN/ID No UN3082
Proper shipping name Environmentally hazardous substance, liquid, n.o.s.
Hazard Class 9
Packing group III
Marine pollutant Bifenthrin.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9 PG III

ICAO/IATA

UN/ID No UN3082
Proper shipping name Environmentally hazardous substance, liquid, n.o.s.
Hazard Class 9
Packing group III
Marine pollutant Bifenthrin
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9 PG III
Limited quantity 30 kg G

IMDG/IMO

UN/ID No UN3082
Proper shipping name Environmentally hazardous substance, liquid, n.o.s.
Hazard Class 9
Packing group III
EmS No. F-A, S-F
Marine pollutant Bifenthrin
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9 PG III

15. REGULATORY INFORMATION**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Bifenthrin	82657-04-3	7.9	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	yes
Chronic Health Hazard	yes
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

International Regulations**Mexico - Grade**

Slight risk, Grade 1

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2B Toxic materials

**16. OTHER INFORMATION**

Revision Date: 2013-02-20
Reason for revision: (M)SDS sections updated.

Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. Use of this product is regulated by the U.S. Environmental Protection Agency (EPA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared By

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End of Material Safety Data Sheet

SAFETY DATA SHEET

Talstar® Xtra Granular

SDS # : 6390-1-A

Revision date: 2016-05-26

Format: NA

Version 1.02



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Talstar® Xtra Granular

Other means of identification

Product Code(s) 6390-1-A

Synonyms

BIFENTHRIN: (2-methyl[1,1'-biphenyl]-3-yl)methyl
3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate (CAS name);
2-methylbiphenyl-3-ylmethyl
(Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate
(IUPAC name);

ZETA-CYPERMETHRIN: (+/-)- α -cyano(3-phenoxyphenyl)methyl (+/-) cis,
trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate (CAS name); (RS)- α -
cyano-3-phenoxybenzyl
(1RS)-cis-trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate (IUPAC name)
F2700

Active Ingredient(s) Bifenthrin, Zeta-cypermethrin

Chemical Family Pyrethroid Pesticide

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label

Manufacturer Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)
For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1B
Carcinogenicity	Category 1A

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Danger

Hazard Statements

H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H320 - Causes eye irritation
H332 - Harmful if inhaled
H350 - May cause cancer



Precautionary Statements - Prevention

P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves
P281 - Use personal protective equipment as required

Precautionary Statements - Response

P308 + P313 - If exposed or concerned: Get medical advice/attention
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P330 - Rinse mouth

Precautionary Statements - Storage

P405 - Store locked up

Precautionary Statements - Disposal

P501 - Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Very toxic to aquatic life with long lasting effects. May be harmful in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Pyrethroid Pesticide.

Chemical name	CAS-No	Weight %
Bifenthrin	82657-04-3	0.2
Zeta-cypermethrin (F2700)	52315-07-8	0.05
Crystalline silica, quartz	14808-60-7	>90
Synthetic amorphous silica	112926-00-8	1-5

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin Contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
Inhalation	Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
Ingestion	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	None known.
Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically. This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Foam. Carbon dioxide (CO ₂). Dry chemical. Water spray or fog.
Specific Hazards Arising from the Chemical	Powdered material may form explosive dust-air mixtures
Explosion data	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus and full protective gear. Isolate fire area. Evaluate downwind.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate and post spill area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
Other	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
Methods for Containment	Sweep up and shovel into suitable containers for disposal.
Methods for cleaning up	Sweep up and shovel into suitable containers for disposal. Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling	Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
Storage	Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Keep/store only in original container.
Incompatible products	Strong oxidizing agents, Fluorine, Chlorine trifluorine, Oxygen difluoride Strong oxidizing agents. Fluorine. Chlorine trifluorine. Oxygen difluoride.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Crystalline silica, quartz (14808-60-7)	TWA: 0.025 mg/m ³	-	IDLH: 50 mg/m ³ TWA: 0.05 mg/m ³	Mexico: TWA 0.1 mg/m ³
Synthetic amorphous silica (112926-00-8)	-	-	-	Mexico: TWA 10 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Crystalline silica, quartz (14808-60-7)	TWA: 0.025 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.10 mg/m ³ respirable	TWA: 0.025 mg/m ³
Synthetic amorphous silica (112926-00-8)	TWA: 4 mg/m ³ TWA: 1.5 mg/m ³	TWA: 6 mg/m ³	-	-

Appropriate engineering controls

Engineering measures	Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.
Skin and Body Protection	Wear long-sleeved shirt, long pants, socks, shoes, chemical-resistant gloves and headgear.
Hand Protection	Protective gloves
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
Hygiene measures	Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of

working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

General information

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Granules
Physical State	Solid
Color	Brown
Odor	Mild detergent odor
Odor threshold	No information available
pH	~ 6.9
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	Not applicable
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	97.71 - 100.43 lb/cu ft
Specific gravity	No information available
Water solubility	No data available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks
Incompatible materials	Strong oxidizing agents, Fluorine, Chlorine trifluoride, Oxygen difluoride.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	727 mg/kg (rat)
LD50 Dermal	> 5000 mg/kg (rabbit)
LC50 Inhalation	> 2.11 mg/L (rat)
Serious eye damage/eye irritation	Moderately irritating to eyes.
Skin corrosion/irritation	May cause slight irritation.

Sensitization

Sensitizer

Information on toxicological effects

Symptoms

Large, toxic doses of this product administered to laboratory animals produced signs of toxicity including tremors, loss of coordination, convulsions, staggered gait and oral discharge.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity

Repeated or prolonged exposure may cause central nervous system effects.

Mutagenicity

Bifenthrin, Zeta-cypermethrin: Not genotoxic in animal studies.

Carcinogenicity

Bifenthrin: Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH). Did not show carcinogenic effects in animal experiments. Cypermethrin caused an increase in benign lung tumors in mice, but not in rats.

Neurological effects

Tremors were associated with chronic exposure of laboratory animals to bifenthrin, which may disappear with continued exposure. Zeta-cypermethrin did not cause neurotoxicity in animal experiments.

Reproductive toxicity

Zeta-cypermethrin: No toxicity to reproduction in animal studies.

Developmental toxicity

Bifenthrin, Zeta-cypermethrin: Not teratogenic in animal studies.

STOT - single exposure

Not classified.

STOT - repeated exposure

Not classified.

Target organ effects

Bifenthrin: A slight increase in male mouse urinary bladder tumors at the highest dose was probably not of toxicological concern.

Neurological effects

Tremors were associated with chronic exposure of laboratory animals to bifenthrin, which may disappear with continued exposure. Zeta-cypermethrin did not cause neurotoxicity in animal experiments.

Aspiration hazard

No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Zeta-cypermethrin (F2700) 52315-07-8		Group 2A		
Crystalline silica, quartz 14808-60-7	A2	Group 1	Known	X
Synthetic amorphous silica 112926-00-8		Group 3		

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 3 - Not classifiable as to its carcinogenicity to humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

12. ECOLOGICAL INFORMATIONEcotoxicity

3.6% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Bifenthrin (82657-04-3)				
Active Ingredient(s)	Duration	Species	Value	Units
Bifenthrin	96 h LC50	Fish	0.1	µg/L
	72 h EC50	Algae	0.822	mg/L
	48 h EC50	Crustacea	0.11	µg/L
	21 d NOEC	Fish	0.012	µg/L
	21 d NOEC	Crustacea	0.0013	µg/L

Zeta-cypermethrin (F2700) (52315-07-8)

Active Ingredient(s)	Duration	Species	Value	Units
Zeta-cypermethrin	48 h EC50	Crustacea	0.14	µg/L
	96 h LC50	Fish	0.69	µg/L
	72 h EC50	Algae	>1	mg/L
	21 d NOEC	Crustacea	0.01	µg/L
	21 d NOEC	Fish	0.015	µg/L

Persistence and degradability	Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable. Zeta-cypermethrin: Non-persistent. Readily hydrolyzed. Not readily biodegradable.
Bioaccumulation	Bifenthrin: The substance has a potential for bioconcentration. Zeta-cypermethrin: The substance does not have a potential for bioconcentration.
Mobility	Bifenthrin, Zeta-cypermethrin: Immobile, Not expected to reach groundwater.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.
Contaminated Packaging	Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT	Not regulated for transportation if shipped in Non Bulk packaging. The classification below pertains to the shipment in Bulk packaging.

UN/ID no	UN3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s.
Hazard class	9
Packing Group	III
Marine Pollutant	Zeta-cypermethrin.
Description	UN3077 Environmentally hazardous substances, solid, n.o.s.(Bifenthrin, Zeta-cypermethrin), 9 PG III

TDG	
UN/ID no	UN3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s.
Hazard class	9
Packing Group	III
Marine Pollutant	Bifenthrin, Zeta-cypermethrin.
Description	UN3077, Sustancia sólida peligrosa para el medio ambiente, n.e.p (Bifentrina, Zeta-cipermetrina), 9, PG III

ICAO/IATA	
UN/ID no	UN3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s.
Hazard class	9
Packing Group	III
Description	UN3077, Sustancia sólida peligrosa para el medio ambiente, n.e.p (Bifentrina, Zeta-cipermetrina), 9, PG III
Limited quantity	30 kg G

IMDG/IMO	
UN/ID no	UN3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s.
Hazard class	9
Packing Group	III

EmS No. Marine Pollutant Description	F-A, S-F Bifenthrin, Zeta-cypermethrin UN3077, Sustancia sólida peligrosa para el medio ambiente, n.e.p (Bifentrina, Zeta-cipermetrina), 9, PG III

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Bifenthrin - 82657-04-3	82657-04-3	0.2	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Caution

Harmful if swallowed. Causes moderate eye irritation.

This pesticide is extremely toxic to fish, aquatic invertebrates, oysters and shrimp.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Bifenthrin 82657-04-3	X		
Zeta-cypermethrin (F2700) 52315-07-8		X	

Crystalline silica, quartz 14808-60-7	X	X	X
Synthetic amorphous silica 112926-00-8	X	X	X

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Bifenthrin 82657-04-3				X	X	X		
Zeta-cypermethrin (F2700) 52315-07-8			X		X	X	X	X
Crystalline silica, quartz 14808-60-7	X	X	X	X	X	X	X	X
Synthetic amorphous silica 112926-00-8		X		X	X	X	X	X

Mexico - Grade

Moderate risk, Grade 2

Chemical name	Carcinogen Status	Mexico
Crystalline silica, quartz		Mexico: TWA 0.1 mg/m ³
Synthetic amorphous silica		Mexico: TWA 10 mg/m ³

Chemical name	Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use -Threshold Quantities	Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities
Bifenthrin	100 2500 kg/yr	100 kg/yr

WHMIS Hazard Class

D2A - Very toxic materials
D2B - Toxic materials



16. OTHER INFORMATION

NFPA	Health Hazards 1	Flammability 1	Instability 0	Special Hazards -
HMIS	Health Hazards 2*	Flammability 1	Physical hazard 0	Personal Protection X

Revision date: 2016-05-26
Reason for revision: Format Change

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Prepared By:

FMC Corporation

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End of Safety Data Sheet

1. Identification

Product identifier used on the label

Termidor SC Termiticide/Insecticide

Recommended use of the chemical and restriction on use

Recommended use*: crop protection product, insecticide

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Substance number:	256709
EPA Registration number:	7969-210
Molecular formula:	C ₁₂ H ₄ Cl ₂ F ₆ N ₄ O S
Chemical family:	phenyl pyrazole
Synonyms:	fipronil

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
STOT RE	1	Specific target organ toxicity — repeated exposure

Aquatic Acute	2	Hazardous to the aquatic environment - acute
Aquatic Chronic	2	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H302	Harmful if swallowed.
H372	Causes damage to organs (Central nervous system) through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves.
P273	Avoid release to the environment.
P260	Do not breathe dust/gas/mist/vapours.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P314	Get medical advice/attention if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Fipronil

CAS Number: 120068-37-3
Content (W/W): 9.1 %
Synonym: Fipronil (Active Ingredient)

Alkyl-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt

CAS Number: 68425-94-5
Content (W/W): 0.3 - 1.0%
Synonym: No data available.

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

If on skin:

Wash thoroughly with soap and water

Immediately wash thoroughly with soap and water, seek medical attention.

If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far
CNS stimulation, tremors, convulsions

Indication of any immediate medical attention and special treatment needed

Note to physician

Antidote: No known specific antidote.

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote. Anticonvulsant therapy as routinely administered to humans. Based on animal studies diazepam and phenobarbital prevented convulsions. Due to the slow elimination of the active compound and its metabolites, the treatment must be continued for several days, gradually decreasing the dose of anticonvulsant based on the clinical response.

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, dry powder, carbon dioxide, water spray

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

carbon monoxide, carbon dioxide, hydrogen fluoride, Hydrogen chloride, nitrogen oxides, sulfur oxides, acid halides, organochloric compounds

If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling and Storage

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy.

Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear.

Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to

national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities

Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed. Keep away from heat. Protect from direct sunlight.

8. Exposure Controls/Personal Protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Components with occupational exposure limits

Fipronil TWA value 0.042 mg/m³ ;

Advice on system design:

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing

separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Form:	liquid
Odour:	characteristic
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	off-white
pH value:	approx. 6.5 - 8.5 (21 °C)
Melting point:	< 0 °C
Boiling point:	Information applies to the solvent. approx. 100 °C
Flash point:	Information applies to the solvent. > 206.96 °F
Flammability:	not applicable
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Autoignition:	Information applies to the solvent. not applicable
Vapour pressure:	approx. 23.3 hPa (20 °C)
Density:	Information applies to the solvent. approx. 1.06 g/cm ³ (20 °C)
Vapour density:	not applicable
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	carbon monoxide, carbon dioxide, nitrogen oxide, Hydrogen chloride, hydrogen fluoride, Sulphur dioxide Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.
Viscosity, dynamic:	approx. 66 mPa.s
Solubility in water:	dispersible
Molar mass:	437.15 g/mol
Evaporation rate:	not applicable
Other Information:	The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid electro-static discharge. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

Incompatible materials

strong oxidizing agents

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

Thermal decomposition:

Possible thermal decomposition products:

carbon monoxide, carbon dioxide, nitrogen oxide, Hydrogen chloride, hydrogen fluoride, Sulphur dioxide

Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Slightly toxic after short-term inhalation.

Oral

Type of value: LD50

Species: rat

Value: 1,999 mg/kg

Inhalation

Type of value: LC50
Species: rat
Value: > 1.7 mg/l
Exposure time: 4 h
Highest concentration technically achievable. No mortality was observed.

