

Safety Data Sheet

According to regulations in the United Kingdom of Great Britain & Northern Ireland



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

1.1. Product identifier

Substance name:

Other means of identification:

Red Line® High Performance Motor Oil

Red Line® SAE 0W16 High Performance Motor Oil
Red Line® SAE 0W20 High Performance Motor Oil
Red Line® SAE 0W30 High Performance Motor Oil
Red Line® SAE 0W40 High Performance Motor Oil
Red Line® SAE 5W20 High Performance Motor Oil
Red Line® SAE 5W30 High Performance Motor Oil
Red Line® SAE 5W40 High Performance Motor Oil
Red Line® SAE 5W50 High Performance Motor Oil
Red Line® SAE 10W30 High Performance Motor Oil
Red Line® SAE 10W40 High Performance Motor Oil
Red Line® SAE 10W50 High Performance Motor Oil
Red Line® SAE 10W60 High Performance Motor Oil
Red Line® SAE 15W50 High Performance Motor Oil
Red Line® SAE 20W50 High Performance Motor Oil

Code:

UK REACH Registration Number:

Issue date:

828863

Not applicable

23-Jan-2025

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

Relevant identified uses:

Uses advised against:

Engine Oil

Other uses are not recommended unless an assessment demonstrates potential exposures will be controlled.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Technical Information:

SDS Information:

Red Line Synthetic Oil

P.O. Box 421959

Houston, TX 77242

1-707-745-6100

URL: www.Phillips66.com/SDS

Phone: 800-762-0942

Email: SDS@P66.com

CHEMTREC Global +1 703 527 3887

CHEMTREC UK +(44)-870-8200418

1.4. Emergency telephone number

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

No classified hazards

2.2. Label elements

No classified hazards

P101 - If medical advice is needed, have product container or label at hand

P102 - Keep out of reach of children

EUH208 - Contains (Phenol, C14-18-alkyl derivatives; Reaction products of boric acid with 2-propylheptan-1-ol (1:3)). May produce an allergic reaction.

2.3. Other hazards

Does not meet the criteria for persistent, bioaccumulative and toxic (PBT) or very persistent, very bioaccumulative (vPvB) substances.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Substance	Concentration ¹	EINECS	REACH Reg. No
1-Decene, homopolymer, hydrogenated 68037-01-4	<35	500-183-1	---
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-47-8	<14.9	926-141-6	---
Dec-1-ene, trimers, hydrogenated 157707-86-3	<4.99	500-393-3	---
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters 125643-61-0	<4.99	406-040-9	---
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts 84605-29-8	<2.49	283-392-8	---
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)- 2215-35-2	<2.49	218-679-9	---
Phenol, C14-18-alkyl derivatives 1190625-94-5	<0.24	931-468-2	---
Reaction products of boric acid with 2-propylheptan-1-ol (1:3) NONE	<0.24	806-750-2	---

Substance	Classification ²	M-Factor/ATE/SCL
1-Decene, homopolymer, hydrogenated 68037-01-4	Asp. Tox. 1, H304	---
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics 64742-47-8	Asp. Tox. 1, H304	---
Dec-1-ene, trimers, hydrogenated 157707-86-3	Asp. Tox. 1, H304	---
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters 125643-61-0	Aquatic Chronic 4, H413	---
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts 84605-29-8	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411	Skin Irrit. 2; H315: C>6.25% Eye Dam. 1; H318: C>12.5% Eye Irrit. 2; H319: C=10-12.5%
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)- 2215-35-2	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411	Eye Dam. 1; H318: C>20% Eye Irrit. 2, H319: 15%<=C<20% Skin Irrit. 2; H315: C>=15%
Phenol, C14-18-alkyl derivatives 1190625-94-5	Skin Sens. 1B, H317 STOT RE 2, H373	---
Reaction products of boric acid with 2-propylheptan-1-ol (1:3) NONE	Skin Sens. 1B, H317	Skin Sens 1B, H317: C>72%

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
See Section 11 for more information.

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

Inhalation: First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. Seek immediate medical attention.

