

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878 Revision date: 12/05/2023 Version: 1.0

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

1.1. Product identifier

Product form : Mixture

Trade name : Eni i-Sigma top MS 15W-40

Product code : 1064 Type of product : Lubricants Formula : 0222-2019 Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use, Consumer use

Industrial/Professional use spec Non-dispersive use

Use of the substance/mixture : Lubricant for internal combustion engines

Function or use category : Lubricants and additives

1.2.2. Uses advised against

Recommended use are listed above; other uses are not recommended unless an assessment has provided that risks are controlled.

1.3. Details of the supplier of the safety data sheet

Eni Sustainable Mobility S.p.A., Viale Giorgio Ribotta 51, 00144 Rom, ITALY, Tel. +39 06 59821, www.eni.com Competent person responsible for the safety data sheet (Reg. EC nr. 1907/2006): SDS.ESM.info@eni.com

Distributed by: Enilive Schmiertechnik GmbH, Paradiesstraße 14, 97080 Würzburg, GERMANY, www.oilproducts.eni.com Department responsible for information: Application Engineering & Product Management (AEPM), Tel. +49 (0)931-900 98-0 e-mail: technik.wuerzburg@enilive.com

1.4. Emergency telephone number

: CNIT +39 0382 24444 (24h) (IT + EN) **Emergency number**

Poison centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Adverse physicochemical, human health and environmental effects

Prolonged and repeated skin contact may cause reddening, irritation and dermatitis. May produce an allergic reaction. For specific information about the toxicological/ecotoxicological properties and classification of this product, see Sect. 11 and/or Sect. 12.

2.2. Label elements

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

EUH-statements : EUH208 - Contains Benzene, polypropene derivs, sulfonated, calcium salts. May produce

an allergic reaction.

EUH210 - Safety data sheet available on request.

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2.3. Other hazards (not relevant for classification)

Other hazards not contributing to the classification

: This product is combustible, but not classified as Flammable. The creation of flammable vapour mixtures takes place at temperatures which are higher than normal ambient levels. In case of contact with eyes, this product may cause irritation. If the product is handled or used at high temperature, contact with hot product or vapours may cause burns. Any substance, in case of accidents involving pressurized circuits and the like, may be accidentally injected under the skin, even without external damage. In such a case, the victim should be brought to an hospital as soon as possible, to get specialized medical treatment. Do not wait for symptoms to develop. In exceptional cases (i.e prolonged storage in tanks contaminated with water, and presence of anaerobic sulfate-reducing microbial colonies), the product may undergo a degradation and generate small amounts of sulfur compounds, including H2S. See Section 16.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Other information

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

Component		
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	
Mineral base oil, severely refined (N/A)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	
Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated heavy)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1 %

Component		
Distillates (petroleum), hydrotreated heavy paraffinic(64742-54-7)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	
Mineral base oil, severely refined(N/A)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	
Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	

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Component		
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics(64742-48-9: Naphtha (petroleum), hydrotreated heavy)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	
Distillates (petroleum), hydrotreated light naphthenic(64742-53-6)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Notes

: Composition/ Information on ingredients: Mixture of hydrocarbons

Additives

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Distillates (petroleum), hydrotreated heavy paraffinic (see note [**], see note [***])	CAS-No.: 64742-54-7 EC-No.: 265-157-1 EC Index-No.: 649-467-00-8 REACH-no: 01-2119484627- 25-0014	75 - 85	Not classified
Mineral base oil, severely refined (For identification of the substance, see note [*], see note [***])	CAS-No.: N/A EC-No.: N/A	2 - 7	Asp. Tox. 1, H304
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr)esters, zinc salts (Additive)	CAS-No.: 84605-29-8 EC-No.: 283-392-8 EC Index-No.: N/A REACH-no: 01-2119493626- 26	1 - 1,5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411 (M=1)
Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (see note [**], see note [***])	CAS-No.: 64742-54-7 EC-No.: 265-157-1 EC Index-No.: 649-467-00-8 REACH-no: 01-2119484627- 25	0,1 - 1,5	Asp. Tox. 1, H304
Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts (Additive)	EC-No.: 947-519-7 EC Index-No.: N/A REACH-no: 01-2120765489- 36	0,1 - 0,9	Skin Sens. 1B, H317