Type of value: LC50
Species: rat
Value: 6.8 mg/l (calculated)
Exposure time: 1 h

Dermal

Type of value: LD50
Species: rat
Value: > 2,000 mg/kg
No mortality was observed.

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion

Assessment of irritating effects: May cause slight irritation to the skin. May cause moderate but temporary irritation to the eyes.

Skin

Species: rabbit
Result: Slightly irritating.

Eye

Species: rabbit
Result: Slightly irritating.

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

modified Buehler test
Species: guinea pig
Result: Non-sensitizing.

Aspiration Hazard

The product has not been tested. The statement has been derived from the properties of the individual components. No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Fipronil

Assessment of repeated dose toxicity: Causes mortality and signs of neurotoxicity through prolonged or repeated exposure.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bronopol

Assessment of mutagenicity: The substance was mutagenic in a mammalian cell culture test system. No mutagenic effect was found in various tests with bacteria and mammals.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Fipronil

Assessment of carcinogenicity: In long-term studies in rats the substance induced thyroid tumors. The effect is caused by an animal specific mechanism that has no human counter part. In long-term studies in mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Other Information

Misuse can be harmful to health.

Medical conditions aggravated by overexposure

Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:
Very toxic (acute effect) to aquatic organisms.

Toxicity to fish

Information on: Fipronil

*LC50 (96 h) 0.0852 mg/l, *Lepomis macrochirus**

Aquatic invertebrates

Information on: Fipronil
EC50 (48 h) 0.19 mg/l, *Daphnia magna*
EC50 (96 h) 0.00017 mg/l, *Mysidopsis bahia*

Aquatic plants

Information on: Fipronil
EC50 (72 h) 0.103 mg/l (growth rate), *Scenedesmus subspicatus*
No observed effect concentration (14 d) > 0.16 mg/l, *Lemna gibba*

Chronic toxicity to fish

Information on: Fipronil
No observed effect concentration (35 d) 0.0029 mg/l, *Cyprinodon variegatus*

Chronic toxicity to aquatic invertebrates

Information on: Fipronil
No observed effect concentration (28 d) 0.000008 mg/l, *Mysidopsis bahia*

Assessment of terrestrial toxicity

With high probability not acutely harmful to terrestrial organisms.

Other terrestrial non-mammals

Information on: fipronil
LD50 (48 d) 0,00593 ug/bee (contact), *Apis mellifera*
LD50 (48 d) 0,00417 ug/bee (oral), *Apis mellifera*

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Information on: Fipronil

Not readily biodegradable (by OECD criteria).

Bioaccumulative potential

Assessment bioaccumulation potential

The product has not been tested. The statement has been derived from the properties of the individual components.

Mobility in soil

Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Fipronil

Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Additional information

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal:

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA:

This product is not regulated by RCRA.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains FIPRONIL)

Air transport

IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains FIPRONIL)

Further information

Product may be shipped as non-hazardous in suitable packages containing

a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2).

15. Regulatory Information

Federal Regulations

Registration status:

Crop Protection TSCA, US released / exempt

Chemical TSCA, US blocked / not listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s), this product does not require a California Proposition 65 Warning.

NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: 1 Special:

Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

HARMFUL IF INHALED.

Causes eye irritation.

Do not get in eyes, on skin, or on clothing.

Do not breathe vapours/mists.

Wash thoroughly after handling.

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2021/05/25

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in

a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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END OF DATA SHEET



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Torque®
EPA Reg. No.: 1001-87
Product Type: Fungicide
Company Name: Nufarm Americas, Inc.
 11901 S. Austin Avenue
 Alsip, IL 60803
 1-800-345-3330

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
 Call CHEMTREC Day or Night: 1-800-424-9300
 For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:

Not hazardous

HEALTH HAZARDS:

Not hazardous

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute
 Hazardous to aquatic environment, chronic

Category 1

Category 1

SIGNAL WORD:

WARNING

HAZARD STATEMENTS:

Very toxic to aquatic life with long lasting effects.



PRECAUTIONARY STATEMENTS

Avoid unintended release to the environment. Collect spillage.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Tebuconazole	107534-96-3	37.5 – 39.9
Glycerine	56-81-5	9.5 – 10.5
Other ingredients	Trade Secret	Trade Secret

Synonyms: Tebuconazole

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

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If Swallowed: Call a poison control center or doctor for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. Call a poison control center or doctor for further treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for several minutes. Call a poison control center or doctor for treatment advice.

Most Important symptoms/effects, acute and delayed: Eye exposure may cause irritation. Skin exposure may cause irritation.

Indication of Immediate medical attention and special treatment if needed, if necessary: None expected.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Avoid creation of dusty conditions. Scrape up and place in appropriate closed container. Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING: Do not get in eyes or on clothing or skin. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (PPE) immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in a cool, dry place and in such a manner as to prevent cross-contamination with other pesticides, fertilizers, food and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Do not contaminate water, food, or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Eye/Face Protection: Not normally required. To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use

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and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Tebuconazole	NE	NE	NE	NE	
Glycerin Mist	15 (T) 5 (R)	NE	NE	NE	mg/m ³
Other ingredients	NE	NE	NE	NE	

T – Total Dust

R = Respirable Fraction

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Opaque liquid suspension
Odor:	Chalk like odor
Odor threshold:	No data available
pH:	6-8
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Relative density:	1.15 g/ml
Solubility(ies):	Partially
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Acids, oxidizing agents and copper.

Hazardous Decomposition Products: Under fire conditions may produce oxides of carbon, hydrogen, nitrogen and sulfur.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eye irritation, inhalation

Symptoms of Exposure:

Eye Contact: Slightly irritating based on toxicity studies.

Skin Contact: Non-irritating based on toxicity studies.

Ingestion: Slightly toxic if ingested based on toxicity studies.

Inhalation: Low inhalation toxicity based on toxicity studies.

Delayed, immediate and chronic effects of exposure: None reported.

Toxicological Data:

Data from laboratory studies conducted this product are summarized below:

Oral: Rat LD₅₀: 3,710 mg/kg (female) 3,776 mg/kg (male)

Dermal: Rat LD₅₀: >2,011 mg/kg

Inhalation: Rat 4-hr LC₅₀: >2.5 mg/L

SAFETY DATA SHEET

Torque®

Eye Irritation: Rabbit: Minimally irritating.

Skin Irritation: Rabbit: Slightly irritating.

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: No data available.

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to tebuconazole may cause effects to liver, spleen, adrenals and/or eyes. Tebuconazole was not carcinogenic in a chronic feeding study in rats. In a mice study, there was an increased incidence of liver tumors at the highest dose tested, a dose exceeding the Maximum Tolerated Dose (MTD). EPA classified tebuconazole as a Group C (possible human carcinogen) chemical based on liver tumors.

Reproductive Toxicity: Animal studies on tebuconazole resulted in decreased pup body weights and smaller litters at doses that were also toxic to mother animals.

Developmental Toxicity: In animal studies with tebuconazole, developmental effects were observed at doses that were also toxic to the maternal animal.

Genotoxicity: Neither *in vitro* nor *in vivo* tests on tebuconazole demonstrated mutagenic effects.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Tebuconazole Technical:

96-hour LC ₅₀ Bluegill Sunfish:	5.7 ppm	Bobwhite Quail Oral LD ₅₀ :	1,988 mg/kg
96-hour LC ₅₀ Rainbow Trout:	4.4 ppm	Mallard Duck 8-day Dietary LC ₅₀ :	>4,816 ppm
48-hour LC ₅₀ Daphnia magna:	4.0 ppm		

Environmental Fate:

This pesticide is toxic to estuarine and marine invertebrates. Tebuconazole is soluble in water. It is stable to hydrolysis and photolysis on soil and in water. The photolysis half-life of tebuconazole in soil averages 190 days and in water averages 590 days. Tebuconazole has a low to moderate mobility in soils. Absorption to soil increases as level of organic matter and clay increases.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide is a violation of Federal law.

Container Handling and Disposal: Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank and collect the rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Offer for recycling, if available. If not recycled, then puncture and dispose of in a sanitary landfill or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

DOT

<119 gallons per completed package:

Not Regulated

≥119 gallons per completed package:

UN3082, Environmentally hazardous substance, liquid, n.o.s., (Tebuconazole), 9, III, Marine Pollutant

IMDG

UN3082, Environmentally hazardous substance, liquid, n.o.s., (Tebuconazole), 9, III, Marine Pollutant

IATA

UN3082, Environmentally hazardous substance, liquid, n.o.s., (Tebuconazole), 9, III, Marine Pollutant

15. REGULATORY INFORMATION**EPA FIFRA INFORMATION**

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes, and clothing. Avoid breathing vapor or spray mist.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):**

Acute Health

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information: Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION**National Fire Protection Association (NFPA) Hazard Rating:**

Rating for this product: Health: 2 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: June 15, 2015

Supersedes: May 23, 2015



Safety Data Sheet - GHS

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: Tourney® Fungicide
EPA REGISTRATION NUMBER: 59639-144
VC NUMBER(S): 1585
PRODUCT DESCRIPTION: Fungicide

Tourney® is a registered trademark of Valent U.S.A. LLC

MANUFACTURER/DISTRIBUTOR

VALENT U.S.A. LLC
P.O. Box 5075
4600 Norris Canyon Road
San Ramon, CA 94583

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY OR SPILL (24 hr):
(800) 892-0099
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION

AGRICULTURAL PRODUCTS: (800) 682-5368

The current SDS is available through our website (www.valent.com), or by calling the product information numbers listed above.

2. HAZARDS IDENTIFICATION

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA-required classifications on the product label. Certain sections of this SDS are superseded by federal law under EPA FIFRA for a registered pesticide. Please see Section 15, REGULATORY INFORMATION for an explanation.

Classification - (per U.S. OSHA 29 CFR 1910.1200 (Hazcom 2012))

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Reproductive toxicity	Category 2

Label elements

EMERGENCY OVERVIEW

WARNING



Hazard statements

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 3

SDS NO.: 0307
REVISION DATE: 09/02/2020

Harmful if swallowed
Harmful if inhaled
Suspected of damaging fertility or the unborn child

Precautionary statements

Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required.
Avoid contact with eyes and skin
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Response

IF EXPOSED OR CONCERNED: Get medical advice/attention

Eyes IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin IF ON SKIN: Gently wash with plenty of soap and water.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

FIRE None.

Spill None.

Storage

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other Information

- Toxic to aquatic life with long lasting effects

For information on Transportation requirements, see Section 14.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	TRADE SECRET
Metconazole	125116-23-6	51	
Others	Various CAS#s	49	*

Other ingredients, which may be maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling **(800) 892-0099** at any time.

4. FIRST AID MEASURES

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 3

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EMERGENCY NUMBER (800) 892-0099

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** for emergency medical treatment information.

EYE CONTACT:

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

SKIN CONTACT:

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION:

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person.

INHALATION:

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN:

None

5. FIRE FIGHTING MEASURES**Flash point °C**

Flash point °F Not applicable

AUTOIGNITION: No data available

EXTINGUISHING MEDIA: Water fog, carbon dioxide, foam, dry chemical

FLAMMABLE LIMITS IN AIR - LOWER (%): Not applicable

FLAMMABLE LIMITS IN AIR - UPPER (%): Not applicable

NFPA RATING:

Health:	1
Flammability:	1
Reactivity:	0
Special:	None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

FIRE FIGHTING INSTRUCTIONS: Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.

HAZARDOUS DECOMPOSITION PRODUCTS: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Possible generation of hydrochloric acid, hydrogen cyanide, carbon monoxide and oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Emergency Telephone: (800) 892-0099
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VALENT EMERGENCY PHONE NUMBER: (800) 892-0099
CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300
OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

UN/NA NUMBER: Not applicable

EMERGENCY RESPONSE GUIDEBOOK NO.: Not applicable

FOR SPILLS ON LAND:

CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water. Contain spilled liquids with dry sorbents.

CLEANUP: Clean up spill immediately. Vacuum or sweep up material and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER:

CONTAINMENT: This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further release on to soil or into surface water.

CLEANUP: Clean up spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.

7. HANDLING AND STORAGE

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

HANDLING:

Avoid contact with eyes, skin or clothing. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Wear protective clothing and equipment when handling this product. Goggles or protective eyewear, gloves, long-sleeved shirt, long pants, socks and shoes are appropriate. Remove contaminated clothing and shoes immediately. Then wash thoroughly and put on clean clothing.

STORAGE:

Keep container tightly closed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Do not store or transport near food or feed. Do not use or store in or around the home. Keep pesticide in original container only. Store in a cool, dry secure place. Store in a well ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If ventilation is not adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn.

SKIN & HAND PROTECTION: Avoid contact with skin or clothing. Skin contact can be minimized by wearing protective clothing including gloves.

ENGINEERING CONTROLS: Eyewash and safety shower equipment should be available. Local exhaust ventilation should be used in areas without good cross ventilation.

EXPOSURE LIMITS

Chemical name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Metconazole	None	None	None
Others	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid		
Appearance	Granules	Odor	No information available
Color	Dark brown	Odor threshold	No information available

PROPERTIES

	Values	Remarks • Method
pH	8 - 9 @ 25° C	1% (w/v) suspension in water
Melting point/freezing point	No information available	
Boiling point/boiling range	No information available	
Flash point	No information available Not applicable	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limits	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	Dispersible in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	
Liquid Density	No information available	
Bulk density	32 - 33 lb/ft ³	

10. STABILITY AND REACTIVITY**Reactivity**

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Oxidizing agents and acids.

Hazardous Decomposition Products

May emit toxic and corrosive fumes under fire conditions: hydrogen chloride (HCl), hydrogen cyanide (HCN), carbon monoxide (CO) and nitrous oxides (NOx).

11. TOXICOLOGICAL INFORMATION**ACUTE TOXICITY:**

Oral Toxicity LD ₅₀ (rats)	1,750 mg/kg	EPA Tox Category	III
Dermal Toxicity LD ₅₀ (rabbits)	> 5,000 mg/kg	EPA Tox Category	IV
Inhalation Toxicity LC ₅₀ (rats)	> 2.27 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits)	Moderately irritating	EPA Tox Category	III
Skin Irritation (rabbits)	Brief and/or minor irritation	EPA Tox Category	Not applicable
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical name	IARC Group 1 or 2	OSHA - Select Carcinogens	NTP Carcinogen List
Metconazole	Not listed	Not listed	Not listed
Others	Not listed	Not listed	Not listed

TOXICITY OF METCONAZOLE TECHNICAL

SUBCHRONIC: Subchronic (28 to 90 days) studies of Metconazole Fungicide Technical in rodents and dogs reported decreased body weights, fatty vacuolation and hypertrophy of the liver, reduced RBC parameters, increased serum liver enzyme levels, and increased spleen and liver weights. The lowest no-observable-effect level (NOEL) was 2.5 mg/kg/day.