Ingestion: First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

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

While significant vapour concentrations are not likely, high concentrations can cause minor respiratory irritation, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Ingestion can cause irritation of the digestive tract, nausea, diarrhea, and vomiting. Prolonged or repeated contact may dry skin and cause irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F / 100°C. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulphur, nitrogen or phosphorus may also be formed.

5.3. Special protective actions for fire-fighters

For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapours and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorised personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

6.2. Environmental precautions

Stop and contain spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorised drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

6.3. Methods and material for containment and cleaning up

Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken. See Section 13 for information on appropriate disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep away from flames and hot surfaces. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Spills will produce very slippery surfaces. Do not wear contaminated clothing or shoes. Do not enter confined spaces such as tanks or pits without following proper entry procedures.

Used motor oils have been shown to cause skin cancer in mice after repeated application to the skin without washing. Brief or intermittent skin contact with used motor oil is not expected to cause harm if the oil is thoroughly removed by washing with soap and water.

7.2. Conditions for safe storage, including any incompatibilities

Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to appropriate guidance pertaining to cleaning, repairing, welding, or other contemplated operations. Outdoor or detached storage is preferred. Indoor storage should meet Country or Committee standards and appropriate fire codes.

7.3. Specific end use(s)

Refer to supplemental exposure scenarios if attached.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits: None

Biological Limit Values: None

Relevant DNEL and PNEC: No information available

8.2. Exposure controls

Engineering controls: General ventilation should be adequate for normal conditions of intended use. Additional engineering controls may be necessary if working with the product in enclosed areas and/or at elevated temperatures.

Eye/Face Protection: The use of eye protection that meets or exceeds EN 166 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, close fitting eye protection and a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled that comply with EN 374 is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile rubber.

Respiratory Protection: Respiratory protection is not normally required under intended conditions of use. Emergencies or conditions that could result in significant airborne exposures may require the use of approved respiratory protection. An industrial hygienist or other appropriate health and safety professional should be consulted for specific guidance under these situations. A respiratory protection programme that follows recommendations for the selection, use, care and maintenance of respiratory protective devices in EN 529:2005 should be followed whenever workplace conditions warrant a respirator's use.

Environmental Exposure Controls: Refer to Sections 6, 7, 12 and 13.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Data represent typical values and are not intended to be specifications. N/A = Not Applicable; N/D = Not Determined

Physical State:	Liquid
Colour:	Brown, Transparent
Odour:	Slight hydrocarbon
Melting / freezing point:	N/D
Initial boiling point and boiling range:	N/D
Flammability (solid, gas):	N/A
Upper Explosive Limits (vol % in air):	N/D
Lower Explosive Limits (vol % in air):	N/D
Flash point:	> 302 °F / > 150 °C
Method:	Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
Autoignition temperature:	N/D
Decomposition temperature:	N/D
pH:	N/A
Viscosity:	9 - 25.9 cSt @ 100°C; 53.3 - 181 cSt @ 40°C
Solubility:	Negligible
Partition coefficient n-octanol /water (log Kow):	N/D
Vapour pressure:	N/D
Vapour density:	>1 (air = 1)
Relative density:	0.86 - 0.884 @ 60°F (15.6°C) (water = 1)
Particle characteristics:	N/A

9.2. Other information

9.2.1. Information with regards to physical hazard classes

No information available

9.2.2. Other safety characteristics

Evaporation Rate (nBuAc=1):	N/D
Bulk Density:	863.95 - 886.72 kg/m ³
Pour point:	-76 - -45.4 °F / -60 - -43 °C
Explosive properties:	N/D
Oxidising properties:	N/D

SECTION 10: Stability and reactivity

10.1. Reactivity	Not chemically reactive.
10.2. Chemical stability	Stable under normal ambient and anticipated conditions of use.
10.3. Possibility of hazardous reactions	Hazardous reactions not anticipated.
10.4. Conditions to avoid	Extended exposure to high temperatures can cause decomposition. Avoid all possible sources of ignition.
10.5. Incompatible materials	Avoid contact with strong oxidizing agents and strong reducing agents.
10.6. Hazardous decomposition products	Not anticipated under normal conditions of use. During use in engines, contamination of oil with low levels of hazardous fuel combustion by-products (e.g. polycyclic aromatic hydrocarbons) may occur.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Likely Routes of Exposure: Inhalation, Ingestion, Eye contact, Skin contact

Aspiration Hazard: Not expected to be an aspiration hazard.

