

RUBIA OPTIMA 3500 FE 5W-30

SDS # :C3CRDMHPK

Previous revision date : 2024/08/27

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

1.1 Product identifier

Product name : RUBIA OPTIMA 3500 FE 5W-30

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

Identified uses
Motor oil

1.3 Details of the supplier of the safety data sheet

TotalEnergies Lubrifiants
562 Avenue du Parc de L'île
92029 Nanterre Cedex FRANCE
Tél: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 84 71
rm.msds-lubs@totalenergies.com

TotalEnergies Marketing Denmark A/S
Amerika Plads 29
DK - 2100 København Ø
Tel : +45 45813701
sm.nordic-reach@totalenergies.com

Contact

H.S.E

1.4 Emergency telephone number

National advisory body/Poison Center

Telephone number : Toxicity Center: +354 543 2222

Supplier

Telephone number : Emergency phone: +44 1235 239670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

For more details about adverse physical, human health and environmental effects, see sections 9 to 12.

2.2 Label elements

Signal word : No signal word.

Hazard statements : No hazard statement.

Precautionary statements

Prevention	: Not applicable.
Response	: Not applicable.
Storage	: Not applicable.
Disposal	: Not applicable.
Supplemental label elements	: Contains C14-16-18 Alkyl phenol. May produce an allergic reaction. Safety data sheet available on request.
Labelling element REACH Annex XVII	: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	: This mixture does not contain any substances that are assessed to be a PBT or a vPvB in a concentration $\geq 0,1$ %. This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACH Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.
Other hazards which do not result in classification	: Hazard of slipping on spilled product.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/substance	Identifiers	% (w/w)	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Distillates (petroleum), hydrotreated heavy paraffinic	REACH #: 01-2119484627-25 EC: 265-157-1 CAS: 64742-54-7	$\geq 50 - \leq 75$	Asp. Tox. 1, H304	-	[1] [2]
Distillates (petroleum), hydrotreated heavy paraffinic	REACH #: 01-2119484627-25 EC: 265-157-1 CAS: 64742-54-7	$\geq 10 - \leq 25$	Not classified.	-	[2]
Distillates (petroleum), hydrotreated heavy paraffinic	REACH #: 01-2119484627-25 EC: 265-157-1 CAS: 64742-54-7 Index: 649-467-00-8	≤ 10	Asp. Tox. 1, H304	-	[1] [2]
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	REACH #: 01-2119474878-16 EC: 276-737-9 CAS: 72623-86-0 Index: 649-482-00-X	≤ 5	Asp. Tox. 1, H304	-	[1] [2]
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate	REACH #: 01-0000015551-76 EC: 406-040-9 CAS: 125643-61-0	≤ 5	Aquatic Chronic 4, H413	-	[1]
Lubricating oils (petroleum),	REACH #:	≤ 5	Asp. Tox. 1, H304	-	[1] [2]

C20-50, hydrotreated neutral oil-based	01-2119474889-13 EC: 276-738-4 CAS: 72623-87-1 Index: 649-483-00-5				
Paraffin oils (petroleum), catalytic dewaxed heavy	REACH #: 01-2119487080-42 EC: 265-174-4 CAS: 64742-70-7	≤3	Asp. Tox. 1, H304	-	[1] [2]
Distillates (petroleum), solvent-dewaxed heavy paraffinic	REACH #: 01-2119471299-27 EC: 265-169-7 CAS: 64742-65-0 Index: 649-474-00-6	≤3	Asp. Tox. 1, H304	-	[1] [2]
Distillates (petroleum), solvent-dewaxed light paraffinic	REACH #: 01-2119480132-48 EC: 265-159-2 CAS: 64742-56-9 Index: 649-469-00-9	≤3	Asp. Tox. 1, H304	-	[1] [2]
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	REACH #: 01-2119543726-33 EC: 298-577-9 CAS: 93819-94-4	<2.5	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: 10% ≤ C < 12.5%	[1]
C14-16-18 Alkyl phenol	REACH #: 01-2119498288-19 EC: 931-468-2	≤0.3	Skin Sens. 1B, H317 STOT RE 2, H373 See Section 16 for the full text of the H statements declared above.	-	[1]