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	CAS-No.: 64742-48-9: Naphtha (petroleum), hydrotreated heavy EC-No.: 918-481-9 EC Index-No.: N/A REACH-no: 01-2119457273-	0,1 - 0,15	Asp. Tox. 1, H304 EUH066
Distillates (petroleum), hydrotreated light naphthenic (see note [**], see note [***])	CAS-No.: 64742-53-6 EC-No.: 265-156-6 EC Index-No.: 649-466-00-2 REACH-no: 01-2119480375- 34	0,1 - 0,15	Not classified
Benzene, polypropene derivs., sulfonated, calcium salts (Additive)	CAS-No.: 75975-85-8 EC-No.: 616-278-7 EC Index-No.: N/A REACH-no: N/A	0,1 - 0,15	Skin Sens. 1B, H317

Specific concentration limits:		
Name	Product identifier	Specific concentration limits
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr)esters, zinc salts (Additive)	CAS-No.: 84605-29-8 EC-No.: 283-392-8 EC Index-No.: N/A REACH-no: 01-2119493626- 26	(6,25 ≤C < 100) Skin Irrit. 2, H315 (10 <c 12,5)="" 2,="" eye="" h319<br="" irrit.="" ≤="">(12,5 <c 1,="" 100)="" dam.="" eye="" h318<="" td="" ≤=""></c></c>
Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts (Additive)	EC-No.: 947-519-7 EC Index-No.: N/A REACH-no: 01-2120765489- 36	(10 ≤C < 100) Skin Sens. 1B, H317

Notes

: [*] Note: this product may be formulated with one or more of the following severely refined mineral base oils (not classified as hazardous):

CAS 64742-54-7/EC 265-157-1/REACH Reg. # 01-2119484627-25-xxxx; CAS 64742-65-0/EC 265-169-7/REACH Reg. # 01-2119471299-27-xxxx; CAS 64742-55-8/EC 265-158-7/REACH Reg. # 01-2119487077-29-xxxx; CAS 64742-56-9/EC 265-159-2/ REACH Reg. # 01-2119480132-48-xxxx.

All these substances have a value < 3 % wt of DMSO extract, according to IP 346 (Nota L - Annex VI Reg (CE) 1272/2008, # 1.1.3)

Note [**]:

this product has a value of DMSO extract < 3 % wt, according to IP 346. According to the criteria laid out by the EU (note L, Annex VI of Regulation (CE) 1272/2008), this product must be regarded as non carcinogenic.

Note [***]:

substance with occupational exposure limits for some EU countries affecting the category of mineral oils (finely refined mineral base oil mists; see section 8.1)

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation

: In case of disturbances owing to inhalation of vapours or mists, remove the victim from exposure; keep at rest; if necessary, seek medical attention. See also section 4.3.

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First-aid measures after skin contact

Take off contaminated clothing and shoes. Wash thoroughly with soap and water. If skin irritation or rash occurs, get medical advice/attention. In case of burns, cool affected part with cold running water for at least 10 min. Cover with gauze or clean cloth. Ask for medical assistance or bring to a hospital. Do not apply salves or other substances, unless by doctor's advice. Body hypothermia must be avoided. Do not put ice on the burn.

First-aid measures after eye contact

: Rinse eyes thoroughly for at least 15 minutes. Keep eyelids well apart. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist. In case of burns, cool affected part with cold running water for at least 10 min. Cover with gauze or clean cloth. Ask for medical assistance or bring to a hospital. Do not apply salves or other

substances, unless by doctor's advice.

First-aid measures after ingestion : Do NOT induce vomiting. If the person is conscious, rinse mouth with water without swallowing. Keep at rest. Call for medical assistance or bring to an hospital. If the casualty is unconscious, place in the recovery position. In case of spontaneous vomiting, keep head low, to avoid the risk of aspiration into the lungs. Do not give anything by mouth to an

unconscious person.