Acute Oral Toxicity

Product

Classification: Unlikely to be harmful
Oral LD50: > 5 g/kg (estimated)

Remarks: Based on components

Substance	Oral LD50	Species	Method	Remarks
1-Decene, homopolymer, hydrogenated	> 5 g/kg	Rat	OECD 401	Based on similar material
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	> 5 g/kg	Rat	Similar to OECD 401	Based on similar material
Dec-1-ene, trimers, hydrogenated	> 5 g/kg	Rat	OECD 401	
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	> 2 g/kg	Rat	OECD 401	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	3.1 g/kg	Rat	Similar to OECD 401	
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)-	2.23 g/kg	Rat	Similar to OECD 401	
Phenol, C14-18-alkyl derivatives	>2000 mg/kg bw	Rat	OECD 423	
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No data			

Acute Dermal Toxicity

Product

Classification: Unlikely to be harmful

Dermal LD50: > 2 g/kg (estimated)

Remarks: Based on components

Substance	Dermal LD50	Species	Method	Remarks
1-Decene, homopolymer, hydrogenated	> 2 g/kg	Rat	OECD 402	Based on similar material
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	> 2 g/kg	Rabbit	Similar to OECD 402	Based on similar material
Dec-1-ene, trimers, hydrogenated	> 2 g/kg	Rat	OECD 402	
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	> 2 g/kg	Rat	OECD 402	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	> 2 g/kg	Rat	Similar to OECD 402	
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)-	> 25 g/kg	Rabbit	Similar to OECD 402	
Phenol, C14-18-alkyl derivatives	2000 mg/kg bw	Rat	OECD 402	
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No data			

Acute Inhalation Toxicity

Product

Classification: Unlikely to be harmful

Inhalation LC50 : >5 mg/L (mist, estimated)

Remarks: Based on components

Substance	Inhalation LC50	Species	Method	Remarks
1-Decene, homopolymer, hydrogenated	> 2.5 mg/L	Rat	Similar to OECD 403	Aerosol
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	> 5.28 mg/L	Rat	Similar to OECD 403	Mist, Based on similar material
Dec-1-ene, trimers, hydrogenated	5.2 mg/L	Rat	Similar to OECD 403	
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	No data			

Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	> 2.3 mg/L	Rat	Similar to OECD 403	Vapour
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)-	> 2 mg/L	Rat	Similar to OECD 403	Aerosol
Phenol, C14-18-alkyl derivatives	No data			
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No data			

Serious Eye Damage/Irritation

Product

Classification: Causes mild eye irritation

Remarks: Based on components

Substance	Classification	SCL	Species	Method	Remarks
1-Decene, homopolymer, hydrogenated	Not expected to be irritating.		Rabbit	Similar to OECD 405	Based on similar material
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not expected to be irritating.		Rabbit	Similar to OECD 405	Based on similar material
Dec-1-ene, trimers, hydrogenated	Not expected to be irritating.		Rabbit	OECD 405	
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	Not expected to be irritating.		Rabbit	OECD 405	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	Causes serious eye damage	H318 Category 1, > 12.5%; H319 Category 2, 10-12.5%	Rabbit	Other: Fed. Hazardous Substance Act Section 191.12 (1973)	
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)-	Causes serious eye damage	Eye Dam. 1, H318: C ≥ 20% Eye Irrit. 2, H319: 15% ≤ C < 20%	Rabbit	Other: Non-guideline	
Phenol, C14-18-alkyl derivatives	Not expected to be irritating.		Rabbit	OECD 405 OECD 437	
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No information available				