Additional information : Mineral oil of petroleum origin. Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

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, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of 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. Get medical attention if symptoms occur.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Irritation
redness
dryness
cracking
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous combustion products** : carbon monoxide
carbon dioxide
phosphorus oxides
sulfur oxides
Hydrogen sulfide
Mercaptans
Zinc oxides

5.3 Advice for firefighters

- 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 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".

- 6.2 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).

6.3 Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Absorb with an inert 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. Prevent entry into sewers, water courses, basements or confined areas. 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. Dispose of via a licensed waste disposal contractor.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
See Section 10 for incompatible materials before handling or use.
- 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.

7.2 Conditions for safe storage, including any incompatibilities

Do not store above the following temperature: 60°C (140°F). 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.

7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Product/substance	Exposure limit values
Distillates (petroleum), hydrotreated heavy paraffinic	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Olíupoka, steinefnaolíuagnir] TWA 8 hours: 1 mg/m ³ . Form: particulates.
Distillates (petroleum), hydrotreated heavy paraffinic	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Olíupoka, steinefnaolíuagnir] TWA 8 hours: 1 mg/m ³ . Form: particulates.
Distillates (petroleum), hydrotreated heavy paraffinic	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Olíupoka, steinefnaolíuagnir] TWA 8 hours: 1 mg/m ³ . Form: particulates.
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Olíupoka, steinefnaolíuagnir] TWA 8 hours: 1 mg/m ³ . Form: particulates.
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Olíupoka, steinefnaolíuagnir] TWA 8 hours: 1 mg/m ³ . Form: particulates.
Paraffin oils (petroleum), catalytic dewaxed heavy	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Olíupoka, steinefnaolíuagnir] TWA 8 hours: 1 mg/m ³ . Form: particulates.
Distillates (petroleum), solvent-dewaxed heavy paraffinic	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Olíupoka, steinefnaolíuagnir] TWA 8 hours: 1 mg/m ³ . Form: particulates.
Distillates (petroleum), solvent-dewaxed light paraffinic	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Olíupoka, steinefnaolíuagnir] TWA 8 hours: 1 mg/m ³ . Form: particulates.

Biological Limit Values (BLV)

No exposure indices known.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following:
European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)

DNELs/DMELs

Product/substance	Result
Distillates (petroleum), hydrotreated heavy paraffinic	DNEL - General population - Long term - Oral 0.74 mg/kg bw/day <u>Effects</u> : Systemic DNEL - Workers - Long term - Dermal 0.97 mg/kg bw/day <u>Effects</u> : Systemic DNEL - General population - Long term - Inhalation



