

SAFETY DATA SHEET



ENGINE BREAK-IN OIL

Section 1. Identification

GHS product identifier : ENGINE BREAK-IN OIL
Product code : 301439175115
Other means of identification : Not available.
Product type : Liquid.

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

Identified uses	
Lubricating Oil	
Uses advised against	Reason
None known.	

Supplier's details : Calumet Branded Products, LLC
2780 Waterfront Pkwy E. Drive Suite 200
Indianapolis, IN 46214
USA
Technical Services:317-328-5660

Emergency telephone number : 24 hr. CHEMTREC 1-800-424-9300 / International 1-703-527-3887

Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : **A**QUATIC HAZARD (ACUTE) - Category 3
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Signal word : No signal word.
Hazard statements : Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention : Avoid release to the environment.
Response : Not applicable.
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.

Ingredient name	%	CAS number
Distillates (petroleum), hydrotreated heavy paraffinic	≥75 - ≤90	64742-54-7
Distillates (petroleum), hydrotreated heavy paraffinic	≥25 - ≤39	64742-54-7
Distillates (petroleum), solvent-dewaxed heavy paraffinic	≥10 - ≤22	64742-65-0
Distillates (petroleum), solvent-dewaxed light paraffinic	≤13	64742-56-9
Distillates (petroleum), hydrotreated light paraffinic	≤10	64742-55-8
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate	≤3	125643-61-0
Paraffin oils (petroleum), catalytic dewaxed heavy	≤2.2	64742-70-7
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts	≤2.2	113706-15-3
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	≤3	9003-29-6
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts	≤1.7	84605-29-8
2,6-di-tert-butylphenol	≤0.3	128-39-2
Phenol, dodecyl-, branched	≤0.083	121158-58-5

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 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. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.

Section 4. First aid measures

- 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.
Specific treatments : No specific treatment.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
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. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
sulfur oxides
phosphorus oxides
metal oxide/oxides

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.

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. 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). Water polluting material. May be harmful to the environment if released in large quantities.

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.

Section 6. Accidental release measures

- 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. Avoid release to the environment. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	<p>ACGIH TLV (United States, 1/2023). [Mineral Oil, pure, highly and severely refined] TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction</p> <p>OSHA PEL (United States, 5/2018). [Oil mist, mineral] TWA: 5 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 10/2020). [OIL MIST MINERAL] TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist</p>
Distillates (petroleum), hydrotreated heavy paraffinic	<p>ACGIH TLV (United States, 1/2023). [Mineral Oil, pure, highly and severely refined] TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction</p> <p>OSHA PEL (United States, 5/2018). [Oil mist, mineral] TWA: 5 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 10/2020). [OIL MIST MINERAL] TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist</p>
Distillates (petroleum), solvent-dewaxed heavy paraffinic	<p>ACGIH TLV (United States, 1/2023).</p>

Section 8. Exposure controls/personal protection

Distillates (petroleum), solvent-dewaxed light paraffinic	<p>[Mineral Oil, pure, highly and severely refined] TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction OSHA PEL (United States, 5/2018). [Oil mist, mineral] TWA: 5 mg/m³ 8 hours. NIOSH REL (United States, 10/2020). [OIL MIST MINERAL] TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist ACGIH TLV (United States, 1/2023).</p>
Distillates (petroleum), hydrotreated light paraffinic	<p>[Mineral Oil, pure, highly and severely refined] TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction OSHA PEL (United States, 5/2018). [Oil mist, mineral] TWA: 5 mg/m³ 8 hours. NIOSH REL (United States, 10/2020). [OIL MIST MINERAL] TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist ACGIH TLV (United States, 1/2023).</p>
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate Paraffin oils (petroleum), catalytic dewaxed heavy	<p>[Mineral Oil, pure, highly and severely refined] TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction OSHA PEL (United States, 5/2018). [Oil mist, mineral] TWA: 5 mg/m³ 8 hours. NIOSH REL (United States, 10/2020). [OIL MIST MINERAL] TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist None.</p>
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene) Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts 2,6-di-tert-butylphenol Phenol, dodecyl-, branched	<p>ACGIH TLV (United States, 1/2023). [Mineral Oil, pure, highly and severely refined] TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction OSHA PEL (United States, 5/2018). [Oil mist, mineral] TWA: 5 mg/m³ 8 hours. NIOSH REL (United States, 10/2020). [OIL MIST MINERAL] TWA: 5 mg/m³ 10 hours. Form: Mist STEL: 10 mg/m³ 15 minutes. Form: Mist None.</p>
None	None.

[Biological exposure indices](#)

No exposure indices known.

Section 8. Exposure controls/personal protection

- 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: safety glasses with side-shields.
- 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.
- 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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid.
- Color** : Purple. [Dark]
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Open cup: 215.56°C (420°F) [Cleveland]
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** :

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	5.10043	0.68		13.05111	1.7	

Relative vapor density : Not available.