CHRONIC/CARCINOGENICITY: In a one-year dog study, Metconazole Fungicide Technical produced effects on liver histopathology, increase serum liver enzymes and bleeding/irritation in the gastrointestinal tract. The NOEL was 11.1 mg/kg/day. In a 2-year study in rats, Metconazole Fungicide Technical produced histological changes in the liver, kidney and adrenal and possibly leukemia. The NOEL for this study was 4.8 mg/kg/day. In an 18-month mouse study, increased white blood cell count, increased serum liver enzymes increased liver weights, histopathological changes in the liver, spleen and adrenal and increased liver adenomas and adenocarcinomas were observed at doses of 167 mg/kg/d or higher. The NOEL in mice was 4.8 mg/kg/day. The mechanism of liver tumor formation in mice is believed to be not relevant to humans.

DEVELOPMENTAL TOXICITY: Maternal and fetal effects were observed in rats and rabbits treated with Metconazole Fungicide Technical during gestation. The NOELs in rats and rabbits are 16 and 20 mg/kg/day, respectively.

REPRODUCTION: Metconazole Fungicide Technical was tested in a 2-generation rat reproduction study. At maternally toxic doses effects were noted on estrus cycling, litter size, gestation length and pup body weight. The NOEL was 10.6 mg/kg/day.

MUTAGENICITY: Not considered a genotoxic hazard. Negative in gene mutation assays *in vitro*, in *in-vivo/in-vitro* UDS assays, and in *in-vivo* micronucleus assays in mice. Positive in an *in-vitro* chromosome aberration assay in the presence of S-9, but not observed in the *in-vivo* assay.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

12. ECOLOGICAL INFORMATION**AVIAN TOXICITY:**

Test results for Metconazole technical on avian species include:

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Oral LD₅₀ bobwhite quail: 875 mg/kg
Dietary LC₅₀ bobwhite quail: 1,057 mg/kg
Dietary LC₅₀ mallard duck: > 5,200 mg/kg

AQUATIC ORGANISM TOXICITY: Based upon EPA designation, Metconazole Fungicide Technical is moderately toxic to fish and freshwater invertebrates and highly toxic to marine invertebrates. Test results include:

LC₅₀ (96 hr) Sheepshead Minnow: 6.3 mg/L
LC₅₀ (96 hr) Rainbow Trout: 2.2 mg/L
LC₅₀ (96 hr) Fathead Minnow: 3.9 mg/L
LC₅₀ (48 hr) Daphnia magna: 4.2 mg/L
LC₅₀ (96 hr) Mysid Shrimp: 0.75 mg/L
EC₅₀ (96 hr) Oyster Shell Deposition: 2.3 mg/L
EbC₅₀ (72 hr) Green Algae: 1.7 mg/L
ErC₅₀ (96 hr) Blue-green Algae: > 13 mg/L
EC₅₀ (96 hr) Fresh Water Diatom: 0.0098 mg/L
EC₅₀ (96 hr) Marine Diatom: 1.7 mg/L
EbC₅₀ (7 day) Duckweed: 0.051 mg/L

OTHER NON-TARGET ORGANISM TOXICITY:

The contact LD₅₀ (96 hr) of Metconazole Fungicide Technical to the honeybee is >90 µg/bee.

OTHER ENVIRONMENTAL INFORMATION:

This pesticide is toxic to shrimp. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters. See Directions for Use on product label for additional precautions and restrictions. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

PRODUCT DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure 2 more times.

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations. Do not contaminate water, food or feed by disposal. Disposal of waste and used containers must be in accordance with applicable Federal, State and local regulations. Do not flush to surface water or sanitary sewer system.

14. TRANSPORTATION INFORMATION

DOT (ground) SHIPPING NAME: Not regulated for domestic ground transport by U.S. DOT

**EMERGENCY RESPONSE
GUIDEBOOK NO.:**

Not applicable

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 3

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ICAO/IATA SHIPPING NAME:	UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Metconazole), 9, III, Marine Pollutant
REMARKS:	•Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IATA Special Provision A197. •For US shipping, Emergency Response Guidebook No. 171
IMDG SHIPPING NAME:	UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Metconazole), 9, III, Marine Pollutant •Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IMDG 2.10.2.7 •For US shipping, Emergency Response Guidebook No. 171
EMS NO.:	F-A, S-F

15. REGULATORY INFORMATION

EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:

Pesticide products in the U.S. are registered by the EPA under FIFRA and are subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

EPA FIFRA SIGNAL WORD: CAUTION

- *Harmful if swallowed*
- *Causes moderate eye irritation*
- *Avoid contact with eyes or clothing*
- *Keep out of reach of children.*

PESTICIDE REGULATIONS: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

U.S. FEDERAL REGULATIONS: Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	No
Fire:	No
Sudden Pressure:	No
Reactivity:	No

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania

Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

16. OTHER INFORMATION

REASON FOR ISSUE:	Updated Manufacturer/Distributor Address and General Review.
SDS NO.:	0307
EPA REGISTRATION NUMBER:	59639-144
REVISION NUMBER:	3
REVISION DATE:	09/02/2020
SUPERCEDES DATE:	07/11/2019
RESPONSIBLE PERSON(S):	Valent U.S.A. LLC, Corporate EH&S, (925) 256-2803

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent U.S.A. LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent U.S.A. LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent U.S.A. LLC to confirm that you have the most current product label and SDS.

This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom").

The product label provides information specifically for product use in the ordinary course. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label.

2020 Valent U.S.A. LLC

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : TRANSTECT™ 70WSP INSECTICIDE
Product code : EPA Reg. No. 59639-170-74779

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Insecticide

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

<u>Classification</u>	<u>Category</u>
Acute Toxicity – Inhalation (Dusts/Mists)	4

2.2. Label elements

Hazard Symbols :



Signal word	: WARNING
Hazard statements	: Harmful if inhaled
Precautionary statements (prevention)	: Avoid breathing dust/fume/gas/mist/vapors/spray Use only outdoors or in a well-ventilated area
Precautionary statements (response)	: See Section 4, First Aid Measures.
Precautionary statements (storage)	: None
Precautionary statements (disposal)	: None



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2.3 Hazards not otherwise classified (HNOC)

Other Information:

- Very toxic to aquatic life with long lasting effects.

For information on Transportation requirements, see Section 14.

SECTION 3: Composition/information on ingredients

Chemical Name	CAS Number	%/wt
Dinotefuran*	165252-70-0	70
Particulates Not Otherwise Classified**	No CAS#	30

*Active Ingredient

**Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identity is withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document.

SECTION 4: First aid measures

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

4.1. Description of first aid measures

EYE CONTACT	: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice.
SKIN CONTACT	: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or physician for treatment advice.
INGESTION	: Call physician or Poison Control Center immediately for treatment advice. Have the person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by a Poison Control Center or a physician. Do not give anything by mouth to an unconscious person.
INHALATION	: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN	: None

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water fog, carbon dioxide, foam, dry chemical.

5.2. Special hazards arising from the substance or mixture

Flash Point °F	: Not Applicable
Autoignition	: 350°C
Flammable limits in air - lower (%)	: Not Applicable
Flammable limits in air – upper (%)	: Not Applicable

NFPA RATING:

Health: 1



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Flammability: 3
Reactivity: 1
Special: None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgment. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

5.3. Advice for firefighters

Firefighting instructions : Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed areas without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.

This material is not expected to burn or explode in normal conditions, but will burn violently if involved in a fire. Dinotefuran becomes self-reactive in high temperatures. Exposure to heat may promote violent decomposition.

Hazardous decomposition products : Normal combustion forms carbon dioxide, water vapor and may produce: Oxides of Nitrogen

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION.

Stop the source of the spill if it is safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

6.2. Environmental precautions

This material should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

6.3. Methods and material for containment and cleaning up

FOR SPILLS ON LAND:

CONTAINMENT : Remove all sources of ignition. Ventilate area of leak or spill. Clean-up personnel may require protection from inhalation of dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP : Clean up spill immediately in a manner that does not disperse dust into the air and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

FOR SPILLS IN WATER:

CONTAINMENT : This material will disperse or dissolve in water. Stop the source of the release. Contain and isolate to prevent further release into soil, surface water and ground water.

CLEANUP : Clean up spill immediately. Absorb spill with inert material. Remove contaminated water for treatment or disposal.



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SECTION 7: Handling and storage

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

7.1. Precautions for safe handling

HANDLING

: Keep away from all possible sources of ignition (sparks or flame). Avoid high temperatures exceeding 150°C. Keep container closed. Use only with adequate ventilation. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring the material. Use explosion-proof electrical equipment. Take precautionary measures against static discharges.

Wear protective clothing and equipment when handling this product. Goggles or protective eyewear, gloves, long-sleeved shirt, long pants, socks and shoes are appropriate.

Users should wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco or using the toilet.

7.2. Conditions for safe storage, including any incompatibilities

STORAGE

: Keep pesticide in original container only. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place. Do not store diluted spray. Do not contaminate water, food or feed by storage or disposal.

SECTION 8: Exposure controls/personal protection

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

8.1. Personal protective equipment

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing protective eyewear.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If operating conditions result in airborne concentrations of this material, the use of an approved respirator is recommended.

SKIN & HAND PROTECTION: Avoid contact with skin or clothing. Skin contact can be minimized by wearing protective clothing including gloves.

8.2. Exposure controls

EXPOSURE LIMITS

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Dinotefuran	None	None	None
Particulates Not Otherwise Classified	None	None	None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid



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Appearance	: Granule
Color	: Light brown
Odor	: No information available
Odor threshold	: No information available
pH	: 6.4 @ 21°C (1% solution)
Melting/freezing point	: 107.5°C (Dinotefuran)
Boiling point/boiling range	: Decomposed at 208°C (Dinotefuran)
Flash point	: Not applicable
Evaporation rate	: No information available
Flammability (solid, gas)	: No information available
Flammability Limits in Air	
Upper flammability limits	: Not applicable
Lower flammability limits	: Not applicable
Vapor pressure	: No information available
Vapor density	: No information available
Specific gravity	: No information available
Water solubility	: Soluble in water
Solubility in other solvents	: No information available
Partition coefficient	: No information available
Auto-ignition temperature	: No information available
Decomposition temperature	: No information available
Viscosity	: No information available
Explosive properties	: No information available
Oxidizing properties	: No information available
Density	: No information available
Bulk density	: 29.8 lb./cu. ft.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

None known based on information supplied.



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10.6. Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NO_x), Oxides of sulfur, Crystalline silica

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Based on an evaluation of the ingredients and/or similar products.

ACUTE TOXICITY		
Oral Toxicity LD ₅₀ (rats)	>5000 mg/kg	EPA Tox Category IV
Dermal Toxicity LD ₅₀ (rabbits)	>5000 mg/kg	EPA Tox Category IV
Inhalation Toxicity LC ₅₀ (rats)	>2.34 mg/L air	EPA Tox Category IV
Eye Irritation (rabbits)	Minimally irritating	EPA Tox Category IV
Skin Irritation (rabbits)	Brief and/or minor irritation	EPA Tox Category IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category - Not applicable

CARCINOGEN CLASSIFICATION

Chemical Name	IARC	OSHA- Select Carcinogens	NTP Carcinogen List
Dinotefuran	Not listed	Not listed	Not listed
Particulates Not Otherwise Classified	Not listed	Not listed	Not listed

TOXICITY OF DINOTEFURAN TECHNICAL

SUBCHRONIC: Dinotefuran technical was tested in 13-week dietary toxicity studies in rats, mice and dogs. In the rat study, a NOEL of 500 ppm was established, based on reduced body weight gain in females and adrenal cortical vacuolation in males and a NOAEL of 5,000 ppm based on marked growth retardation at 25,000 ppm (adrenal cortical vacuolation not adverse). A NOEL of 25,000 ppm was established in the mouse study based on reduced body weight gain at 50,000 ppm. In the dog 13-week dietary study, a NOEL of 8,000 ppm was established based on reduced body weight gain. No target organs were identified in subchronic inhalation or dermal toxicity studies in rats.



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TOXICITY OF DINOTEFURAN TECHNICAL

CHRONIC/CARCINOGENICITY: Dinotefuran technical was tested in lifetime studies with rats and mice and a one-year study with dogs. In common with the subchronic studies in these species, no specific target organs could be identified. In the 78-week mouse study a NOAEL of 2500 ppm was established, based on decreased weight gain and a decrease in circulating platelet counts. In the 104-week rat study a NOAEL of 2000 ppm was established, based on a decrease in weight gain in females. There were no treatment-related effects in rats or mice on survival or the nature and incidence of neoplastic and adverse non-neoplastic histomorphological findings in either species at any dose level. In the 52-week dog study a NOAEL of 16000 ppm was established based on decreased weight gain in both sexes and decreased food consumption in females.

NEUROTOXICITY: Dinotefuran did not produce any functional or histomorphological evidence of neurotoxicity in acute (gavage) and 13-week (dietary) neurotoxicity studies in rats. The NOEL for neurotoxicity in the acute study was 1,500 mg/kg, the highest dose level administered. The NOEL for neurotoxicity in the 13-week dietary study was 50,000 ppm. The NOEL for all effects in this study was 5,000 ppm based on reduced body weight gain and food consumption.

DEVELOPMENTAL TOXICITY: In a developmental toxicity study of Dinotefuran technical in rats the maternal NOAEL was 300 mg/kg/day based on reduced weight gain, food consumption and water intake at 1000 mg/kg/day. Dinotefuran technical did not produce developmental effects in rats at doses up to 1000 mg/kg/day (the highest doses tested). In a study with rabbits the maternal NOAEL was 52 mg/kg/day based on reduced weight gain, food consumption and water intake and clinical signs noted at 300 mg/kg/day and pathology findings in the liver and stomach at 125 mg/kg/day and higher. The developmental NOEL was 300 mg/kg/day.