Skin Corrosion/Irritation

Product

Classification: Causes mild skin irritation

Additional Information: Repeated exposure may cause skin dryness or cracking

Remarks: Based on components

Substance	Classification	SCL	Species	Method	Remarks
1-Decene, homopolymer, hydrogenated	Not expected to be irritating.		Rabbit	Similar to OECD 404	Based on similar material
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Causes mild skin irritation		Rabbit	Similar to OECD 404	Based on similar material
Dec-1-ene, trimers, hydrogenated	Not expected to be irritating.		Rabbit	OECD 404	Based on similar material
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-	Not expected to be irritating.		Rabbit	OECD 404	

roxy-, C7-9-branched alkyl esters					
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	Causes skin irritation	H315 Category 2, > 6.25%	Rabbit	Similar to OECD 404	
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)-	Causes skin irritation	Skin Irrit. 2, H315: C≥ 15%	Rabbit	OECD 404	
Phenol, C14-18-alkyl derivatives	Not expected to be irritating.			OECD 431	
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No information available				

Respiratory Sensitisation

Product

Classification: No information available

Substance	Respiratory Sensitisation:	SCL	Species	Method	Remarks
1-Decene, homopolymer, hydrogenated	No information available				
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	No information available				
Dec-1-ene, trimers, hydrogenated	No information available				
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	No information available				
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	No information available				
Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)-	No information available				
Phenol, C14-18-alkyl derivatives	No information available				
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No information available				

Skin Sensitisation

Product

Classification: No information available on the mixture, however none of the components have been classified for skin sensitisation (or are below the concentration threshold for classification)

Substance	Skin Sensitisation	SCL	Species	Method	Remarks
1-Decene, homopolymer, hydrogenated	Not expected to be a skin sensitizer		Guinea pig	Other: .? OECD 406	Based on similar material
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not expected to be a skin sensitizer		Guinea pig	Similar to OECD 406	Based on similar material
Dec-1-ene, trimers, hydrogenated	Not expected to be a skin sensitizer		Guinea pig	OECD 406	
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	Not expected to be a skin sensitizer		Guinea pig	OECD 406	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	Not expected to be a skin sensitizer		Guinea pig	Similar to OECD 406	
Zinc,	Not expected to be a skin		Guinea pig	Similar to	

bis[O,O-bis(1,3-dimethylbutyl)phosphorodithioato-S,S]-, (T-4)-Phenol, C14-18-alkyl derivatives	sensitizer			OECD 406	
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	May cause an allergic skin reaction	3.8	Rat	OECD 429	
	May cause an allergic skin reaction	72%			

Specific target organ toxicity - Single exposure

Product

Classification: No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification)

Substance	Specific target organ toxicity - Single exposure	Target Organs
1-Decene, homopolymer, hydrogenated	Not expected to cause organ effects from single exposure.	
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not expected to cause organ effects from single exposure.	
Dec-1-ene, trimers, hydrogenated	Not expected to cause organ effects from single exposure.	
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	No information available	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	No information available	
Zinc, bis[O,O-bis(1,3-dimethylbutyl)phosphorodithioato-S,S]-, (T-4)-Phenol, C14-18-alkyl derivatives	No information available	
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No information available	

Specific target organ toxicity - Repeated exposure

Product

Classification: No information available on the mixture, however none of the components have been classified for target organ toxicity (or are below the concentration threshold for classification)

Substance	Specific target organ toxicity - Repeated exposure	SCL	Method	Target Organs
1-Decene, homopolymer, hydrogenated	Not expected to cause organ effects from repeated exposure		Similar to OECD 407 OECD 408	
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not expected to cause organ effects from repeated exposure		Similar to OECD 408 OECD 411 OECD 413	
Dec-1-ene, trimers, hydrogenated	Not expected to cause organ effects from repeated exposure		OECD 407 OECD 408	
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	Inadequate information available.		OECD 408	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	Not expected to cause organ effects from repeated exposure		OECD 422	
Zinc,	Not expected to cause		OECD 422	

bis[O,O-bis(1,3-dimethylbutyl)phosphorodithioato-S,S]-, (T-4)-Phenol, C14-18-alkyl derivatives	organ effects from repeated exposure May cause damage to organs through prolonged or repeated exposure		OECD 407	Liver
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No information available			

Carcinogenicity

Product

Classification: No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification)