Distillates (petroleum), hydrotreated heavy paraffinic

1.19 mg/m³
Effects: Local

DNEL - Workers - Long term - Inhalation

2.73 mg/m³
Effects: Systemic

DNEL - Workers - Long term - Inhalation

5.58 mg/m³
Effects: Local

DNEL - General population - Long term - Oral

0.74 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Dermal

0.97 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Inhalation

1.19 mg/m³
Effects: Local

DNEL - Workers - Long term - Inhalation

2.73 mg/m³
Effects: Systemic

DNEL - Workers - Long term - Inhalation

5.58 mg/m³
Effects: Local

Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based

DNEL - Workers - Long term - Inhalation

5.4 mg/m³
Effects: Local

DNEL - General population - Long term - Inhalation

1.2 mg/m³
Effects: Local

DNEL - General population - Long term - Oral

0.74 mg/kg bw/day
Effects: Systemic

DNEL - Workers - Long term - Dermal

0.97 mg/kg bw/day
Effects: Systemic

DNEL - General population - Long term - Inhalation

1.19 mg/m³
Effects: Local

DNEL - Workers - Long term - Inhalation

2.73 mg/m³
Effects: Systemic

DNEL - Workers - Long term - Inhalation

5.58 mg/m³
Effects: Local

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate

DNEL - Workers - Long term - Dermal

0.006 mg/cm²



Effects: Local

DNEL - General population - Long term - Oral

0.16 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Dermal

0.22 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Dermal

0.33 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Inhalation

0.74 mg/m³

Effects: Systemic

DNEL - Workers - Short term - Dermal

1 mg/cm²

Effects: Local

DNEL - Workers - Long term - Inhalation

2.33 mg/m³

Effects: Systemic

DNEL - General population - Short term - Dermal

8.33 mg/cm²

Effects: Local

DNEL - Workers - Short term - Dermal

20 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Oral

50 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Dermal

50 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Inhalation

875 mg/m³

Effects: Systemic

DNEL - Workers - Short term - Inhalation

1750 mg/m³

Effects: Systemic

DNEL - General population - Long term - Oral

0.74 mg/kg bw/day

Effects: Local

DNEL - General population - Long term - Oral

0.74 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Dermal

0.97 mg/kg bw/day

Effects: Systemic

Lubricating oils (petroleum), C20-50,
hydrotreated neutral oil-based



Paraffin oils (petroleum), catalytic dewaxed heavy

DNEL - General population - Long term - Inhalation1.19 mg/m³Effects: Local**DNEL - Workers - Long term - Inhalation**2.73 mg/m³Effects: Systemic**DNEL - Workers - Long term - Inhalation**5.58 mg/m³Effects: Local**DNEL - General population - Long term - Oral**

0.74 mg/kg bw/day

Effects: Systemic**DNEL - Workers - Long term - Dermal**

0.97 mg/kg bw/day

Effects: Systemic**DNEL - General population - Long term - Inhalation**1.19 mg/m³Effects: Local**DNEL - Workers - Long term - Inhalation**2.73 mg/m³Effects: Systemic**DNEL - Workers - Long term - Inhalation**5.58 mg/m³Effects: Local

Distillates (petroleum), solvent-dewaxed heavy paraffinic

DNEL - General population - Long term - Oral

0.74 mg/kg bw/day

Effects: Systemic**DNEL - Workers - Long term - Dermal**

0.97 mg/kg bw/day

Effects: Systemic**DNEL - General population - Long term - Inhalation**1.19 mg/m³Effects: Local**DNEL - Workers - Long term - Inhalation**2.73 mg/m³Effects: Systemic**DNEL - Workers - Long term - Inhalation**5.58 mg/m³Effects: Local

Distillates (petroleum), solvent-dewaxed light paraffinic

DNEL - General population - Long term - Oral

0.74 mg/kg bw/day

Effects: Systemic**DNEL - Workers - Long term - Dermal**

0.97 mg/kg bw/day

Effects: Systemic

zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)]
bis(dithiophosphate)

DNEL - General population - Long term - Inhalation

1.19 mg/m³

Effects: Local

DNEL - Workers - Long term - Inhalation

2.73 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Inhalation

5.58 mg/m³

Effects: Local

DNEL - General population - Long term - Oral

0.24 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Dermal

0.29 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Dermal

0.58 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Inhalation

2.11 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Inhalation

8.31 mg/m³

Effects: Systemic

C14-16-18 Alkyl phenol

DNEL - Workers - Long term - Inhalation

1.17 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Dermal

0.3 mg/kg bw/day

Effects: Systemic

PNECs

Product/substance	Result
Distillates (petroleum), hydrotreated heavy paraffinic	Secondary Poisoning 9.33 mg/kg
Distillates (petroleum), hydrotreated heavy paraffinic	Secondary Poisoning 9.33 mg/kg
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Fresh water 0.0043 mg/l
	Marine water 0.00043 mg/l
	Fresh water sediment 233 mg/kg dwt
	Marine water sediment 23.3 mg/kg dwt