REPRODUCTION: Dinotefuran technical was tested in a two-generation rat reproduction study at doses of 0, 300, 1000, 3000 and 10000 ppm. The NOAEL for systemic toxicity in parental animals was 3000 ppm based on decreased body weight gain and food consumption and decreased spleen and thyroid weights at the highest dose level evaluated (10000 ppm). The NOAEL for reproductive effects was 10000 ppm. The NOAEL for effects on the offspring was 3000 ppm based on reduced preweaning weight gain at 10000 ppm.

MUTAGENICITY: Dinotefuran technical was negative in the following in vitro assays: Ames Assay, mouse lymphoma (L5178Y), mammalian cytogenetics (CHL/IU) or DNA Repair. Dinotefuran technical was negative in the following in vivo assays: mouse micronucleus. Overall, Dinotefuran technical does not present a genetic hazard.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

SECTION 12: Ecological information

12.1. Toxicity

AVIAN TOXICITY

: Dinotefuran Technical is practically nontoxic to moderately toxic to avian species. Test results include:
Oral LD₅₀ quail: greater than 2000 mg/kg
Dietary LC₅₀ Mallard duck: greater than 997.9 ppm
Dietary LC₅₀ quail: greater than 1301 ppm
Reproduction quail: NOEL = 5000 ppm
Reproduction Mallard duck: NOEL = 2000 ppm



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AQUATIC ORGANISM TOXICITY

: Dinotefuran Technical is practically nontoxic to fish and practically nontoxic to highly toxic to aquatic invertebrate species. Test results include:

LC₅₀ (96 hr) Bluegill Sunfish: greater than 100 mg/L

LC₅₀ (96 hr) Rainbow Trout: greater than 100 mg/L

LC₅₀ (96 hr) Common Carp: greater than 100 mg/L

LC₅₀ (96 hr) Sheepshead Minnow: greater than 109 mg/L

NOEC (early life stage) Rainbow Trout: greater than 10 mg/L

EC₅₀ (48 hr) Daphnia magna: greater than 1000 mg/L

NOEC (lifecycle) Daphnia magna: >10 mg/L

LC₅₀ (96 hr) Mysid Shrimp: 0.79 mg/L

EC₅₀ (96 hr) Oyster Shell Deposition: greater than 141 mg/L

ErC₅₀ (0-72 hr) Algae (*P. subcapitata*): greater than 100 mg/L

OTHER NON-TARGET ORGANISM TOXICITY

: Dinotefuran Technical is highly toxic to bees. The acute oral and contact LD₅₀ in bees were 0.056 ug/bee and 0.022 ug/bee, respectively.

OTHER ENVIRONMENTAL INFORMATION:

This pesticide is toxic to shrimp. Do not apply directly to water, to areas where surface water is present or to intertidal areas below mean high water mark. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

SECTION 13: Disposal considerations

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

13.1. Waste treatment methods

PRODUCT DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure 2 more times.

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations.



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SECTION 14: Transport information

DOT (ground) SHIPPING NAME	: Pesticide, Solid, Non-regulated
REMARKS	: Not regulated for domestic ground transport by U.S. DOT
EMERGENCY RESPONSE GUIDEBOOK NO.	: Not applicable
ICAO/IATA SHIPPING NAME	: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Dinotefuran), 9, III, Marine Pollutant
REMARKS	: Single or inner packaging less than 5 L (liquid) or 5 Kg (solids) exempted from Dangerous Goods regulations – see UN Special Provision 375. For U.S. Shipping, Emergency Response Guidebook No. 171.
IMDG SHIPPING NAME	: UN 3077 Environmentally Hazardous Substance, Solid, N.O.S. (Dinotefuran), 9, III, Marine Pollutant
EMS NO.	: F-A, S-F

SECTION 15: Regulatory information

EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:

This material is a pesticide product registered by the EPA under FIFRA and is subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

Signal word	: CAUTION
Precautionary statements	: Avoid breathing vapor or dust Avoid contact with eyes, skin, and clothing Powder material may form explosive dust-air mixture. Keep out of reach of children

PESTICIDE REGULATIONS: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

U.S. FEDERAL REGULATIONS: Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include: Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	No
Fire:	No
Sudden Pressure:	No



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Reactivity: No

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

SECTION 16: Other information

MSDS US

Disclaimer: The information provided by Rainbow Treecare Scientific Advancements, contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

REVISED DATE: Dec 2019

SAFETY DATA SHEET



TREE-äge® G4 Insecticide

Section 1. Identification

GHS product identifier : TREE-äge® G4 Insecticide

Product use : Insecticide.

Supplier's details : Arborjet
99 Blueberry Hill Road
Woburn, MA 01801, USA
1-781-935-9070

e-mail address of person responsible for this SDS : ajinformation@arborjet.com

Emergency telephone number (with hours of operation) : 1-800-255-3924 (CHEM-TEL)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Harmful if swallowed.
Causes serious eye irritation.

Precautionary statements

General : Keep out of reach of children and pets.

Prevention : Wear eye or face protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.

Response : IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical attention.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.
Product code : 040-4120

Ingredient name	%	CAS number
Trade Secret 1	Proprietary	-
Trade Secret 2	Proprietary	-
Tetrahydrofurfuryl alcohol	≥10 - <25	97-99-4
Emamectin Benzoate	≥3 - <5	155569-91-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove person to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove person to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. (See notes to physician) If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Early signs of intoxication include dilation of pupils, muscular incoordination and muscular tremors. Vomiting within one-half hour of exposure can minimize toxicity following accidental ingestion of the product; rapidly after exposure (<15 minutes) administer repeatedly medical charcoal in a large quantity of water or ipecac. If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parental fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms and measurements.

In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since emamectin benzoate is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valporic acid) in patients with potentially toxic emamectin benzoate exposure.

- Specific treatments** : See notes to physician.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, foam or CO₂.

- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
Irritating and/or toxic gases

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

Trade Secret 1	None.
Trade Secret 2	AIHA WEEL (United States, 10/2011). TWA: 10 ppm 8 hours.
Tetrahydrofurfuryl alcohol	AIHA WEEL (United States, 10/2011). TWA: 0.5 ppm 8 hours.
Emamectin Benzoate	OEL of Manufacturer (United States) TWA: 0.02 mg/m ³

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Recommended: polymer laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC), Viton®.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Inhalation potential is low due to the application method. If vapors or mists are present, wear NIOSH-approved air-purifying respirator with cartridges/canisters approved for use against pesticides

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Blue.
- Odor** : Aromatic.
- Odor threshold** : Not available.
- pH** : 4.5 (1% solution in de-ionized H₂O @ 25°C [77°F])
- Melting point** : Not available.
- Boiling point** : Not available.

Section 9. Physical and chemical properties

Flash point	: Closed cup: >100°C (>212°F) [Pensky-Martens. (PMA-4)]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.070 g/cm³ @ 20°C (68°F)
Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: 19.7 mPa·s (19.7 cP) @ 20°C (68°F)

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Strong oxidizing materials
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
TREE-äge® G4 Insecticide	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat - Female	1030 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
TREE-äge® G4 Insecticide	Eyes - Moderate irritant	Rabbit	-	-	-
	Skin - Non-irritating to the skin.	Rabbit	-	-	-

Sensitization

Product/ingredient name	Route of exposure	Species	Result
TREE-äge® G4 Insecticide	skin	Guinea pig	Not sensitizing

Mutagenicity

Not available.

Section 11. Toxicological information

Carcinogenicity

Emamectin Benzoate: Not listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.

Reproductive toxicity

Emamectin Benzoate: Developmental and reproductive toxicity observed in dosages that are toxic to mature animals.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Trade Secret 1	Acute LC50 35000 µl/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 59900 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 7500 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 100 µl/L Marine water	Fish - Cyprinodon variegatus - Egg	28 days
Trade Secret 2	Acute LC50 10 mg/l Fresh water	Fish - Lepomis macrochirus	96 hours
Emamectin Benzoate	EC50 >3.9 ppb	Algae	5 days
	Acute EC50 1 ppb Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 174 ppb Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.088 ppb Marine water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 6.5 ppb	Fish - Pimephales promelas	32 days

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

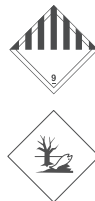
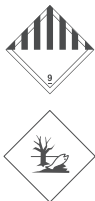
Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

Section 13. Disposal considerations

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not determined.	Not determined.	Not determined.	UN3082	UN3082
UN proper shipping name	-	-	-	-	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Emamectin Benzoate), Marine Pollutant	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Emamectin Benzoate), Marine Pollutant
Transport hazard class(es)	-	-	-	-	9	9
Label						
Packing group	-	-	-	-	III	III
Environmental hazards	-	-	-	-	Marine Pollutant: Yes	Yes.
Additional information	-	-	-	-	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Emergency schedules (EmS) F-A, S-F Special provisions 274, 335, 969	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8. Passenger and Cargo Aircraft Quantity limitation: 450 L Packaging instructions: 964 Cargo Aircraft Only Quantity limitation: 450 L Packaging instructions: 964

Section 14. Transport information

						<u>Limited Quantities - Passenger Aircraft</u> Quantity limitation: 30 kg Packaging instructions: Y964 <u>Special provisions</u> A97, A158, A197 Packing Auth.: 914 Note: Max. inner container 5 liter; Max. single container 450 liter

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): Not determined.

FIFRA Information: This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION:

Moderately irritating to the eye.
Do not get in eyes or on clothing.
Wear protective eyewear.
Harmful if swallowed.
Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
Remove and wash contaminated clothing before reuse.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not determined.

Clean Air Act Section 602 Class I Substances : Not determined.

Section 15. Regulatory information

Clean Air Act Section 602 Class II Substances : Not determined.

DEA List I Chemicals (Precursor Chemicals) : Not determined.

DEA List II Chemicals (Essential Chemicals) : Not determined.

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Trade Secret 1	Proprietary	No.	No.	No.	Yes.	No.
Trade Secret 2	Proprietary	No.	No.	No.	Yes.	No.
Tetrahydrofurfuryl alcohol	≥10 - <25	Yes.	No.	No.	Yes.	No.
Emamectin Benzoate	≥3 - <5	No.	No.	No.	Yes.	No.

State regulations

Massachusetts : The following components are listed: Trade Secret 2; TETRAHYDROFURFURYL ALCOHOL
At least one component is not determined.

New York : Not determined.

New Jersey : Not determined.

Pennsylvania : The following components are listed: Trade Secret 1; Trade Secret 2; 2-FURANMETHANOL, TETRAHYDRO-
At least one component is not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	2
Flammability	1
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



Section 16. Other information

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (oral) - Category 4 EYE IRRITATION - Category 2A	On basis of test data On basis of test data

History

Date of printing : 04/08/2016
Date of issue/Date of revision : 04/08/2016
Date of previous issue : No previous issue.
Version : 1

Key to abbreviations

: ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

TRIACT® 70

EPA Registration Number: 70051-2-59807

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Same as applicators and handlers* see section 8

For emergency responders

Same as applicators and handlers* see section 8

Environmental precautions

This product is hazardous to fish and aquatic vertebrates. For terrestrial uses: Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark.

This product is toxic to bees exposed to direct treatment. Do not apply this product while bees are actively visiting the treatment area.

Methods and material for containment and cleaning up

Methods for Containment

Do not use in a manner that would allow drift or rinse water from equipment cleaning to contaminate water sources or supplies.

Methods for Clean-Up

None specified

Other Information

None

Reference to other sections

See Section 8 for occupational exposure limits and risk management measures. Refer to Section 13 for disposal considerations.

7. HANDLING AND STORAGE

Precautions for safe handling

The following equipment should be worn by handlers, applicators

Long sleeved shirt, long pants,
Chemical resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, or poly vinyl chloride)
Shoes plus socks
Follow manufactures instructions for cleaning and maintaining PPE. If no such instructions for washables use detergent and hot water. Keep and wash PPE separately from other laundry

Conditions for safe storage, including any incompatibilities

Keep in original container. Store in a dry place, away from direct sunlight, feed, or foodstuffs. Keep container tightly sealed when not in use. Do not store below 40°F (4°C).

Specific end use(s)

Use only as specified on label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OSHA Permissible Exposure

Limits (PELs) : Not determined

ACGIH Threshold

Limit Values : Not determined

Other Exposure Limits : Not determined

Exposure controls

Engineering Controls : None specified

Personal Protective Equipment

Eye/Face Protection : Not specified

Skin Protection : Long pants, long sleeved shirt, socks and shoes

Hand Protection : chemical resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, or poly vinyl chloride)

Body Protection : Coveralls

Respiratory Protection : None specified

Thermal Hazards : None specified

General Hygiene

Considerations : Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

Environmental exposure

controls : For terrestrial use only: Do not apply directly to water or to areas where surface water is present, or to inter tidal areas below the mean high water mark. This product is toxic to bees exposed to direct treatment. Do not apply this product while bees are actively visiting the treatment area.

TRIACT® 70

EPA Registration Number: 70051-2-59807

9. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance Brown liquid
Odour Citrus/garlic
Odour Threshold Not determined
pH 1% dilution 4.5-6.5
Melting Point / Freezing Point 37°F (3°C)
Initial Boiling Point >275° F
Boiling Range Not determined
Flash Point: 140°F (60°C)
Evaporation Rate Not determined
Flammability (solid, gas) ... Not applicable
Lower & Upper Flammability Limits Not applicable
Vapour Pressure Not determined
Volatility by weight 25%
Density 0.86-0.95 g/ml
Solubility Not determined
Partition Coefficient (n-octanol/water) Not determined
Auto-ignition Temperature Not determined
Decomposition Temperature Not determined
Viscosity Not determined
Explosive Properties None known
Oxidising Properties None known
Other information Not available.

10. STABILITY AND REACTIVITY

Reactivity None known
Chemical stability Stable
Possibility of hazardous reactions None known
Conditions to avoid Low temperatures
Incompatible materials None known
Hazardous decomposition products None known

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute Toxicity

Toxicological information on the substance or mixture

LD₅₀ (oral) > 5000 mg/kg (test with similar product containing higher concentration of the same active ingredient)

LD₅₀ (dermal) > 2000 mg/kg (test with similar product containing higher concentration of the same active ingredient)

LC₅₀ (inhalation) > 6.17 ± 1.23 mg/L (test with similar product containing higher concentration of the same active ingredient)

Skin corrosion / irritation: Slightly irritating, Toxicity Category IV (test with similar product containing higher concentration of the same active ingredient)

Eye irritation Minimally irritating, Toxicity Category III (test with similar product containing higher concentration of the same active ingredient)

Respiratory or skin sensitization Mildly sensitizing (test with similar product containing high concentration of the same AI)

Other information on adverse health effects:

Carcinogenicity

NTP Listed Not applicable

IARC Listed Not applicable

OSHA Not applicable

Reference to other sections

See Section 4 for symptoms and acute and delayed effects.