Relative density : 0.8738

Solubility(ies) :

Media	Result
cold water	Not soluble
hot water	Not soluble

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	215	419	EU A.15

Decomposition temperature : Not available.

Viscosity : Kinematic (40°C (104°F)): 69.88 mm²/s (69.88 cSt)

Flow time (ISO 2431) : Not available.

Pour point : -47°C (-52.6°F)

Particle characteristics

Median particle size : Not applicable.

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.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

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
Distillates (petroleum), hydrotreated heavy paraffinic	LC50 Inhalation Dusts and mists	Rat	5.7 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
Distillates (petroleum), hydrotreated heavy paraffinic	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	5.7 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

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Distillates (petroleum), solvent-dewaxed heavy paraffinic	LC50 Inhalation Dusts and mists	Rat	>5.53 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
Distillates (petroleum), solvent-dewaxed light paraffinic	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
Distillates (petroleum), hydrotreated light paraffinic	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Paraffin oils (petroleum), catalytic dewaxed heavy	LC50 Inhalation Dusts and mists	Rat	>5.53 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isoocetyl) esters, zinc salts	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
Butene, homopolymer (products derived from either/ or But-1-ene/But-2-ene)	LC50 Inhalation Vapor	Rat - Male	>1 mg/l	4 hours
	LD50 Dermal	Rabbit - Male, Female	>3160 mg/kg	-
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	LD50 Oral	Rat	2600 mg/kg	-
	LD50 Dermal	Rabbit	>10250 mg/kg	-
2,6-di-tert-butylphenol	LD50 Oral	Rat	>34600 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat - Male, Female	>2.3 mg/l	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	3.2 g/kg	-
	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Oral	Rat	1320 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isoocetyl) esters, zinc salts	Eyes - Severe irritant	Rabbit	-	504 hours	-
	Skin - Irritant	Guinea pig	-	4 hours	-
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Irritant	Rat	-	-	-
2,6-di-tert-butylphenol	Skin - Moderate irritant	Rat	-	0.5 MI	-

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isoocetyl) esters, zinc salts	skin	Guinea pig	Not sensitizing

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

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Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isoocetyl) esters, zinc salts	-	-	-	Rat - Male, Female	Oral	-

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Name	Result
Distillates (petroleum), hydrotreated heavy paraffinic	ASPIRATION HAZARD - Category 1
Distillates (petroleum), solvent-dewaxed light paraffinic	ASPIRATION HAZARD - Category 1
Distillates (petroleum), hydrotreated light paraffinic	ASPIRATION HAZARD - Category 1
Butene, homopolymer (products derived from either/or But-1-ene/But-2-ene)	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
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.
Reproductive toxicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
ENGINE BREAK-IN OIL	143778.5	2626.2	N/A	N/A	171.1
Distillates (petroleum), hydrotreated heavy paraffinic	N/A	2500	N/A	N/A	5.7
Distillates (petroleum), hydrotreated heavy paraffinic	N/A	2500	N/A	N/A	5.7
Distillates (petroleum), solvent-dewaxed heavy paraffinic	N/A	2500	N/A	N/A	N/A
Distillates (petroleum), solvent-dewaxed light paraffinic	N/A	2500	N/A	N/A	N/A
Distillates (petroleum), hydrotreated light paraffinic	N/A	2500	N/A	N/A	N/A
Paraffin oils (petroleum), catalytic dewaxed heavy	N/A	2500	N/A	N/A	N/A
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts	2600	2500	N/A	N/A	N/A
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	3200	2500	N/A	N/A	1.5
2,6-di-tert-butylphenol	1320	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Distillates (petroleum), hydrotreated heavy paraffinic	Acute EC50 >100 mg/l	Daphnia	48 hours
	Acute IC50 >100 mg/l	Algae	72 hours
	Acute LC50 >100 mg/l	Fish	96 hours
Distillates (petroleum), hydrotreated heavy paraffinic	Acute EC50 >100 mg/l	Algae	72 hours
	Acute EC50 >100 mg/l	Daphnia	48 hours
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Acute LC50 >100 mg/l	Fish	96 hours
	Chronic NOEL >1 mg/l	Daphnia	21 days
	Acute EC50 >100 mg/l	Algae	72 hours
	Acute EC50 >100 mg/l	Daphnia	48 hours
Distillates (petroleum), solvent-dewaxed light paraffinic	Acute LC50 >100 mg/l	Fish	96 hours
	Chronic NOEL >1 mg/l	Daphnia	21 days
	Acute LC50 4.5 mg/l	Fish	96 hours
Distillates (petroleum), hydrotreated light paraffinic	Acute EC50 >100 mg/l	Algae	72 hours
	Acute EC50 >100 mg/l	Daphnia	48 hours
	Acute LC50 >100 mg/l	Fish	96 hours
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts	LC50 4.5 mg/l	Fish	96 hours
	Acute EC50 >1000 mg/l	Daphnia	48 hours
Butene, homopolymer (products derived from either/ or But-1-ene/But-2-ene)	Acute LC50 >1000 mg/l	Fish	96 hours
	Acute LC50 10 to 100 mg/l	Fish	96 hours
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	Acute LC50 >1000 mg/l	Fish	96 hours
	Acute NOEC 1.8 mg/l	Fish	4 days