Distillates (petroleum), solvent-dewaxed heavy paraffinic	Soil
	189 mg/kg
	Secondary Poisoning
	9.33 mg/kg
	Fresh water
	0.004 mg/l
	Marine water
	0.0046 mg/l
	Fresh water sediment
	0.0116 mg/kg dwt
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Marine water sediment
	0.00116 mg/kg dwt
	Soil
	0.00528 mg/kg
	Sewage Treatment Plant
	100 mg/l
	Secondary Poisoning
	10.67 mg/kg dwt
	Fresh water
	0.1 mg/l
C14-16-18 Alkyl phenol	Marine water
	0.01 mg/l
	Fresh water sediment
	4266.16 mg/kg dwt
	Marine water sediment
	426.62 mg/kg dwt
	Soil
	852.58 mg/kg dwt
	Sewage Treatment Plant
	100 mg/l

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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 : In case of contact through splashing: safety glasses with side-shields, EN 166.

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. Hydrocarbon-proof gloves nitrile rubber Fluorinated rubber Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. In case of prolonged contact with the product, it is recommended to wear gloves complying with ISO 21420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the appropriateness of its use and its replacement frequency
Body protection	:  Wear work clothing with long sleeves. Non-skid safety shoes or boots
Respiratory protection	: None under normal use conditions. If these are not sufficient to maintain exposure below the OEL, suitable respiratory protection must be worn (Type A/P1).
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.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:  Liquid. [limpid]	
Color	:  Brown.	
Odor	: Characteristic.	
pH	: Not applicable.	Product is non-soluble (in water).
Melting point/freezing point	: Technically not possible to measure	
Initial boiling point and boiling range	:  316°C [ISO 3405]	
Flash point	:  Open cup: 211°C [Cleveland Open Cup (COC)]	
Flammability	: Non-flammable.	
Lower and upper explosion limit	: Lower: 0.9% Upper: 7%	
Vapor pressure	:  0.01 kPa [room temperature] [ISO 3104] Not applicable. [50°C]	
Vapor density	: >2 [Air = 1]	
Relative density	:  0.852 [ISO 12185]	
Density	:  0.852 g/cm³ [15°C] [ISO 12185]	
Solubility(ies)	:	

Media	Result
water	Not soluble

Miscible with water : No.
Partition coefficient: n-octanol/ water : Not applicable.
Auto-ignition temperature : 211°C [ASTM E 659]
Decomposition temperature : Not applicable.
Viscosity : ☒ Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): 72.2 mm²/s [ISO 3104]

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

Pour point : 36°C (-32.8°F)
Oxidizing properties : This product is not considered oxidising based on chemical structure considerations

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability : Stable under recommended storage and handling conditions (see Section 7).
10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid : ☒ No specific data.
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.

SECTION 11: Toxicological information

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

Acute toxicity

Product/substance	Result
☒ Distillates (petroleum), hydrotreated heavy paraffinic	Rat - Male, Female - Oral - LD50 >5000 mg/kg OECD 401 Read across Rabbit - Male, Female - Dermal - LD50 >5000 mg/kg OECD 402 Read across Rat - Male, Female - Inhalation - LC50 Dusts and mists >5 mg/l [4 hours] OECD 403 Read across
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	Rat - Oral - LD50 >5000 mg/kg



Lubricating oils (petroleum), C20-50,
hydrotreated neutral oil-based

OECD 401

Rabbit - Dermal - LD50

>5000 mg/kg

OECD 402

Rat - Inhalation - LC50 Dusts and mists

5.53 mg/l [4 hours]