12. ECOLOGICAL INFORMATION

Toxicity

Test species	Test method	Test substance	LC ₅₀
Bobwhite Quail	14-day acute oral	Active Ingredient	LD ₅₀ > 2,150 mg a.i./kg body weight
<i>Pimephales promelas</i> (Fathead Minnow)	96-hour	Active Ingredient	NOEC 96-hour: 2,000 mg/L
<i>Daphnia magna</i>	48-hour	Active Ingredient	NOEC 48-hour: 2,000 mg/L
<i>Apis mellifera</i> L	This product is highly toxic to bees exposed to direct treatment. Do not apply when bees are actively visiting the treatment area.		

TRIACT® 70

EPA Registration Number: 70051-2-59807

Persistence and

degradability : Neem oil degrades rapidly and does not persist in the environment.

Bioaccumulative potential . . : Neem oil is not intended for use in aquatic environments. Appropriate cautions are required for use around bodies of water.

Mobility in soil : No data available.

Other adverse effects : No data available.

- for containers greater than 5 gallons-

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal Instructions : Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage : Keep in original container. Store in a dry place, away from direct sunlight, feed, or foodstuffs. Keep container tightly sealed when not in use. Do not store below 40°F (4°C).

Pesticide Disposal : Wastes resulting from the use of this product must be disposed of on-site or at an approved waste disposal facility.

Container Handling : Non-refillable container. Do not reuse or refill this container.

- for containers equal to or less than 5 gallons-

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as following: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

UN number : Not regulated.

UN proper shipping name . : Not regulated.

Transport hazard class(es) : Not regulated.

Packing group : Not regulated.

Environmental hazards : Not regulated.

Special precautions for user : Not regulated.

TRIACT® 70

EPA Registration Number: 70051-2-59807

15. REGULATORY INFORMATION

Safety, health and environmental regulations/ legislation specific for the substance or mixture

EPA: This product is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticidal chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION, KEEP OUT OF REACH OF CHILDREN

Harmful if absorbed through the skin. Causes moderate eye irritation.

This product is hazardous to fish and aquatic invertebrates.

This product is highly toxic to bees exposed to direct treatment.

OSHA: N/A

TSCA Status.: Exempt

CERCLA Reportable

Quantity: N/A

SARA Title III:

Section 302.: N/A

Section 311/312: N/A

Section 313.: N/A

RCRA Status: N/A

16. OTHER INFORMATION

Disclaimer:

To the best of our knowledge, the information contained herein is accurate. However, neither OHP, Inc. nor any of its subsidiaries assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All material may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

SDS Authoring Information:

Revision date: October 3, 2017

Reason for Revision: OSHA Hazard Communication Standard 2012

Triact is a registered trademark of Certis USA L.L.C.



SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : TRIMTECT
Product code : EPA Reg. No. 74779-7

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Plant Growth Regulator

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

Hazard Symbols :



Signal word : WARNING

Hazard statements (health) : Harmful if swallowed, absorbed through the skin or inhaled.

Precautionary statements : Avoid contact with skin, eyes, or clothing.
Avoid breathing spray mist.

Hazard statements (environmental) : Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash water or rinsate.

Hazard statements (physical/chemical) : Do not store near heat or open flame.

SECTION 3: Composition/information on ingredients

Chemical Name	CAS Number	%/wt.
Paclobutrazol	76738-62-0	8.0

Ingredients not precisely identified are proprietary or non-hazardous.



SECTION 4: First aid measures

4.1. Description of first aid measures

- IF SWALLOWED** : Call physician or Poison Control Center immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or a physician. Do not give anything by mouth to an unconscious person.
- IF INHALED** : Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- IF ON SKIN OR CLOTHING** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or physician for treatment advice.
- IF IN EYES** : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact the National Poison Control Hotline at 1-800-222-1222 for emergency medical treatment information 24 hours a day, seven days a week.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Dry chemical, foam, or CO₂ extinguishing media.

5.2. Special hazards arising from the substance or mixture

- Specific Hazards : This product will burn with flames if ignited. This product has a minimum ignition energy between 100 and 300 millijoules. Mechanical sparks, open flames, and certain hot surfaces can serve as ignition sources for this material. Eliminate the presence of mechanical sparks and other ignition sources where dust clouds of this material could form. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

5.3. Advice for firefighters

- Protective Equipment : Wear full protective clothing and self-contained breathing apparatus with full facepiece.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to **Section 8 "Exposure controls/personal protection"**

6.2. Environmental precautions

This material should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

6.3. Methods and materials for clean up

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil, or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with



additional absorbent and place into compatible storage container. Once all material is cleaned up and placed in a disposal container, seal the container and arrange for disposition. This material should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

SECTION 7: Handling and storage

KEEP OUT OF REACH OF CHILDREN!

7.1. Precautions for safe handling

Precautions for safe handling : Use in a well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Do not contaminate water, food or feed by storage or disposal. Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste area.

SECTION 8: Exposure controls/personal protection

8.1. Personal protective equipment

Exposure Limit:

OSHA PEL: Not Listed

ACIGH TLV: Not Listed

Individual protection measures:

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear long sleeved shirt and long pants, socks, shoes, and gloves. Remove and wash contaminated clothing before reuse.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the state or tribal agency responsible for pesticide regulation.

EYE PROTECTION – Use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

CLOTHING – Wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

GLOVES – Wear chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride (PVC), viton.

RESPIRATOR – A respirator is not normally required when handling this substance. Use effective engineering controls to comply with the occupational exposure limits.

Discard clothing and other absorbent materials that have been heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under circumstances where air-purifying respirators may not provide adequate protection. In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

8.2. Exposure controls

Engineering Controls:

No applicable information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: Off-white/beige liquid
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting/freezing point	: No data available
Boiling point	: Approx. 212 °F
Flash point	: Does not flash
Flammability	: No data available
Explosive properties	: No data available
Vapor pressure	: Paclobutrazol: 7.5 x 10 ⁻⁹ mmHg @ 68 °F (20 °C)
Vapor density	: No data available
Relative density	: 1.09 g/ml
Solubility(ies)	: Water: 26 mb/l @ 20 °C Fat: No applicable information available
Partition coefficient	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No applicable information available

10.2. Chemical stability

Stable under standard conditions.

10.3. Possibility of hazardous reactions

No applicable information available

10.4. Conditions to avoid

None known

10.5. Incompatible materials

Oxidizing agents (e.g. chlorates, nitrates)

10.6. Hazardous decomposition products

Can decompose at high temperatures forming toxic gas.

SECTION 11: Toxicological information

11.1. Information on toxicological effects



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Revision date: May 29, 2015

Version: 1.0

Based on an evaluation of the ingredients and/or similar products.

ACUTE TOXICITY		
Oral	LD50 rat	>2000 mg/kg body weight
Inhalation	LC50 rat	>250 mg/M ³ air
Dermal	LD50 rat	>2000 mg/kg body weight
Irritation		
Eye Contact	Rabbit	Slightly irritating
Skin Contact	Rabbit	Non-irritating
Respiratory tract	-	No applicable information available
Sensitization	unknown	Not a sensitizer

Carcinogenicity	: No evidence of carcinogenicity in 2-year rodent studies.
Mutagenicity	: No applicable information available.
Reproductive Toxicity	: Dose-related increase in minor skeletal defects and evidence of fetotoxicity in rat studies (urogenital defects). No adverse effects seen on reproductive parameters or reproductive organs in a 2-generational rat study. Liver effects were noted at the highest dose level in the FO females and male and female offspring (active ingredient).
Chronic Toxicity	: Evidence of liver toxicity in repeat dose rodent studies at high dose levels. (1250 ppm, 90 day and 2 year tests). No effects noted in rabbit studies. No adverse health effects are expected in humans at airborne levels below the occupational exposure limit.
NTP/IARC/OSHA listing(s)	: No applicable information available.

SECTION 12: Ecological information

12.1. Toxicity

ECOTOXICITY:

Fish: LC ₅₀	: 23.6 ppm
Daphnia: EC ₅₀	: 33.2 ppm
Bird (8-day dietary – Bobwhite Quail): LC ₅₀	: >20,000 ppm
Bees: LC ₅₀	: >50 ug/bee

12.2. Persistence and degradability

No applicable information available.

12.3. Bioaccumulative potential

Soil DT50 0.5-1.0 y in general; in calcareous clay loam (pH 8.8, 14% o.m.), DT50<42 d.; in coarse sandy loam (pH 6.8, 4% o.m.), DT50>140 d. Stable in water. Mixes in water (after 24 h).

12.4. Mobility in soil

No applicable information available.



SECTION 13: Disposal considerations

13.1. Waste treatment methods

Pesticide disposal:

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Container disposal:

Less than or equal to 5 gallons: Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into the application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances.

Over 5 gallons: Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into the application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances.

SECTION 14: Transport information

UN number	: Not applicable
Proper shipping name	: Plant growth inhibitor, modified or regulator
Class	: Not applicable
Packaging group	: Not applicable
NMFC number/class	: 101685/65
Marine pollutant	: Not applicable

SECTION 15: Regulatory information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.



TRIMTECT

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Version: 1.0

EPA signal word

: CAUTION

Precautionary statements

: **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION. Harmful if swallowed, absorbed through the skin, or inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear long sleeved shirt and long pants, socks, shoes, and gloves. Remove and wash contaminated clothing before reuse

Pictograms/symbols

: None

SECTION 16: Other information

MSDS US

Disclaimer: The information provided by Rainbow Treecare Scientific Advancements. contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

REVISED DATE: May 2015

REVISED FOR: GHS Compliance



TRIMTECT

Safety Data Sheet

US and GHS

Revision date: May 29, 2015

Version: 1.0

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : TRIMTECT
Product code : EPA Reg. No. 74779-7

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Plant Growth Regulator

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

Hazard Symbols :



Signal word : WARNING

Hazard statements (health) : Harmful if swallowed, absorbed through the skin or inhaled.

Precautionary statements : Avoid contact with skin, eyes, or clothing.
Avoid breathing spray mist.

Hazard statements (environmental) : Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash water or rinsate.

Hazard statements (physical/chemical) : Do not store near heat or open flame.

SECTION 3: Composition/information on ingredients

Chemical Name	CAS Number	%/wt.
Paclobutrazol	76738-62-0	8.0

Ingredients not precisely identified are proprietary or non-hazardous.



SECTION 4: First aid measures

4.1. Description of first aid measures

- IF SWALLOWED** : Call physician or Poison Control Center immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or a physician. Do not give anything by mouth to an unconscious person.
- IF INHALED** : Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.
- IF ON SKIN OR CLOTHING** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or physician for treatment advice.
- IF IN EYES** : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact the National Poison Control Hotline at 1-800-222-1222 for emergency medical treatment information 24 hours a day, seven days a week.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Dry chemical, foam, or CO₂ extinguishing media.

5.2. Special hazards arising from the substance or mixture

- Specific Hazards : This product will burn with flames if ignited. This product has a minimum ignition energy between 100 and 300 millijoules. Mechanical sparks, open flames, and certain hot surfaces can serve as ignition sources for this material. Eliminate the presence of mechanical sparks and other ignition sources where dust clouds of this material could form. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

5.3. Advice for firefighters

- Protective Equipment : Wear full protective clothing and self-contained breathing apparatus with full facepiece.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to **Section 8 "Exposure controls/personal protection"**

6.2. Environmental precautions

This material should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

6.3. Methods and materials for clean up

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil, or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with



additional absorbent and place into compatible storage container. Once all material is cleaned up and placed in a disposal container, seal the container and arrange for disposition. This material should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

SECTION 7: Handling and storage

KEEP OUT OF REACH OF CHILDREN!

7.1. Precautions for safe handling

Precautions for safe handling : Use in a well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Do not contaminate water, food or feed by storage or disposal. Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste area.

SECTION 8: Exposure controls/personal protection

8.1. Personal protective equipment

Exposure Limit:

OSHA PEL: Not Listed

ACIGH TLV: Not Listed

Individual protection measures:

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear long sleeved shirt and long pants, socks, shoes, and gloves. Remove and wash contaminated clothing before reuse.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the state or tribal agency responsible for pesticide regulation.

EYE PROTECTION – Use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

CLOTHING – Wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

GLOVES – Wear chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride (PVC), viton.

RESPIRATOR – A respirator is not normally required when handling this substance. Use effective engineering controls to comply with the occupational exposure limits.

Discard clothing and other absorbent materials that have been heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under circumstances where air-purifying respirators may not provide adequate protection. In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

8.2. Exposure controls

Engineering Controls:

No applicable information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: Off-white/beige liquid
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting/freezing point	: No data available
Boiling point	: Approx. 212 °F
Flash point	: Does not flash
Flammability	: No data available
Explosive properties	: No data available
Vapor pressure	: Paclobutrazol: 7.5 x 10 ⁻⁹ mmHg @ 68 °F (20 °C)
Vapor density	: No data available
Relative density	: 1.09 g/ml
Solubility(ies)	: Water: 26 mb/l @ 20 °C Fat: No applicable information available
Partition coefficient	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No applicable information available

10.2. Chemical stability

Stable under standard conditions.

10.3. Possibility of hazardous reactions

No applicable information available

10.4. Conditions to avoid

None known

10.5. Incompatible materials

Oxidizing agents (e.g. chlorates, nitrates)

10.6. Hazardous decomposition products

Can decompose at high temperatures forming toxic gas.

SECTION 11: Toxicological information

11.1. Information on toxicological effects



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Safety Data Sheet

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Revision date: May 29, 2015

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Based on an evaluation of the ingredients and/or similar products.

ACUTE TOXICITY		
Oral	LD50 rat	>2000 mg/kg body weight
Inhalation	LC50 rat	>250 mg/M ³ air
Dermal	LD50 rat	>2000 mg/kg body weight
Irritation		
Eye Contact	Rabbit	Slightly irritating
Skin Contact	Rabbit	Non-irritating
Respiratory tract	-	No applicable information available
Sensitization	unknown	Not a sensitizer

Carcinogenicity	: No evidence of carcinogenicity in 2-year rodent studies.
Mutagenicity	: No applicable information available.
Reproductive Toxicity	: Dose-related increase in minor skeletal defects and evidence of fetotoxicity in rat studies (urogenital defects). No adverse effects seen on reproductive parameters or reproductive organs in a 2-generational rat study. Liver effects were noted at the highest dose level in the FO females and male and female offspring (active ingredient).
Chronic Toxicity	: Evidence of liver toxicity in repeat dose rodent studies at high dose levels. (1250 ppm, 90 day and 2 year tests). No effects noted in rabbit studies. No adverse health effects are expected in humans at airborne levels below the occupational exposure limit.
NTP/IARC/OSHA listing(s)	: No applicable information available.