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

Symptoms/effects after inhalation : This product has a low vapour pressure, and in normal conditions at ambient temperature the concentration in the air is negligible. A significant concentration may build up only if the product is used at high temperature, or in case of sprays and mists. In these cases

overexposure to vapours may cause irritation to airways, nausea and dizziness.

Prolonged and repeated skin contact may cause reddening, irritation and dermatitis. May cause an allergic skin reaction. Contact with hot product may cause thermal burns.

cause an allergic skin reaction. Contact with hot product may cause thermal burns.

Symptoms/effects after eye contact

: Contact with eyes may cause a light transient irritation. Contact with hot product or vapours

may cause burns.

Symptoms/effects after ingestion : Accidental ingestion of small quantities of the product may cause nausea, discomfort and

gastric disturbances.

Symptoms/effects upon intravenous administration : No information available

Chronic symptoms : None to be reported, according to the present classification criteria.

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

Obtain medical attention if casualty has an altered state of consciousness or if symptoms do not resolve. Seek medical attention in all cases of serious burns. If there is any suspicion of inhalation of H2S (hydrogen sulphide), Rescuers must wear breathing apparatus, belt and safety rope, and follow rescue procedures. Send patient to hospital. Immediately begin artificial respiration if breathing has ceased. Administer oxygen if necessary.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Symptoms/effects after skin contact

Suitable extinguishing media : Small-size fires: carbon dioxide, dry chemicals, foam, sand or earth. Large fires: foam or water fog (mist). These means should be used by trained personnel only. Other

extinguishing gases (according to regulations).

Unsuitable extinguishing media : Do not use water jets. They could cause splattering, and spread the fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : This product is combustible, but not classified as Flammable. The creation of flammable vapour mixtures takes place at temperatures which are higher than normal ambient levels.

Explosion hazard : In case of losses from pressurized circuits, the sprays may form mists. Take into account that in this case the lower explosion limit for mists is about 45 g/m³ of air. Heat may build pressure in tank and containers, rupturing closed vessels, spreading fire and increasing risk of burns and injuries. Vapours are heavier than air, spread along floors and form explosive

of burns and injuries. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Hazardous decomposition products in case of fire : Incomplete combustion is likely to give rise to a complex mixture of airborne solid and liquid particulates, gases, including carbon monoxide, NOx, H2S and SOx (harmful/toxic gases).

Oxygenated compounds (aldehydes, etc.). POx. ZnOx. CaOx.

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5.3. Advice for firefighters

Firefighting instructions

: Shut off source of product, if possible. Move undamaged containers from immediate hazard area if it can be done safely. Spilled product which is not burning should be covered with sand or foam. Use water sprays to cool containers and surfaces exposed to the flames. If the fire cannot be controlled, evacuate area.

Special protective equipment for firefighters

: Wear personal protection equipment. (see chapter 8). EN 443. EN 469. EN 659. In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Other information

: In case of fire, do not discharge residual product, waste materials and runoff water: collect separately and use a proper treatment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

: Stop or contain leak at the source, if safe to do so. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares). Avoid direct contact with released material. Keep upwind.

6.1.1. For non-emergency personnel

Protective equipment Emergency procedures · See Section 8

: Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Avoid direct contact with released material. Except in case of small spillages, the feasibility of any actions should always be assessed and advised, if possible, by a trained, competent person in charge of managing the emergency.

6.1.2. For emergency responders

Protective equipment

: Small spillages: normal antistatic working clothes are usually adequate. Large spillages: full body suit of chemically resistant and antistatic material. if necessary heat resistant and insulated. Work gloves providing adequate chemical resistance, specifically to aromatic hydrocarbons. Gloves made of PVA are not water-resistant, and are not suitable for emergency use. If contact with hot product is possible or anticipated, gloves should be heat-resistant and thermally insulated. Antistatic non-skid safety shoes or boots, chemical resistant, if necessary heat resistant and insulated. Work helmet. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory protection: A half or full-face respirator with filter(s) for organic vapours (A) (or A+B when applicable for H2S), or a Self-contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. A Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

Emergency procedures

: If required, notify relevant authorities according to all applicable regulations.