OECD 403

Rat - Male, Female - Oral - LD50

>5000 mg/kg

OECD 401 Read across

Rabbit - Male, Female - Dermal - LD50

>5000 mg/kg

OECD 402 Read across

Rat - Inhalation - LC50 Dusts and mists

5.1 mg/l [4 hours]

OECD 403

Paraffin oils (petroleum), catalytic dewaxed
heavy

Rat - Oral - LD50

>5000 mg/kg

Rabbit - Dermal - LD50

>5000 mg/kg

Rat - Inhalation - LC50 Vapor

80.4 mg/l [1 hours]

Rat - Inhalation - LC50 Vapor

20.1 mg/l [4 hours]

Rat - Inhalation - LC50 Dusts and mists

5.1 mg/l [4 hours]

Distillates (petroleum), solvent-dewaxed
heavy paraffinic

Rabbit - Dermal - LD50

>5000 mg/kg

OECD 402

Rat - Oral - LD50

>5000 mg/kg

OECD 420

Rat - Inhalation - LC50 Dusts and mists

>5 mg/l [4 hours]

OECD 403

Distillates (petroleum), solvent-dewaxed light
paraffinic

Rat - Oral - LD50

>5000 mg/kg

OECD 401

Rabbit - Dermal - LD50

>5000 mg/kg

OECD 402

Rat - Inhalation - LC50 Dusts and mists

>5 mg/l [4 hours]

OECD 403



zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)]
bis(dithiophosphate)

Rat - Male - Oral - LD50

2600 mg/kg

Rabbit - Male, Female - Dermal - LD50

>3160 mg/kg

OECD 402

Rat - Male - Inhalation - LC50 Dusts and mists

>2 mg/l [1 hours]

OECD 403

C14-16-18 Alkyl phenol

Rat - Oral - LD50

2000 mg/kg

Rat - Dermal - LD50

2000 mg/kg

Acute toxicity estimates

Product/substance	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	N/A	N/A	N/A	N/A	5.53
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	N/A	N/A	N/A	N/A	5.1
Paraffin oils (petroleum), catalytic dewaxed heavy	N/A	N/A	N/A	20.1	5.1
Distillates (petroleum), solvent-dewaxed heavy paraffinic	N/A	N/A	N/A	40.05	N/A
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	2600	N/A	N/A	N/A	N/A

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

Skin corrosion/irritation

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

Serious eye damage/eye irritation

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

Respiratory corrosion/irritation

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

Respiratory or skin sensitization**Skin**

Based on available data, the classification criteria are not met. Contains Sensitizer. May produce an allergic reaction.

Respiratory

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

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

Specific target organ toxicity (single exposure)

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

Specific target organ toxicity (repeated exposure)

Product/substance	Result
14-16-18 Alkyl phenol	STOT RE 2, H373

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

Aspiration hazard

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

Information on the likely routes of exposure

Not available.

Potential acute health effects

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Defatting to the skin. May cause skin dryness and irritation.
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	: Irritation redness dryness cracking
Ingestion	: No specific data.

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

Potential chronic health effects

Product/substance	Result
Zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	Sub-chronic - Rat - Male, Female - Oral - NOAEL OECD [422] 160 mg/kg Sub-chronic - Rabbit - Male, Female - Dermal - LOAEL OECD [410] 70 mg/kg

General	: No known significant effects or critical hazards.
Carcinogenicity	: During use in engines, contamination of oil with low levels of combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.
Mutagenicity	: No known significant effects or critical hazards.
Reproductive toxicity	: No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties