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Phenol, dodecyl-, branched	Chronic NOEC <1 mg/l	Daphnia	21 days
	EC50 0.037 mg/l	Daphnia	2 days
	LC50 40 mg/l	Fish	4 days
	NOEC 0.0037 mg/l	Daphnia	21 days

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	1.5 % - Not readily - 28 days	-	-
	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	1.5 % - Not readily - 28 days	-	-
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	-	1.5 % - Not readily - 28 days	-	-
Phenol, dodecyl-, branched	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	1.5 % - 28 days	-	-
	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	56 % - Not readily - 10 days 25 % - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Distillates (petroleum), hydrotreated heavy paraffinic	-	-	Not readily
Distillates (petroleum), hydrotreated heavy paraffinic	-	-	Inherent
Distillates (petroleum), hydrotreated light paraffinic	-	-	Inherent
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts	-	-	Not readily
Butene, homopolymer (products derived from either/ or But-1-ene/But-2-ene)	-	-	Not readily
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	-	-	Not readily
Phenol, dodecyl-, branched	-	-	Not readily

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
Distillates (petroleum), hydrotreated heavy paraffinic	>6	-	High
Distillates (petroleum), hydrotreated heavy paraffinic	>6	-	High
Distillates (petroleum), solvent-dewaxed heavy paraffinic	2 to 6	-	High
Distillates (petroleum), hydrotreated light paraffinic	>6	-	High
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	9.2	260	Low
Butene, homopolymer (products derived from either/ or But-1-ene/But-2-ene)	7.6 to 7.8	314 to 1882	High
Phosphorodithioic acid, mixed O,O-bis (1,3-dimethylbutyl and iso-Pr) esters, zinc salts	0.56	-	Low
2,6-di-tert-butylphenol	4.5	-	High
Phenol, dodecyl-, branched	6.1	1601	High

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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.

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 IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) PAIR**: naphthalene
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
 Clean Water Act (CWA) 307: Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts; Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts; zinc O,O,O',O'-tetrakis(1,3-dimethylbutyl) bis (phosphorodithioate)

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 : Not applicable.

Composition/information on ingredients

Name	%	Classification
<input checked="" type="checkbox"/> Distillates (petroleum), hydrotreated heavy paraffinic	≥25 - ≤39	ASPIRATION HAZARD - Category 1
Distillates (petroleum), solvent-dewaxed light paraffinic	≤13	ASPIRATION HAZARD - Category 1
Distillates (petroleum), hydrotreated light paraffinic	≤10	ASPIRATION HAZARD - Category 1
Phosphorodithioic acid, mixed O, O-bis(sec-Bu and isooctyl) esters, zinc salts	≤2.2	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A
Butene, homopolymer (products derived from either/or But-1-ene/ But-2-ene)	≤3	ASPIRATION HAZARD - Category 1
Phosphorodithioic acid, mixed O, O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts	≤1.7	ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	<input checked="" type="checkbox"/> Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts	113706-15-3	≤2.2
	Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts	84605-29-8	≤1.7
Supplier notification	<input checked="" type="checkbox"/> Phosphorodithioic acid, mixed O,O-bis(sec-Bu and isooctyl) esters, zinc salts	113706-15-3	≤2.2
	Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts	84605-29-8	≤1.7

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

Section 15. Regulatory information

- Massachusetts** : The following components are listed: OIL MIST, MINERAL
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: ZINC compounds; ZINC compounds
- Pennsylvania** : The following components are listed: ZINC COMPOUNDS; ZINC COMPOUNDS
- California Prop. 65**

This product is not known to contain California Prop 65 substances ≥ 1 ppm

International lists

National inventory

- Australia** : All components are listed or exempted.
- Canada** : All components are listed or exempted.
- China** : At least one component is not listed.
- Eurasian Economic Union** : **Russian Federation inventory**: Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : All components are listed or exempted.
- Republic of Korea** : All components are listed, exempted, or notified.
- Taiwan** : Not determined.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : All components are active or exempted.
- Viet Nam** : Not determined.

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

Classification	Justification
AQUATIC HAZARD (ACUTE) - Category 3	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method

History

- Date of issue/Date of revision** : 02/13/2024
- Date of previous issue** : 07/31/2023
- Version** : 9

Section 16. Other information

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)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

▣ 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.