6.2. Environmental precautions

Do not let the product accumulate in confined or underground spaces. Do not let the product flow into sewers or water courses, or in any way contaminate the environment. In case of contamination of environment compartments (soil, subsoil, surface or underground waters), remove contaminated soil when possible, and in any case treat all involved compartments in accordance with local regulations. The site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.

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6.3. Methods and material for containment and cleaning up

For containment

: Contain spilled liquid with sand, earth or other suitable absorbents (non-flammable). Recover free liquid and waste materials in suitable waterproof and oil-resistant containers. Clean contaminated area. Dispose of according to local regulations. Large spillages may be cautiously covered with foam, if available, to limit fire risk. Do not use direct jets. When inside buildings or confined spaces, ensure adequate ventilation. If in water: In case of small spillages in closed waters, contain product with floating barriers or other equipment. If possible, large spillages in open waters should be contained with floating barriers or other suitable mechanical means. Collect recovered product and other materials in suitable tanks or containers for recovery or safe disposal. Dispose of in accordance with relevant local regulations. Do not use solvents or dispersants, unless specifically advised by an expert, and, if required, approved by local authorities.

Methods for cleaning up

: Transfer recovered product and other materials to suitable tanks or containers and store/dispose according to relevant regulations.

Other information

: Recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air/water temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. Do not use solvents or dispersants, unless specifically advised by an expert, and, if required, approved by local authorities. Local regulations may also prescribe or limit actions to be taken. For this reason, local experts should be consulted when necessary.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: This material is combustible, but will not ignite readily. Provide adequate ventilation. Use adequate personal protective equipment as needed. Due to the extremely slippery nature of this material, more care than usual must be exercised in material handling practices to keep off all walking surfaces. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid release to the environment. Emptied containers can contain combustible product residues. Do not cut, weld, drill, burn or incinerate empty containers or drums, unless they have been drained and cleaned. Before entering storage tanks and commencing any operation in a confined area (e.g. tunnels), carry out an adequate cleanup, and check the atmosphere for oxygen content, flammability, and the presence of sulphur compounds. The product may release Hydrogen Sulphide: a specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls appropriate to local circumstances. See also Section 16, "Other information".

Hygiene measures

Ensure that proper housekeeping measures are in place. Contaminated materials should not be allowed to accumulate in the workplaces and should never be kept inside the pockets. Avoid contact with skin. Do not breathe fume/ mist/ vapours. Do not ingest. Do not smoke. Do not eat and do not drink during use. Do not clean hands with dirty or oil-soaked rags. Do not re-use clothes, if they are still contaminated. Keep away from food and beverages. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Separate working clothes from town clothes. Launder separately. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Store in dry, well-ventilated area. Keep away from open flames, hot surfaces and sources of ignition. Do not smoke.

Incompatible products

: Keep away from strong oxidizers.

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Storage area	: Storage area layout, tank design, equipment and operating procedures must comply with
	the relevant European, national or local legislation. Storage installations should be designed
	with adequate bunds so as to prevent ground and water pollution in case of leaks or spills.
	Cleaning, inspection and maintenance of internal structure of storage tanks must be done
	only by properly equipped and qualified personnel as defined by national, local or company
	regulations.

: If the product is supplied in containers: Keep containers tightly closed and properly labelled. Keep only in the original container or in a suitable container for this kind of product.

: For containers, or container linings use materials specifically approved for use with this product. Compatibility should be checked with the manufacturer.