The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/substance	Result
Distillates (petroleum), hydrotreated heavy paraffinic	Acute - EC50 Crustaceans - <i>Daphnia magna</i> OECD [202] >10000 mg/l [48 hours] Effect: Mobility Acute - EC50 Algae - <i>Pseudokirchneriella subcapitata</i> OECD [201] >100 mg/l [72 hours] Effect: (growth rate) Chronic - NOEL Crustaceans - <i>Daphnia magna</i> >1000 mg/l [21 days] Effect: Reproduction Chronic - NOEL Algae - <i>Pseudokirchneriella subcapitata</i> OECD [201] >100 mg/l [72 hours] Effect: (growth rate)
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	Acute - LL50 Fish - <i>Pimephales promelas</i> OECD 203 >1000 mg/l [96 hours] Acute - EL50 Crustaceans - <i>Daphnia magna</i> OECD [202] >10000 mg/l [48 hours] Effect: Mobility Acute - EL50 Algae - <i>Pseudokirchneriella subcapitata</i> OECD 201 >100 mg/l [72 hours] Effect: (growth rate) Chronic - NOEL Crustaceans - <i>Daphnia magna</i> OECD 211 >1000 mg/l [21 days] Effect: Reproduction Chronic - NOEL Algae - <i>Pseudokirchneriella subcapitata</i> OECD 201



Lubricating oils (petroleum), C20-50,
hydrotreated neutral oil-based

>100 mg/l [72 hours]

Effect: (growth rate)

Acute - LL50

Fish - *Pimephales promelas*

OECD [203]

>100 mg/l [96 hours]

Acute - EL50

Crustaceans - *Daphnia magna*

OECD [202]

>10000 mg/l [48 hours]

Effect: Mobility

Acute - EL50

Algae - *Pseudokirchneriella subcapitata*

OECD [201]

>100 mg/l [48 hours]

Effect: (growth rate)

Chronic - NOEL

Crustaceans - *Daphnia magna*

OECD [211]

>1000 mg/l [21 days]

Effect: Reproduction

Chronic - NOEL

Algae - *Pseudokirchneriella subcapitata*

OECD [201]

>100 mg/l [72 hours]

Effect: (growth rate)

Paraffin oils (petroleum), catalytic dewaxed
heavy

Acute - NOEL

Algae - *Pseudokirchneriella subcapitata*

101 mg/l [72 hours]

Acute - EC50

Daphnia

10000 mg/l [48 hours]

Distillates (petroleum), solvent-dewaxed
heavy paraffinic

Acute - EC50

Daphnia - *Daphnia magna*

OECD [202]

>10000 mg/l [48 hours]

Chronic - NOEL

Fish - *Oncorhynchus mykiss*

>1000 mg/l [21 days]

Chronic - NOEL

Daphnia - *Daphnia magna*

OECD [211]

10 mg/l [21 days]

Acute - EC50

Algae - *Pseudokirchnerella subcapitata*

OECD [201]

>100 mg/l [72 hours]

Distillates (petroleum), solvent-dewaxed light

Acute - EL50



paraffinic

Fish - *Pimephales promelas*

OECD [203]

≥100 mg/l [96 hours]

Acute - EL50Crustaceans - *Daphnia magna*

OECD 202

10000 mg/l [48 hours]

Effect: Mobility**Acute - EL50**Algae - *Pseudokirchneriella subcapitata*

OECD 201

>100 mg/l [72 hours]

Effect: (growth rate)**Chronic - NOEL**Crustaceans - *Daphnia magna*

OECD [211]

>1000 mg/l [21 days]

Effect: Reproduction**Chronic - NOEL**Algae - *Pseudokirchneriella subcapitata*

OECD [201]

>100 mg/l [72 hours]

Effect: (growth rate)zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)]
bis(dithiophosphate)**Acute - LC50**Fish - *Oncorhynchus mykiss*

OECD 203

4.5 mg/l [96 hours]

Acute - EC50Crustaceans - *Daphnia magna*

OECD [202]

5.4 mg/l [48 hours]

Effect: Mobility**Acute - EC50**Algae - *Selenastrum capricornutum*

OECD [201]

2 mg/l [96 hours]

Effect: (growth rate)**Chronic - NOEC**Crustaceans - *Daphnia magna*

OECD 211

0.4 mg/l [48 hours]