SECTION 12: Ecological information

12.1. Toxicity

ECOTOXICITY:

Fish: LC ₅₀	: 23.6 ppm
Daphnia: EC ₅₀	: 33.2 ppm
Bird (8-day dietary – Bobwhite Quail): LC ₅₀	: >20,000 ppm
Bees: LC ₅₀	: >50 ug/bee

12.2. Persistence and degradability

No applicable information available.

12.3. Bioaccumulative potential

Soil DT50 0.5-1.0 y in general; in calcareous clay loam (pH 8.8, 14% o.m.), DT50<42 d.; in coarse sandy loam (pH 6.8, 4% o.m.), DT50>140 d. Stable in water. Mixes in water (after 24 h).

12.4. Mobility in soil

No applicable information available.



SECTION 13: Disposal considerations

13.1. Waste treatment methods

Pesticide disposal:

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Container disposal:

Less than or equal to 5 gallons: Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into the application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances.

Over 5 gallons: Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into the application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances.

SECTION 14: Transport information

UN number	: Not applicable
Proper shipping name	: Plant growth inhibitor, modified or regulator
Class	: Not applicable
Packaging group	: Not applicable
NMFC number/class	: 101685/65
Marine pollutant	: Not applicable

SECTION 15: Regulatory information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.



TRIMTECT

Safety Data Sheet

US and GHS

Revision date: May 29, 2015

Version: 1.0

EPA signal word

: CAUTION

Precautionary statements

: **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION. Harmful if swallowed, absorbed through the skin, or inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear long sleeved shirt and long pants, socks, shoes, and gloves. Remove and wash contaminated clothing before reuse

Pictograms/symbols

: None

SECTION 16: Other information

MSDS US

Disclaimer: The information provided by Rainbow Treecare Scientific Advancements. contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

REVISED DATE: May 2015

REVISED FOR: GHS Compliance

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Name: TRISTAR™ 8.5 SL
EPA Reg. No.: 8033-106-1001
Product Type: Insecticide

Company Name: Nufarm Americas, Inc.
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not exactly the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION**HEALTH HAZARDS:**

Acute Oral Toxicity

Category 4

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute

Category 3

SIGNAL WORD:

WARNING

HAZARD STATEMENTS:

Harmful if swallowed. Harmful to aquatic life.

**PRECAUTIONARY STATEMENTS**

Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Acetamiprid	135410-20-7	8.11 – 8.97
Other Ingredients	Trade Secret	Trade Secret
Synonyms: Acetamiprid		
Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.		

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for several minutes. Remove contact lenses, if present, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor for treatment advice. Rinse mouth with water. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. Call a poison control center or doctor for further treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for several minutes. Call a poison control center or doctor for treatment advice.

Most Important symptoms/effects, acute and delayed: Harmful if swallowed. May cause slight eye and skin irritation.

Indication of Immediate medical attention and special treatment if needed, if necessary: Immediate medical attention should not be required.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: As the solvents in this product has a low vapor pressure, the potential of fire or explosion is low. But, like all combustible organic chemical, this product (when heated and vaporized or atomized in the presence of an ignition source) may cause explosion.

Hazardous Decomposition Materials (Under Fire Conditions): Under fire conditions may produce oxides of carbon, hydrogen, nitrogen, hydrogen cyanide, and hydrochloric acid.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. No sparking tools should be used. Clean up residual material by washing area with water and detergent. Collect washing for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING: Avoid contact with eyes, skin or clothing. Avoid breathing mist or vapor. Wash thoroughly after handling. Keep out of reach of children and animals. Personnel handling this product should be thoroughly trained as to its hazards. Use nonsparking tools and grounded/bonded equipment and containers when transferring. Use handling, storage and disposal procedure that will prevent contamination of water, food or feed. Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing.

STORAGE: Do not store in or around the home. Store unused product in a cool, ventilated, dry, locked area. Do not allow prolonged storage in areas where temperatures frequently exceed 115° F (46° C). NEVER TRANSFER THIS PRODUCT TO ANOTHER CONTAINER FOR STORAGE. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Eye/Face Protection: Not normally required. To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Acetamiprid	NE	NE	NE	NE	
Other Ingredients	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red liquid
Odor:	Faint odor
Odor threshold:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range	No data available
Flash point:	No data available
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower flammability or explosive limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available

Relative density:	No data available
Solubility(ies):	Soluble
Partition coefficient: n-octanol/water:	No data available
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not normally reactive.

Chemical Stability: This material is stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon, hydrogen, nitrogen, hydrogen cyanide, and hydrochloric acid.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Dermal, inhalation

Symptoms of Exposure:

Eye Contact: Not irritating based on toxicity studies.

Skin Contact: Not toxic and not irritating based on toxicity studies.

Ingestion: Slightly toxic if ingested based on toxicity studies.

Inhalation: Low inhalation toxicity based on toxicity studies.

Delayed, immediate and chronic effects of exposure: None expected.

Toxicological Data:

Data from laboratory studies conducted are summarized below:

Oral: Rat LD₅₀: 500 - 2,000 mg/kg

Dermal: Rat LD₅₀: >2,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >4.81 mg/L (No mortalities at highest dose tested)

Eye Irritation: Rabbit: Not irritating

Skin Irritation: Rabbit: Not irritating

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Acetamiprid does not appear to have specific target organ toxicity.

Carcinogenicity / Chronic Health Effects: No data available.

Reproductive Toxicity: There is no evidence of any teratogenic effects due to treatment with acetamiprid.

Developmental Toxicity: There are no signs of developmental toxicity were observed.

Genotoxicity: No data available.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on a similar product:

96-hour LC₅₀ Rainbow Trout: > 100 mg/L

48-hour EC₅₀ Daphnia: 49.8 mg/L

72-hour EC₅₀ Green algae > 98.3 mg/L

Environmental Fate:

The active ingredient, acetamiprid, degrades rapidly by aerobic soil metabolism. Acetamiprid will not bioaccumulate in fish and in sediment.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Contamination with this product will render water, food or feed unfit for human or animal consumption. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Nonrefillable Container. Do not reuse or refill this container. Triple rinse container promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available.

14. TRANSPORTATION INFORMATION**DOT**

Not Regulated

IMDG

Not Regulated

IATA

Not Regulated

15. REGULATORY INFORMATION**EPA FIFRA INFORMATION**

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

CAUTION. Harmful if swallowed, absorbed through the skin, or inhaled. Avoid breathing vapors or spray mist. Avoid contact with skin or clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Keep out of reach of children and domestic animals.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Acute Health

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not Listed.

16. OTHER INFORMATION**National Fire Protection Association (NFPA) Hazard Rating:**

Rating for this product: Health: 2 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS AND ALL SUCH WARRANTIES ARE HEREBY SPECIFICALLY DISCLAIMED.

Date of Issue: July 9, 2015

Supersedes: June 28, 2015

1. Identification

Product identifier	TriTek	
Other means of identification		
Product code	15034	
Product registration number	48813-1	
Recommended use	Agricultural/ Horticultural Use- Spray Oil Insecticide and Miticide- Refer to product label.	
Recommended restrictions	Refer to product label.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Brandt Consolidated, Inc.	
Address	2935 South Koke Mill Road Springfield, IL 62711 United States	
Telephone	Corporate Office	1-217-547-5800
Website	www.brandt.co	
E-mail	msds@brandt.co	
Contact person	EH&S / Regulatory Department	
Emergency phone number	CHEMTREC (24 hours): USA, Canada, Puerto Rico 1-800-424-9300 Virgin Islands 1-800-424-9300 International Maritime +1 (703) 527-3887	

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, inhalation	Category 4
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements



Signal word	Warning	
Hazard statement	Harmful if inhaled.	
Precautionary statement		
Prevention	Avoid breathing vapors. Use only outdoors or in a well-ventilated area.	
Response	If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.	
Storage	Store away from incompatible materials.	
Disposal	Dispose of waste and residues in accordance with local authority requirements.	
Hazard(s) not otherwise classified (HNOC)	None known.	
Supplemental information	None.	

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Petroleum Oil, Paraffinic		64742-55-8	80 - < 90*
Poly(ethylene oxide)		25322-68-3	< 0.1*
Other components below reportable levels			10 - < 20

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors and spray mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid inhalation of vapors and spray mists. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Petroleum Oil, Paraffinic (CAS 64742-55-8)	PEL	5 mg/m3	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Petroleum Oil, Paraffinic (CAS 64742-55-8)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Petroleum Oil, Paraffinic (CAS 64742-55-8)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Poly(ethylene oxide) (CAS 25322-68-3)	TWA	10 mg/m3	Particulate.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Viscous.

Physical state Liquid.

Form Liquid.

Color White

Odor Ammonia

Odor threshold Not available.

pH Not available.

Salt-Out / Crystallization Temp Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 680 °F (360 °C)

Flash point > 212.0 °F (> 100.0 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.00001 hPa estimated
Vapor density	Not available.
Relative density	0.86 g/cm3 (typical)
Solubility(ies)	
Solubility (water)	Dispersable
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Flammability class	Combustible IIIB estimated
Percent volatile	15.27 % estimated
pH in aqueous solution	7 - 9 (1% dilution)
Pounds per gallon	7.17 lb/gal (typical)
VOC (Weight %)	0.01 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Harmful if inhaled.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.

Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Harmful if inhaled.

Product	Species	Test Results
TriTek (CAS Mixture)		
Acute		
<i>Dermal</i>		
LC50	Rat	> 2000 mg/kg
LD50	Rabbit	2387.2046 mg/kg estimated
<i>Inhalation</i>		
LC50	Rat	> 2.06 mg/l, 4 hours No mortality
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

Components	Species	Test Results
Petroleum Oil, Paraffinic (CAS 64742-55-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 5.53 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
Not listed.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species		Test Results
TriTek (CAS Mixture)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	119.3602 mg/l, 48 hours estimated
Fish	LC50	Fish	119.3602 mg/l, 96 hours estimated

Components		Species	Test Results
Petroleum Oil, Paraffinic (CAS 64742-55-8)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	> 100 mg/l, 48 hours
Fish	LC50	Fish	> 100 mg/l, 96 hours
Poly(ethylene oxide) (CAS 25322-68-3)			
Aquatic			
Fish	LC50	Atlantic salmon (Salmo salar)	> 1000 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	Not available.
Mobility in soil	No data available.

Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
13. Disposal considerations	
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Registration Number:
48813-1

Hazard statement

CAUTION

Harmful if absorbed through skin.

Avoid contact with eyes, skin, or clothing.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

US state regulations**US. Massachusetts RTK - Substance List**

Petroleum Oil, Paraffinic (CAS 64742-55-8)

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Petroleum Oil, Paraffinic (CAS 64742-55-8)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-10-2013

Revision date 02-01-2016

Version # 26

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of Manufacturer's knowledge, information and belief at the date of its publication; however, it is provided only as a guidance for safe handling, use, processing, storage, transportation, disposal and release of the Product. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made with respect to the Product or the information provided herein, or that the Product or information herein may be used without infringing the intellectual property rights of others. The information provided in this Safety Data Sheet relates only to the specific Product designated and may not be valid if the Product is used in combination with other materials or in any other process, unless specified herein. The user assumes all risk and liability for loss, injury, damage or expense due to any use, handling, storage or disposal of the Product, and Manufacturer recommends that the user conducts its own tests of the Product to determine suitability of the Product for user's particular use.

Revision Information

Product and Company Identification: Product Registration Numbers
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data

NFPA HAZARD RATING**U.S. TRANSPORT SUMMARY**

0	Least		
1	Slight	1	Health
2	Moderate	0	Flammability
3	High	0	Reactivity
4	Severe		

Not regulated as a hazardous material for ground transport.
(See Section 14 for additional information)

SECTION 1: IDENTIFICATION

Product Name:	Turbulence®
EPA Registration #:	Exempt
Product ID/Unity #:	1433752
Common Name:	Agricultural adjuvant
Chemical Description:	Modified vegetable oil and surfactant blend
Recommended Uses:	Agricultural Adjuvant. See product label for complete list of recommended uses and use sites.
Restrictions for Use:	See product label for information regarding restrictions on the use of this product.
Manufactured For: WINFIELD SOLUTIONS, LLC P. O. Box 64589 St. Paul, MN 55164-0589	MEDICAL EMERGENCY TELEPHONE NUMBER: 1-877-424-7452 (24hrs) Non-Emergency Business Inquiries: 1-855-494-6343 Mon – Fri 8am – 5pm (Central Standard Time)

FOR EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL:
CHEMTREC 1-800-424-9300 (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Clear yellow liquid with a mild fatty odor. Causes eye and skin irritation. May cause irritation of the respiratory tract.

POTENTIAL HEALTH EFFECTS:

Eyes: Causes moderate but temporary irritation to the eyes.

Skin: Prolonged or repeated exposure may cause moderate skin irritation.

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Preexisting Conditions: Pre-existing respiratory conditions may be aggravated by exposure to mists.

Chronic Health Effects: None known.

Carcinogenicity	NTP: Not listed	IARC: Not listed	OSHA: Not listed

OSHA HCS 2012 CLASSIFICATION: Eye Irritant Category 2A; Skin Irritation Category 2; Specific Target Organ Toxicity – Single Exposure – Category 3

SIGNAL WORD: WARNING

HAZARD STATEMENTS:

Causes serious eye irritation.

Causes skin irritation.

May cause respiratory irritation.



Percent of product with unknown toxicity: 0%

PRECAUTIONARY STATEMENTS:

Prevention: Wash hands thoroughly after handling. Wear eye and face protection and protective gloves. Avoid breathing mist or spray. Use only outdoors in a well-ventilated area.

Continued on next page

Response:	If in eyes: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical attention. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison control center (1-877-424-7452) or doctor for treatment advice if you feel unwell.
Storage:	Store in a well-ventilated and locked place. Keep container tightly closed.
Disposal:	Dispose of contents/container in accordance with Federal, state and local regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	% (wt)	CAS Reg. #
Proprietary blend of Methyl Esters, Polyether modified Polysiloxane and Formulation Aids	100.0%	*
*Ingredients not specifically listed are non-hazardous and/or considered to be confidential business information under 29 CFR 1910.1200(i).		
See Section 8 for exposure limits.		