7.3. Specific end use(s)

Packages and containers:

Packaging materials

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)		
Austria - Occupational Exposure Limits		
MAK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
Belgium - Occupational Exposure Limits		
OEL TWA	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
Denmark - Occupational Exposure Limits		
OEL TWA [1]	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
OEL STEL	2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
Hungary - Occupational Exposure Limits		
AK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
Netherlands - Occupational Exposure Limits		
MAC TGG 8h (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
Spain - Occupational Exposure Limits		
VLA-ED (OEL TWA) [1]	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
VLA-EC (mg/m³)	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
Sweden - Occupational Exposure Limits		
NGV (OEL TWA)	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
KTV (OEL STEL)	3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
USA - ACGIH - Occupational Exposure Limits		
ACGIH OEL TWA	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
ACGIH OEL STEL	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
Mineral base oil, severely refined (N/A)		
Austria - Occupational Exposure Limits		
MAK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	
Belgium - Occupational Exposure Limits		
OEL TWA	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	

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Mineral base oil, severely refined (N/A)			
Denmark - Occupational Exposure Limits	Denmark - Occupational Exposure Limits		
OEL TWA [1]	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
OEL STEL	2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Hungary - Occupational Exposure Limits			
AK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Netherlands - Occupational Exposure Limits			
MAC TGG 8h (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Spain - Occupational Exposure Limits			
VLA-ED (OEL TWA) [1]	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
VLA-EC (mg/m³)	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Sweden - Occupational Exposure Limits			
NGV (OEL TWA)	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
KTV (OEL STEL)	3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
USA - ACGIH - Occupational Exposure Limits			
ACGIH OEL TWA	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
ACGIH OEL STEL	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Hydrocarbons, C10-C13, n-alkanes, isoalkane heavy)	es, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated		
EU - Indicative Occupational Exposure Limit (IOEL)			
Local name	White spirit Type 3		
IOEL TWA	116 mg/m³		
IOELV TWA (ppm)	20 ppm		
IOELV STEL (mg/m³)	290 mg/m³		
IOELV STEL (ppm)	50 ppm		
Notes	Skin. (Year of adoption 2007)		
Regulatory reference	SCOEL Recommendations		
Germany - Occupational Exposure Limits (TRGS 90	00)		
AGW (OEL TWA) [1]	100 mg/m³		
Limitation of exposure peaks (mg/m³)	200 mg/m³		
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)			
Austria - Occupational Exposure Limits			
MAK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Belgium - Occupational Exposure Limits			
OEL TWA	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Denmark - Occupational Exposure Limits			
OEL TWA [1]	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
OEL STEL	2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Hungary - Occupational Exposure Limits			
AK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (DEL TWA) [1] 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-ED (mg/m²) 10 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) SWED - AGGIH - Occupational Exposure Limits ACGIH OEL STEL 3 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - AGGIH - Occupational Exposure Limits ACGIH OEL STEL 10 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil—unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons abraing carbon numbers predominantly in the range of C20 through C50 and produces a finished oil oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7) Austria - Occupational Exposure Limits MAK (OEL TWA) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Denmark - Occupational Exposure Limits OEL TWA 1] 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Denmark - Occupational Exposure Limits MAC (GR (Mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Notherlands - Occupational Exposure Limits MAC (GR (Mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Notherlands - Occupational Exposure Limits MAC (GR (Mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Notherlands - Occupational Exposure Limits MAC (G	Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)			
Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m²) 10 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits ACGIH OEL TWA 3 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Distillates (petroleum), hydrotreated heavy paraffinic; Bassoil—unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons abiling carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19eSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7) Austria - Occupational Exposure Limits MAK (OEL TWA) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Belgium - Occupational Exposure Limits OEL TWA 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Penmark - Occupational Exposure Limits AC (SEL TWA) 1 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Notherlands - Occupational Exposure Limits MAC TGG 8h (mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Notherlands - Occupational Exposure Limits MAC TGG 8h (mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Notherlands - Occupational Exposure Limits MAC TGG 8h (mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Notherlands - Occupational Exposure Limits NGY (OEL TWA) 1 1 mg/m² (Mineral base o	Netherlands - Occupational Exposure Limits			
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Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) ACGIH OEL STEL 10 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) ACGIH OEL STEL 10 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Distillates (petroleum), hydrotreated heavy paraffinic; Baseoll— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19eSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7) Austria - Occupational Exposure Limits MAK (OEL TWA) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Belgium - Occupational Exposure Limits OEL TWA 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Denmark - Occupational Exposure Limits AC (OEL TWA) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits NGC (OEL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m²) 10 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) NGCL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3	VLA-ED (OEL TWA) [1]	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
