



Horticultural Oil

Safety Data Sheet

US and GHS

Revision date: August 27, 2024

Version: 1.0

SECTION 1: Product and Company Identification

1.1. Product identifier

Trade name : 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 DBA Rainbow Ecoscience
11571 K-Tel Drive
Minnetonka, MN 55343
Phone: 1-(877) 272-6747 (toll free)
www.rainbowecoscience.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 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

Horticultural Oil

Safety Data Sheet

US and GHS

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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.

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.



Horticultural Oil

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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.

Skin 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.

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

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.
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.

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 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. 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



Horticultural Oil

Safety Data Sheet

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follows: Empty the remaining contents into application equipment of 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 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	

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



Horticultural Oil

Safety Data Sheet

US and GHS

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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 known 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.

SECTION 16: Other information

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, Horticultural Oil, the weight percent of DMSO-extractable material is less than 3%.

SDS US

Disclaimer: The information provided by Rainbow Ecoscience, 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.

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Reason: Initial SDS



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