Substance	Classification	Method
1-Decene, homopolymer, hydrogenated	Not expected to cause cancer.	Similar to OECD 451
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not expected to cause cancer.	Similar to OECD 451
Dec-1-ene, trimers, hydrogenated	Not expected to cause cancer.	Similar to OECD 451 Based on similar material
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	No information available	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts	No information available	
Zinc, bis[O,O-bis(1,3-dimethylbutyl)phosphorodithioato-S,S]-, (T-4)-Phenol, C14-18-alkyl derivatives	No information available	
Reaction products of boric acid with 2-propylheptan-1-ol (1:3)	No information available	

Reproductive/Developmental/Teratogenic effects

Product

Classification: No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification)

1-Decene, homopolymer, hydrogenated (68037-01-4)			
Endpoint type	Method	Result	Remarks
Effects on fertility Effects on fetal development	Other: combined repeated-dose/reproductive toxicity screening test	Based on available data, the classification criteria are not met	
Effects on fetal development	Similar to OECD 414	Based on available data, the classification criteria are not met	

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics (64742-47-8)			
Endpoint type	Method	Result	Remarks
Effects on fertility	Similar to OECD 415	Based on available data, the classification criteria are not met	
Effects on fetal development	OECD 414	Based on available data, the classification criteria are not met	

Dec-1-ene, trimers, hydrogenated (157707-86-3)			
Endpoint type	Method	Result	Remarks

Effects on fertility	Similar to OECD 415	Based on available data, the classification criteria are not met	Based on similar material
Effects on fetal development	OECD 414	Based on available data, the classification criteria are not met	Based on similar material

Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters (125643-61-0)			
Endpoint type	Method	Result	Remarks
Effects on fetal development	OECD 414	Based on available data, the classification criteria are not met	

Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts (84605-29-8)			
Endpoint type	Method	Result	Remarks
Effects on fertility Effects on fetal development	OECD 422	Based on available data, the classification criteria are not met	Based on similar material

Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)- (2215-35-2)			
Endpoint type	Method	Result	Remarks
Effects on fertility Effects on fetal development	OECD 422	Based on available data, the classification criteria are not met	Based on similar material

Additional Information

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics

Hydrodesulphurized kerosene applied to the skin of female rats at 494, 330, or 165 mg/kg daily for 7 consecutive weeks (premating, mating, and gestation), or for 8 consecutive weeks in males did not result in systemic, reproductive, or developmental toxicity.

Mutagenic effects

Product

Classification: No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification)

1-Decene, homopolymer, hydrogenated (68037-01-4)		
Method	Result	Remarks
OECD 471	Negative	Based on similar material
OECD 473	Negative	Based on similar material
OECD 476	Negative	Based on similar material
OECD 474	Negative	Based on similar material

Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics (64742-47-8)		
Method	Result	Remarks
Similar to OECD 476	Negative	Based on similar material
Similar to OECD 479	Negative	Based on similar material
Similar to OECD 471	Negative	Based on similar material

Dec-1-ene, trimers, hydrogenated (157707-86-3)		
Method	Result	Remarks
OECD 471	Negative	Based on similar material
OECD 473	Negative	Based on similar material
OECD 474	Negative	Based on similar material
OECD 476	Negative	Based on similar material

Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters (125643-61-0)		
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Method	Result	Remarks
OECD 471	Negative	
OECD 474	Negative	

Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and isopropyl) esters, zinc salts (84605-29-8)		
Method	Result	Remarks
Similar to OECD 471	Negative	
OECD 474	Negative	
Other: tk+/-Mouse Lymphoma Assay	Positive	
Other: BALB/3T3 Transformation Test	Positive	

Zinc, bis[O,O-bis(1,3-dimethylbutyl) phosphorodithioato-S,S]-, (T-4)- (2215-35-2)		
Method	Result	Remarks
Similar to OECD 471	Negative	
Similar to OECD 476	Positive	
Similar to OECD 474	Negative	

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors

11.2.2 Other Information

None known

SECTION 12: Ecological information

12.1. Toxicity

Experimental studies with rainbow trout, daphnia, and fresh water algae indicate that PAO synthetic base oils are not expected to be harmful to aquatic organisms.

12.2. Persistence and degradability

Polyalphaolefins (synthesized hydrocarbons) & polyalkylene glycol synthetic base oils are not considered to be readily biodegradable but may be inherently biodegradable. They are expected to completely biodegrade over extended periods of time. Most synthetic polyol esters are considered readily biodegradable and are expected to completely biodegrade over extended periods of time.