Effect: Reproduction**Chronic - NOEC**Algae - *Selenastrum capricornutum*

OECD [201]

1 mg/l [96 hours]

Effect: (growth rate)

C14-16-18 Alkyl phenol

Acute - EC50Daphnia - *Daphnia magna*

OECD [202]

>100 mg/l [48 hours]

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

12.2 Persistence and degradability

Product/substance	Result
Distillates (petroleum), hydrotreated heavy paraffinic	OECD 301F 31% [28 days] - Not readily
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	OECD 301F 31% [28 days] - Not readily
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	OECD 301B 2% [28 days] - Not readily
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	OECD 301F 31% [28 days] - Not readily
Distillates (petroleum), solvent-dewaxed light paraffinic	OECD 301F 31% [28 days] - Not readily
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	OECD 301B 0% [28 days] - Not readily

Product/substance	Aquatic half-life	Photolysis	Biodegradability
Distillates (petroleum), hydrotreated heavy paraffinic	-	-	Not readily
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	-	-	Not readily
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	-	-	Not readily
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	-	-	Not readily
Paraffin oils (petroleum), catalytic dewaxed heavy	-	-	Not readily
Distillates (petroleum), solvent-dewaxed heavy paraffinic	-	-	Readily
Distillates (petroleum), solvent-dewaxed light paraffinic	-	-	Not readily
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis(dithiophosphate)	-	-	Not readily

12.3 Bioaccumulative potential



TotalEnergies

RUBIA OPTIMA 3500 FE 5W-30

SDS # :C3CRDMHPK

Product/substance	LogK _{ow}	BCF	Potential
Distillates (petroleum), hydrotreated heavy paraffinic	>4	-	High
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	6.1	-	High
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate	9.2	260 [OECD 305]	Low
Distillates (petroleum), solvent-dewaxed light paraffinic	3.1	-	Low
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	0.9	-	Low

12.4 Mobility in soil

Soil/Water partition coefficient

Not available.

Results of PMT and vPvM assessment

Product/substance	PMT	P	M	T	vPvM	vP	vM
Distillates (petroleum), hydrotreated heavy paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
Distillates (petroleum), hydrotreated heavy paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	No	N/A	N/A	No	N/A	N/A	N/A
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate	No	N/A	N/A	No	N/A	N/A	N/A
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	No	N/A	N/A	No	N/A	N/A	N/A
Paraffin oils (petroleum), catalytic dewaxed heavy	No	N/A	N/A	No	N/A	N/A	N/A
Distillates (petroleum), solvent-dewaxed heavy paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
Distillates (petroleum), solvent-dewaxed light paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	No	N/A	N/A	No	N/A	N/A	N/A
C14-16-18 Alkyl phenol	N/A	N/A	N/A	Yes	N/A	N/A	N/A

Mobility : Not available.

Mobility in soil : Given its physical and chemical characteristics, the product generally shows low soil mobility. The product is insoluble and floats on water. Loss by evaporation is limited.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1272/2008 [CLP]



TotalEnergies

RUBIA OPTIMA 3500 FE 5W-30

SDS # :C3CRDMHPK

Product/substance	PBT	P	B	T	vPvB	vP	vB
Distillates (petroleum), hydrotreated heavy paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
Distillates (petroleum), hydrotreated heavy paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	No	N/A	N/A	No	N/A	N/A	N/A
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate	No	N/A	No	No	No	N/A	No
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based	No	N/A	N/A	No	N/A	N/A	N/A
Paraffin oils (petroleum), catalytic dewaxed heavy	No	N/A	N/A	No	N/A	N/A	N/A
Distillates (petroleum), solvent-dewaxed heavy paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
Distillates (petroleum), solvent-dewaxed light paraffinic	No	N/A	N/A	No	N/A	N/A	N/A
zinc bis[O-(6-methylheptyl)] bis[O-(sec-butyl)] bis (dithiophosphate)	No	N/A	N/A	No	N/A	N/A	N/A
C14-16-18 Alkyl phenol	N/A	N/A	N/A	Yes	N/A	N/A	N/A

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : 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. Should not be released into the environment.