SECTION 4: FIRST AID MEASURES

Inhalation:	Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention or call a poison control center for treatment advice. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Ingestion:	Seek medical attention or call a poison control center immediately. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
Eyes:	Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.
Skin:	Remove contaminated clothing and wash before re-using them. Wash exposed skin with soap and water. Seek medical attention if skin becomes irritated.

SECTION 5: FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use water spray, alcohol foam, dry chemical, or carbon dioxide (CO ₂).
Unsuitable Extinguishing Media: Water jet.
Special Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Avoid breathing vapors; keep upwind.
Hazardous Combustion Products: Toxic gases such as carbon monoxide and other asphyxiates may form.
Unusual Fire and Explosion Hazards: Heat may build pressure and rupture closed containers, spreading fire and increasing the risk of injury.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.
Environmental Precautions: Keep spilled product from entering nearby sewers or waterways.
Methods for Containment: Contain spilled liquid by diking area with sand or earth.
Methods for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite or other appropriate material. Vacuum, scoop or sweep up material and place in a container for disposal. Do not place spilled material back in original container.
Other Information: No other information available.

SECTION 7: HANDLING AND STORAGE

Handling: Ensure adequate ventilation. Immediately clean up spills that occur during handling. Keep containers closed when not in use. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Storage: Store in a locked, cool, dry area away from children, feed and food products in an area away from incompatible substances. Protect packaging from physical damage. Protect from exposure to fire. Maintain product between 40°F and 120°F.

Minimum Storage Temperature: 40°F

Other Precautions: Consult Federal, state and local laws and regulations pertaining to storage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component:	OSHA PEL	ACGIH TLV	NIOSH REL
No components have exposure guidelines.			

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear an OSHA/NIOSH-approved respirator for organic vapors.

Engineering Controls: **Local Exhaust:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred.

Protective Gloves: Wear chemically protective gloves to prevent repeated exposure to the skin.

Eye Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. Contact lenses are not eye protective devices. An emergency eyewash or water supply should be readily accessible to the work area.

Other Protective Clothing or Equipment: Wear long-sleeve shirt, long pants and shoes plus socks to prevent prolonged or repeated skin contact.

Work/Hygienic Practices: Never eat, drink, nor use tobacco in work areas. Practice good hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Specific Gravity (H₂O=1):	0.917 (typical)
Vapor Pressure (mm Hg):	Not determined	Density (lbs/gallon):	7.65 lbs/gal (typical)
Vapor Density (Air=1):	Not determined	Melting Point/Freezing Point:	Not determined
Solubility in Water (wt %):	Dispersible	Boiling Point/Range:	Not determined
Viscosity:	Not determined	pH (5% Solution):	5.67
Appearance and odor:	Clear yellow liquid with a mild fatty odor	Flash Point:	>200°F

SECTION 10: STABILITY AND REACTIVITY

Reactivity: None known.

Chemical Stability: Product is stable at ambient temperature and pressure, under normal storage and handling.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Avoid heat and open flame. Keep material away from aluminum metal, oleum and nitroform.

Incompatible Materials: Strong oxidizing agents

Hazardous Decomposition Products: Toxic gases such as carbon monoxide and other asphyxiates may form.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Eye Effects:	Causes moderate but temporary irritation including redness, tearing, blurred vision and mild discomfort.
Skin Effects:	LD50 is not determined. May cause mild irritation to skin including defatting and dermatitis. Prolonged exposure may cause more severe irritation such as local redness and swelling.
Acute Inhalation Effects:	LC50 is not determined
Acute Oral Effects:	LD50 is not determined. Swallowing can cause severe abdominal irritation, nausea, vomiting, and diarrhea
Specific Target Organ Toxicity:	None known.

CHRONIC TOXICITY

Chronic Effects:	Not anticipated to have chronic health effects due to exposure.
Carcinogenicity:	None of the components of this product are known or suspected of having carcinogenic effects.
Mutagenicity:	None of the components of this product are known or suspected of having mutagenic effects.
Teratogenicity:	None of the components of this product are known or suspected of having teratogenic effects.
Reproductive Toxicity:	None of the components of this product are known or suspected of having effects on the reproductive system.

POTENTIAL HEALTH EFFECTS:

Eyes:	Causes moderate but temporary irritation to the eyes.
Skin:	Prolonged or repeated exposure may cause moderate skin irritation.
Inhalation:	May be harmful if inhaled.
Ingestion:	May be harmful if swallowed.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Not determined

ECOTOXICITY DATA:

Fish Acute and Prolonged Toxicity:	Not determined
Aquatic Invertebrate Acute Toxicity:	Not determined
Aquatic Plant Toxicity:	Not determined
Bird Acute and Prolonged Toxicity:	Not determined
Honeybee Toxicity:	Not determined

ENVIRONMENTAL EFFECTS:

Soil Absorption/Mobility:	Not determined
Persistence and degradability:	Not determined
Bioaccumulative Potential:	Not determined
Other adverse effects:	None known

SECTION 13: DISPOSAL CONSIDERATIONS

Waste: Dispose of in accordance with applicable Federal, state and local laws and regulations.
Container: Triple rinse and recycle the container or dispose of in accordance with Federal, state and local laws and regulations.
RCRA Characteristics: It is the responsibility of the individual disposing of this product to determine the RCRA classification and hazard status of the waste.

SECTION 14: TRANSPORT INFORMATION

DOT: (Ground)	Not regulated by the U.S. Department of Transportation as a hazardous material.
IMDG: (Sea)	Not determined
IATA: (Air)	Not determined
TDG: (Canada)	Not determined

SECTION 15: REGULATORY INFORMATION

TSCA Inventory: All components are listed on the TSCA inventory or are exempt from listing.

SARA Title III Information:

Section 302 - Extremely hazardous substances: None listed

Section 311/312 – Hazard Categories: None listed

Section 313 – The following chemicals are subject to the reporting requirements of Section 313 of Title III, Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:
None listed

CERCLA - This product contains the following chemicals which have a reportable quantity (RQ) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):

None listed

California Proposition 65: This product contains no chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

U.S. State Worker and Community Right-To-Know (RTK) Information (CT, IL, MA, MN, NH, NJ, PA, RI):

Chemical Name	CAS #	State(s)
None listed		

Canadian Domestic Substances List: Not determined

WHMIS Classification: This product is not approved for use in Canada. WHMIS classification is not determined.

Other Information: A maximum of 1 ppm Ethylene Oxide (CAS # 75-21-8) may be present in this product. The OSHA PEL and the ACGIH TLV for Ethylene Oxide are 1 ppm. Ethylene Oxide is a NTP, IARC, and OSHA carcinogen. Ethylene Oxide has also been determined to be a reproductive hazard. The trace levels of Ethylene Oxide in this product are not expected to result in acute or long-term hazards when handled according to the precautions set forth in this SDS. However, Ethylene Oxide may accumulate in the container headspace and be released into the ambient environment. It is the responsibility of the employer to comply with OSHA Ethylene Oxide standards (29 CFR 1910.1047).

SECTION 16: OTHER

Disclaimer: The information presented herein is based on available data from reliable sources and is correct to the best of WinField Solutions' knowledge. WinField Solutions, LLC makes no warranty, express nor implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

Revision Date: April 25, 2014

Supersedes document dated: December 10, 2009

Sections Revised: All

SAFETY DATA SHEET

DOW AGROSCIENCES LLC

Product name: VASTLAN™ Herbicide

Issue Date: 05/15/2020

Print Date: 05/15/2020

DOW AGROSCIENCES LLC encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container.

1. IDENTIFICATION

Product name: VASTLAN™ Herbicide

Recommended use of the chemical and restrictions on use

Identified uses: End use herbicide product

COMPANY IDENTIFICATION

DOW AGROSCIENCES LLC
9330 ZIONSVILLE RD
INDIANAPOLIS IN 46268-1053
UNITED STATES

Customer Information Number:

800-992-5994
customerinformation@corteva.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 800-992-5994

Local Emergency Contact: 352-323-3500

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity - Category 4 - Oral

Eye irritation - Category 2A

Skin sensitisation - Sub-category 1B

Label elements

Hazard pictograms



Signal word: **WARNING!**

Hazards

Harmful if swallowed.

May cause an allergic skin reaction.

Causes serious eye irritation.

Precautionary statements**Prevention**

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Wear eye protection/ face protection.

Wear protective gloves.

Response

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation or rash occurs: Get medical advice/ attention.

If eye irritation persists: Get medical advice/ attention.

Wash contaminated clothing before reuse.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Mixture

This product is a mixture.

Component	CASRN	Concentration
Triclopyr, Choline salt	1048373-85-8	54.72%
Glycerol	56-81-5	3.0%
Balance	Not available	42.28%

4. FIRST AID MEASURES

Description of first aid measures**General advice:**

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. Suitable emergency eye wash facility should be available in work area.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Do not use direct water

stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact the company for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Glycerol	OSHA Z-1	TWA mist, respirable fraction	5 mg/m ³
	OSHA Z-1	TWA mist, total dust	15 mg/m ³

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Liquid.
Color	Black
Odor	Characteristic
Odor Threshold	No data available
pH	7.0 <i>pH Electrode</i>
Melting point/range	Not applicable
Freezing point	No data available
Boiling point (760 mmHg)	No data available
Flash point	closed cup > 100 °C (> 212 °F) <i>Pensky-Martens Closed Cup ASTM D 93</i>

Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	No data available
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	No data available
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Liquid Density	1.235 g/ml at 20 °C (68 °F) <i>Digital density meter</i>
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Avoid contact with: Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

For similar material(s):

LD50, Rat, female, 1,000 mg/kg OECD Test Guideline 423

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

For similar material(s):

LD50 Dermal, Rat, male and female, > 5,000 mg/kg OECD Test Guideline 402 No deaths occurred at this concentration.

Acute inhalation toxicity

No adverse effects are anticipated from single exposure to mist. Based on the available data, respiratory irritation was not observed.

For similar material(s):

LC50, Rat, male and female, 4 Hour, dust/mist, > 5.85 mg/l OECD Test Guideline 403 No deaths occurred at this concentration.

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

May cause moderate eye irritation.

May cause slight corneal injury.

Sensitization

For similar material(s):

Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For similar active ingredient(s).

Triclopyr.

In animals, effects have been reported on the following organs:

Kidney.

Liver.

For the minor component(s):

Excessive exposure to glycerine may cause increased fat levels in blood.

Carcinogenicity

For similar active ingredient(s). Triclopyr. Did not cause cancer in laboratory animals.

Teratogenicity

For similar active ingredient(s). Triclopyr. Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive toxicity

For similar active ingredient(s). Triclopyr. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. For the minor component(s): Reproductive effects seen in female animals are believed to be due to altered nutritional states resulting from extremely high doses of glycerine given in the diet. Similar effects have been seen in animals fed synthetic diets.

Mutagenicity

For similar active ingredient(s). Triclopyr. In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Triclopyr, Choline salt

Acute toxicity to fish

For similar active ingredient(s).

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

For similar active ingredient(s).

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 117 mg/l

Acute toxicity to aquatic invertebrates

For similar active ingredient(s).

LC50, Daphnia magna (Water flea), 48 Hour, 133 mg/l

Acute toxicity to algae/aquatic plants

Based on information for a similar material:

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Biomass, 87.7 mg/l

Glycerol

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, >= 885 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), static test, 48 Hour, 1,955 mg/l, Method Not Specified.

Acute toxicity to algae/aquatic plants

EC50, Other, static test, 192 Hour, Growth inhibition (cell density reduction), 2,900 mg/l, Method Not Specified.

Toxicity to bacteria

EC50, activated sludge, 3 Hour, > 1,000 mg/l, OECD 209 Test

Balance

Acute toxicity to fish

No relevant data found.

Persistence and degradability

Triclopyr, Choline salt

Biodegradability: For similar active ingredient(s). Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

Glycerol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 63 %

Exposure time: 14 d

Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.22 mg/mg

Balance

Biodegradability: No relevant data found.

Bioaccumulative potential

Triclopyr, Choline salt

Bioaccumulation: For similar active ingredient(s). Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Glycerol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -1.76 at 20 °C Measured

Balance

Bioaccumulation: No relevant data found.

Mobility in soil

Triclopyr, Choline salt

For similar active ingredient(s).

Triclopyr.

Potential for mobility in soil is very high (Koc between 0 and 50).

Glycerol

Potential for mobility in soil is very high (Koc between 0 and 50).

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Partition coefficient (Koc): 1 Estimated.

Balance

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute toxicity (any route of exposure)
Respiratory or skin sensitisation
Serious eye damage or eye irritation

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Right To Know

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components

Glycerol

CASRN

56-81-5

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

United States TSCA Inventory (TSCA)

This product contains chemical substance(s) exempt from U.S. EPA TSCA Inventory requirements. It is regulated as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

Federal Insecticide, Fungicide and Rodenticide Act

EPA Registration Number: 62719-687

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING

May be fatal if swallowed.

Causes substantial but temporary eye injury

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

16. OTHER INFORMATION

Hazard Rating System

NFPA

Health	Flammability	Instability
1	1	0

Revision

Identification Number: 99037973 / A211 / Issue Date: 05/15/2020 / Version: 1.2

DAS Code: GF-3169

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

TWA	8-hour time weighted average

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

US

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : Xytect 10%, Xytect Injectable Insecticide
Product code : EPA Reg. No. 74779-11

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Insecticide

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Label elements

GHS Labeling Elements

Hazard pictograms (CLP) :  

Signal word : WARNING

Hazard statements : Heating may cause a fire
Causes mild skin irritation
Causes eye irritation
Suspected of damaging fertility or the unborn child

Precautionary statements (prevention) : Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from flames and hot surfaces – no smoking. Wash hands thoroughly after handling. Take off contaminated clothing and wash it before reuse.

Precautionary statements (response) : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Precautionary statements (disposal) : Dispose of contents and container in accordance with all local, regional, national and international regulations.



Xytect 10%

Safety Data Sheet

US and GHS

Revision date: June 1, 2015

Version: 1.0

SECTION 3: Composition/information on ingredients

Name	CAS No.	%/wt.
Imidacloprid*	138261-41-3	10.0
Other ingredients**	No CAS#	Trade Secret

*Active Ingredient

** Other ingredients, which are maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identity is withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document.