12.3. Bioaccumulative potential

PAO synthetic base oils are not expected to bioaccumulate.

12.4. Mobility in soil

Volatilisation to air is not expected to be a significant fate process due to the low vapour pressure of this material. In water, this material does not impart any sheen and will float and spread over the surface at a rate dependent upon viscosity. The main fate process is expected to be slow biodegradation of individual components in soil and sediment.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance.

12.6 Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors

12.7 Other adverse effects

None anticipated.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

European Waste Code: 13 02 06* synthetic engine, gear and lubricating oils

This material, if discarded as produced, would be considered as hazardous waste pursuant to Directive 2008/98/EC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.

This code has been assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste generators/producers are responsible for assessing the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code.

This material under most intended uses would become "waste oils" due to contamination by physical or chemical impurities. Whenever possible, Directive 75/439/EEC suggests recycling of "waste oils" in accordance with current national and regional provisions.

Empty Containers: Container contents should be completely used and containers emptied prior to discard. Empty drums should be properly sealed and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with applicable regulations.

SECTION 14: Transport information

14.1. UN number

Not regulated

14.2. UN proper shipping name

None

14.3. Transport hazard class(es)

None

14.4. Packing group

None

14.5. Environmental hazards

This product does not meet the DOT/UN/IMDG/IMO criteria of a marine pollutant

14.6. Special precautions for user

None

14.7 Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EC 1272/2008 - Classification, labelling and packaging of substances and mixtures

EN166:2002 Eye Protection

EN 529:2005 Respiratory Protective devices

BS EN 374-1:2016 Protective gloves against chemicals and micro-organisms

Occupational Exposure Limits, Technical Rules for Dangerous Substances

Occupational Exposure Limits, Health and Safety Authority

Workplace Exposure Limits, EH40/2005, Control of Substances Hazardous to Health

Federal Water Act on the Classification of Substances Hazardous to Waters

Directive 2008/98/EC (Waste Framework Directive)

Export Rating: NLR (No Licence Required)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out for the substance/mixture.

SECTION 16: Other information

Issue date:

23-Jan-2025

Status:

FINAL

Previous Issue Date:

26-Sep-2022

Reason for Revision:

Manufacturer Address

Precautionary Statements

Composition/information on ingredients

First Aid

Personal Protective Equipment

Physical and Chemical Properties

Toxicological Information

SDS Number: 828863
Language: BE

List of Relevant Hazard Statements:

H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects
H413 - May cause long lasting harmful effects to aquatic life

Key literature references and sources for data:

Information used includes one or more of the following: results from internal company data, supplier toxicology studies, CONCAWE Product Dossiers and other publicly available resources.

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; ADR = Agreement on Dangerous Goods by Road; BMGV = Biological Monitoring Guidance Value; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit; EINECS = European Inventory of Existing Commercial Chemical Substances; EPA = [US] Environmental Protection Agency; Germany-TRGS = Technical Rules for Dangerous Substances; IARC = International Agency for Research on Cancer; ICAO/IATA = International Civil Aviation Organisation / International Air Transport Association; INSHT = National Institute for Health and Safety at Work; IMDG = International Maritime Dangerous Goods; Ireland-HSA = Ireland's National Health and Safety Authority; LEL = Lower Explosive Limit; MARPOL = Marine Pollution; N/A = Not Applicable; N/D = Not Determined; NTP = [US] National Toxicology Programme; PBT = Persistent, Bioaccumulative and Toxic; RID = Regulations Concerning the International Transport of Dangerous Goods by Rail; STEL = Short Term Exposure Limit; TLV = Threshold Limit Value; TRGS 903 = Technical rules for hazardous substances; TWA = Time Weighted Average; UEL = Upper Explosive Limit; UK-EH40 = United Kingdom EH40/2005 OEL; vPvB = very Persistent, very Bioaccumulative A1 - Known Human Carcinogen A2 - Suspected Human Carcinogen A3 - Animal Carcinogen A4 - Not Classifiable as a Human Carcinogen

Disclaimer of Expressed and implied Warranties:

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