Hazardous waste : Yes.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: 13 02 05*

Packaging

- Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
- Special precautions** : This material and its container must be disposed of in a safe way. 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

	ADR/RID	ADN	IMDG	ICAO/IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

- 14.6 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.

- 14.7 Maritime transport in bulk according to IMO instruments** : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Labeling : Not applicable.

Other EU regulations

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Explosive precursors : Not applicable.

Ozone depleting substances (EU 2024/590)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia inventory (AIIIC)

: ☒ All components are listed or exempted.

Canada inventory (DSL/NDL)

: All components are listed or exempted.

China inventory (IECSC)

: All components are listed or exempted.

Europe inventory (EC)

: All components are listed or exempted.

Japan inventory

: **Japan inventory (CSCL):** All components are listed or exempted.

Japan inventory (ISHL): All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC)

: All components are listed or exempted.

Philippines inventory (PICCS)

: All components are listed or exempted.

Korea inventory (KECI)

: All components are listed or exempted.

Taiwan Chemical Substances Inventory (TCSI)

: All components are listed or exempted.

Thailand inventory

: Not determined.

Turkey inventory

: Not determined.

United States inventory (TSCA 8b)

: All components are listed or exempted.

Vietnam inventory

: Not determined.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

15.2 Chemical Safety Assessment

: Risk management measures and safety conditions of use are included in the relevant sections of the SDS

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ACGIH = American Conference of Governmental Industrial Hygienists
 ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE = Acute Toxicity Estimate
 B = Bioaccumulative
 BCF = Bioconcentration Factor
 DNEL = Derived No Effect Level
 DMEL = Derived Minimal Effect Level
 DMSO = Dimethyl Sulfoxide
 EC50 = Half maximal effective concentration
 EL50 = median Effective Loading
 EUH statement = CLP-specific Hazard statement
 HSE = Health, Safety and Environment
 IATA = International Air Transport Association
 IC50 = Half maximal inhibitory concentration
 IDHL = Immediately dangerous to life or health
 IMDG = International Maritime Dangerous Goods
 IMO = International Maritime Organization
 LC50 = Median lethal concentration
 LD50 = Median lethal dose
 LL50 = median Lethal Loading
 LogKow = logarithm of the octanol/water partition coefficient
 M = Mobile
 N/A = Not available
 NIOSH = National Institute of Occupational Safety and Health
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 NOEL = No Observed Effect Level
 NOELR = No observed Effect Loading Rate
 OECD = Organisation for Economic Co-operation and Development
 OEL = Occupational Exposure Limit
 OSHA = Occupational Safety and Health Administration.
 P = Persistent
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 POP = Persistent Organic Pollutants
 QSAR = Quantitative Structure–Activity Relationship
 REL = Recommended Exposure Limit
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 SGG = Segregation Group
 STEL = Short Term Exposure Limit
 T = Toxic
 TLV = Threshold Limit Value
 TWA = Time Weight Average
 vB = Very Bioaccumulative
 vM = Very Mobile
 VOC = Volatile Organic Compound
 vP = Very Persistent
 vPvB = Very Persistent and Very Bioaccumulative
 vPvM = Very Persistent and Very Mobile

SECTION 16: Other information

UFI = Unique Formula Identifier

UVCB Substance of unknown or Variable composition, Complex reaction products or Biological material

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

Full text of abbreviated H 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.

Full text of classifications [CLP/GHS]

Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 4	AQUATIC HAZARD (LONG-TERM) - Category 4
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1B	SKIN SENSITIZATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Additional details on the supplier of the product

Date of revision	: 11/27/2025
Date of previous issue	: 8/27/2024
Version	: 3

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.