SECTION 4: First aid measures

4.1. Description of first aid measures

Have the product container, label, or SDS with you when calling a poison control center or doctor, or going in for treatment.

INGESTION

: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

SKIN CONTACT

: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice if irritation develops.

EYE CONTACT

: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice if irritation develops or persists.

INHALATION

: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN

: There is no specific antidote available. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water fog, carbon dioxide, dry chemical, or foam

5.2. Special hazards arising from the substance or mixture

Fire hazard : Toxic and irritating compounds may be released upon exposure to fire or intense heat

Reactivity : The product is stable at normal handling- and storage conditions, but may burn if heated. Flash point: 202.1°F
Read entire document.

5.3. Advice for firefighters

Firefighting instructions : Use self-contained breathing apparatus and full protective clothing. Use water spray (fog) to cool nearby containers and structures exposed to fire.



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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop spill at its source. Dike area and contain. If possible, collect liquid into salvage tank. Remaining residue may be taken up with inert absorbent material and placed into appropriate containers for disposal. Evaporate until all vapors are gone. Dispose of in accordance with all State and Federal regulations.

6.1.1. For non-emergency personnel

Protective equipment : See Section 8. Exposure Controls/Personal Protection

Emergency procedures : Avoid contact with spilled material

6.1.2. For emergency responders

Protective equipment : Wear appropriate personal protective equipment (PPE): Eye and face protection, coveralls, gloves, boots.

6.2. Environmental precautions

Product is highly toxic to aquatic invertebrates. Prevent material from entering sewers, waterways, or low areas. Do not allow material to contaminate water systems.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Ventilate air. Cleanup personnel require protective clothing and respiratory protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands thoroughly with soap and water after handling. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in an upright position, above 45° F, in a cool, dry place. Do not contaminate water, food, feed by storage or disposal.

SECTION 8: Exposure controls/personal protection

8.1. Personal protective equipment

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: Wear compatible chemical resistant gloves (such as barrier laminate; butyl rubber ≥14 mils; nitrile rubber ≥14 mils; or neoprene rubber ≥14 mils). Wear long sleeved shirt and long pants, shoes plus socks.

Respiratory Protection: Not normally needed. If vapors or mists are present, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use



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and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

8.2. Exposure controls

Exposure limits have not been established for the active ingredients in this product. Other ingredient exposure limits are listed below, where applicable:

Other Ingredient

AIAH – Workplace Environmental Exposure Levels (WEELs – TWA) – 0.5 ppm

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Clear yellow
Odor	: Fruity fragrance
Odor threshold	: No data available
pH (1%)	: 4.65
Flash point	: 202.1°F (94.5°C)
Flammability Limit (UEL)	: 1.5
Flammability Limit (LEL)	: 9.7
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 352°F (178°C)
Vapor Pressure	: 0.2 mmHg @ 68°F (20°C)
Vapor Density	: 2.7 (air = 1)
Specific Gravity	: 1.1102 g/ml @ 22°C
Density	: 1.107 g/ml
Evaporation rate	: Slow (< 0.01)
Solubility in Water	: Limited

9.2. Other information

Product may form white crystals when mixed with water.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling and storage conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat, sparks, or open flame



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10.5. Incompatible materials

Oxidizing materials

10.6. Hazardous decomposition products

Combustion produces carbon monoxide, carbon dioxide and sulfur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity data for XYTECT 10% are provided below:

Xytect 10%	
Oral - LD ₅₀ (male and female rat)	>2000 mg/kg
Dermal - LD ₅₀ (male and female rat)	>2000 mg/kg

Irritation : Skin – Slight irritant (rabbit). Eye – Mild irritant (rabbit)

Sensitization : No data available

Chronic/sub-chronic toxicity data for XYTECT 10% is not available. Data for active ingredient and other components are provided below:

Imidacloprid	
Carcinogenicity	: Imidacloprid is not listed as a carcinogen by IARC, NTP, OSHA or ACGIH.
Reproductive & Developmental toxicity	: No reproductive or teratogenic (birth defect) effects at normal exposure levels.
Mutagenicity	: Little or no evidence of mutagenic effects during in vivo or in vitro studies.

Other ingredients	
Carcinogenicity	: Not listed as a carcinogen by IARC, NTP, OSHA or ACGIH.
Reproductive & Developmental toxicity	: Suspected of damaging fertility or the unborn child.
Mutagenicity	: No data available
Other (acute or chronic)	: INGESTION: irritating to mouth, throat, and stomach

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological Summary

XYTECT 10% is highly toxic to aquatic organisms and bees. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Ecotoxicity data

Ecotoxicity data are not available for XYTECT 10%. Active ingredient data are given below:



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Imidacloprid Technical	
Fish (Rainbow Trout 96 hr.)	LC50: 211 mg/L
Fish (Bluegill 96 hr.)	LC50: unknown
Acute toxicity to Mallard ducks	Oral LC50: 4700 ppm
Acute toxicity to Bobwhite quail	Oral LC50: 1500 ppm
Acute toxicity to Honey bee	Contact LD50: Highly toxic!

Refer to product label for specific directions on pollinator protection.

12.2. Persistence and degradability

FATE : Imidacloprid has a soil half-life of 29-225 days depending on soil type conditions. It is soluble in water and has the potential to leach in permeable soil types.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Pesticide Disposal: Applicators must dispose of any unused product as the label indicates. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Do not reuse original product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

SECTION 14: Transport information

Not Regulated by US DOT for ground shipment

Ground transport

Not Regulated by US DOT

Transport by sea (IMDG)

Not regulated

Air transport (IATA)

Not regulated

SECTION 15: Regulatory information

FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word

: CAUTION

Hazard statements

: Harmful if swallowed or absorbed through skin. Causes eye irritation.



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Precautionary statements

: Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

SARA Title III Status:

311/312 Hazard Categories

: Immediate Health Hazard

313 Toxic Chemicals

: None known

Other U.S. Federal Regulations

OSHA: This product is considered hazardous under the criteria of the OSHA Hazard Communication Standard 29 CFR Part 1910.1200.

TSCA: This product is exempt from TSCA regulation under FIFRA Section 3 (2) (B) (ii) when used as a pesticide.

CERCLA/DOT Reportable Quantities (RQ): Not applicable.

SECTION 16: Other information

NFPA HAZARD RATING	HEALTH	1
	FLAMMABILITY	1
	REACTIVITY	1
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

MSDS US

Disclaimer: The information provided by Rainbow Treecare Scientific Advancements. contained herein is given in good faith and correct to the best of our knowledge. However, the information given is designed only as guidance for safe handling, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.

REVISION: June 2015

REASON: GHS Compliance



SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : XYTECT 2F
Chemical name : Imidacloprid
Product code : EPA Reg. No. 42750-115-74779

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/preparation : Insecticide

1.2.2. Uses advised against

No data available

1.3. Details of the supplier of the safety data sheet

Rainbow Treecare Scientific Advancements
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.treecarescience.com

1.4. Emergency telephone number

Emergency number : (800)-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

Hazard Identification Summary

Off-white viscous liquid

GHS Labeling Elements

Hazard pictograms (CLP)



GHS07

Signal word : WARNING

Hazard statements : May be harmful if swallowed or absorbed through skin.
Mildly irritating to the eyes and skin.
Can decompose at high temperatures releasing toxic gases.
Highly toxic to bees, birds and aquatic invertebrates.
Keep out of waterways.

SECTION 3: Composition/information on ingredients

Name	Product identifier	%/wt.
Imidacloprid	(CAS No.) 138261-41-3	21.4
Other Ingredients	NA	78.6



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SECTION 4: First aid measures

4.1. Description of first aid measures

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

- IF SWALLOWED** : Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person
- IF IN EYES** : Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice.
- IF ON SKIN OR CLOTHING** : Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- IF INHALED** : Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for treatment advice.
- First-aid measures – general : Have a product container or label with you when calling a poison control center or doctor, or going in for treatment.
- NOTE TO PHYSICIAN: There is no specific antidote, treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use foam, dry chemical, or water spray
- Unsuitable extinguishing media : High volume water jet. (Water contamination risk from runoff)

5.2. Special hazards arising from the substance or mixture

National Fire Protection Rating (NFPA)

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0
4 = Severe 3 = Serious 2 = Moderate 1 = Slight 0 = Minimal	

- FLASHPOINT** : >200°F / >100°C
- FIRE AND EXPLOSION HAZARD** : Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

5.3. Advice for firefighters

- Firefighting instructions : Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff. Minimize use of water to prevent environmental contamination.
- Firefighting equipment : Self-contained breathing apparatus with full face piece.



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Control the spill at its source. Contain the spill to prevent it from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Keep unnecessary and unprotected personnel from entering the affected area.

6.2. Environmental precautions

This material should be prevented from contaminating soil or entering sewage and drainage systems and bodies of water. Minimize use of water for cleaning spills to prevent environmental contamination.

6.3. Methods and material for containment and cleaning up

SMALL SPILL : Absorb small spills on sand, vermiculite or other inert absorbent. Place contaminated material in appropriate container for disposal.

LARGE SPILL : Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse. Allow the absorbed material to solidify, and scrape up for disposal. After removal, clean the contaminated area thoroughly with water. Pick up wash liquid with additional absorbent and place in a disposable container.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

KEEP OUT OF REACH OF CHILDREN!

Precautions for safe handling : Use only in a well-ventilated area. Minimize dust generation and accumulation.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Keep away from food, feed, and drinking water. Store in a well-ventilated dry place away from heat. Store above 32 °F.

Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate.

SECTION 8: Exposure controls/personal protection

8.1. Personal protective equipment

EYE PROTECTION—Safety goggles or glasses with side shields.

CLOTHING—Long-sleeved shirt and long pants, chemical-resistant footwear plus socks.

GLOVES—Chemical-resistant gloves, such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride (PVC), Viton

RESPIRATOR—Not required when handled under normal conditions. When handling in enclosed areas with inadequate ventilation, use a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C).

Discard clothing and other absorbent materials that have been heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.



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USER SAFETY RECOMMENDATIONS:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
3. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

8.2. Exposure controls

EXPOSURE LIMITS (8 hour TWA, ppm):

COMPONENT	OSHA PEL	ACIGH TLV
Imidacloprid	Not listed	Not listed

Engineering controls : Proper ventilation is required when handling or using this product. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Off-white
Odor	: Weak paint, solvent character
pH (1%)	: 6.0 – 8.0
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: Not applicable
Boiling point	: No data available
Flash point	: >100 °C (>212 °F)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non-flammable
Vapor pressure	: 5.2×10^{-6} Pa at 25 °C (Imidacloprid)
Density	: 1.06 – 1.09 g/mL (8.85 – 9.10 lb/gal)*
Solubility	: No data available
Partition Coefficient	: Log Pow = 0.57 at 25 °C (Imidacloprid)
Viscosity	: 104 mPa/s at 20 °C; 134 mPa/s at 40 °C
Explosive properties	: Not explosive
Oxidizing properties	: No oxidizing properties
Explosive limits	: Not applicable

*Listed density is an approximate value and does not necessarily represent that of a specific batch



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SECTION 10: Stability and reactivity

10.1. Reactivity

Non-reactive

10.2. Chemical stability

Stable under normal conditions, however may decompose if heated.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Protect from heat and avoid exposure to temperatures above 100 °F (38 °C) for prolonged periods of time. A strong exothermal reaction can occur above 390 °F (200 °C).

10.5. Incompatible materials

None known

10.6. Hazardous decomposition products

Hydrogen cyanide, Hydrogen chloride, Carbon monoxide, Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity data for XYTECT 2F are provided below:

XYTECT 2F	
LD50 oral rat	>2500 mg/kg
LD50 dermal rat	>2000 mg/kg
LC50 inhalation rat	>2.27 mg/L
Eye irritation rabbit	Mild
Skin irritation rabbit	Mild
Sensitization guinea pig	Non-sensitizer

Imidacloprid

Carcinogenicity	: Imidacloprid is not listed as a carcinogen by IARC, NTP, OSHA or ACGIH.
Teratogenicity	: No reproductive or teratogenic (birth defect) effects at normal exposure levels.
Mutagenicity	: Little or no evidence of mutagenic effects have been observed from in vivo or in vitro studies.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological Summary

This product is highly toxic to birds and aquatic invertebrates. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Cover or incorporate spilled treated seeds.



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This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Ecotoxicity data

Ecotoxicity data are not available for XYTECT 2F. Active ingredient data are given below:

Imidacloprid	
Fish (Rainbow Trout 96 hr.)	LC50: 211 mg/L
Fish (Bluegill 96 hr.)	LC50: unknown
Acute toxicity to Mallard ducks	Oral LC50: 4700 ppm
Acute toxicity to Bobwhite quail	Oral LC50: 1500 ppm
Acute toxicity to Honey bee	Contact LD50: Highly toxic!

Refer to product label for specific directions on pollinator protection.

12.2. Persistence and degradability

FATE : Imidacloprid has a soil half-life of 29-225 days depending on soil type conditions. It is soluble in water and has the potential to leach in permeable soil types.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Do not contaminate water, food, or feed by storage or disposal.

Waste: Pesticide wastes are toxic. Dispose of in accordance with applicable Federal, state and local laws and regulations.

Container Disposal: Non-refillable containers: Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Refillable container: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Refer to the container label to determine if it is refillable and for complete cleaning and disposal instructions.

SECTION 14: Transport information

SHIPPING DESCRIPTION : Not regulated by DOT for ground transport

TRANSPORT HAZARD CLASS : N/A

UN NUMBER : N/A

DOT PACKING GROUP : N/A

SECTION 15: Regulatory information

FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and



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hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word : CAUTION
Hazard statements : Harmful if swallowed or absorbed through skin. Causes mild skin and eye irritation.
Precautionary statements : Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

CERCLA REPORTABLE QUANTITY : Not listed

SARA TITLE III STATUS

311/312 Hazard Categories : Immediate Health Hazard

313 Toxic Chemicals : None known

CALIFORNIA PROP 65 : Not listed

TSCA : This product is exempted from TSCA because it is solely for FIFRA regulated use

SECTION 16: Other information

HMIS HAZARD RATING	HEALTH	1
	FLAMMABILITY	1
	PHYSICAL HAZARD	1
	4=Severe 3=Serious 2=Moderate 1=Slight 0=Minimal	

MSDS US

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This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling.

It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

REVISED DATE: October, 2014

REFERENCE: Revised for GHS compliance