NGV (OEL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) ACGIH OEL STEL 10 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Distillates (petroleum), hydrotreated heavy paraffilnic; Baseoil—unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7) Austria - Occupational Exposure Limits MAK (OEL TWA) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Denmark - Occupational Exposure Limits OEL TWA 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) OEL STEL 2 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m²) 5 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits NGC (OEL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits NGC (OEL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGC (OEL TWA) 1 mg/m² (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGC (OEL TWA) 1 mg/m² (Mineral base oil mist,	VLA-EC (mg/m³)	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
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ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) ACGIH OEL STEL 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil—unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7) MAK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Belgium - Occupational Exposure Limits OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Denmark - Occupational Exposure Limits OEL TWA [1] 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) OEL STEL 2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits NGV (OEL TWA) 1 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) SWeden - Occupational Exposure Limits NGV (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely ref	KTV (OEL STEL)	3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
ACGIH OEL STEL 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil—unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7) Austria - Occupational Exposure Limits MAK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Penmark - Occupational Exposure Limits OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) OEL STEL 2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Pain - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) NGV (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 5 mg/m³ (Mineral base oil mi	USA - ACGIH - Occupational Exposure Limits			
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obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7) Austria - Occupational Exposure Limits MAK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Belgium - Occupational Exposure Limits OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Denmark - Occupational Exposure Limits OEL TWA [1] 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGY (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGY (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGY (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGY (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	ACGIH OEL STEL	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
MAK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) 8elgium - Occupational Exposure Limits OEL TWA	obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F			
Belgium - Occupational Exposure Limits OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Denmark - Occupational Exposure Limits OEL TWA [1] 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) OEL STEL 2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	Austria - Occupational Exposure Limits			
DEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Denmark - Occupational Exposure Limits OEL TWA [1] 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) OEL STEL 2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	MAK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Denmark - Occupational Exposure Limits OEL TWA [1] 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) OEL STEL 2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	Belgium - Occupational Exposure Limits			
OEL TWA [1] 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) OEL STEL 2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	OEL TWA	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
OEL STEL 2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	Denmark - Occupational Exposure Limits			
Hungary - Occupational Exposure Limits AK (OEL TWA) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m²) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	OEL TWA [1]	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
AK (OEL TWA) S mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Netherlands - Occupational Exposure Limits MAC TGG 8h (mg/m³) S mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] S mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	OEL STEL	2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	Hungary - Occupational Exposure Limits			
MAC TGG 8h (mg/m³) 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	AK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
Spain - Occupational Exposure Limits VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	Netherlands - Occupational Exposure Limits			
VLA-ED (OEL TWA) [1] 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	MAC TGG 8h (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
VLA-EC (mg/m³) 10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	Spain - Occupational Exposure Limits			
Sweden - Occupational Exposure Limits NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	VLA-ED (OEL TWA) [1]	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
NGV (OEL TWA) 1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	VLA-EC (mg/m³)	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
KTV (OEL STEL) 3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m) USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	Sweden - Occupational Exposure Limits			
USA - ACGIH - Occupational Exposure Limits ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	NGV (OEL TWA)	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
ACGIH OEL TWA 5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)	KTV (OEL STEL)	3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
	USA - ACGIH - Occupational Exposure Limits			
ACCIH DEL STEL	ACGIH OEL TWA	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		
ACONT OLE STEE TO HIGHT (Millieral base oil filist, severely relined, DMSO extract <3% m/m)	ACGIH OEL STEL	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)		

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	Monitoring procedures should be chosen according to the indications set by national authorities or labour contracts. Refer to relevant legislation and in any case to the good practice of industrial hygiene.

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8.1.3. Air contaminants formed

Applicable OEL and BLV for air contaminants : None known

8.1.4. DNEL and PNEC

Eni i-Sigma top MS 15W-40			
DNEL/DMEL (additional information)			
Additional information	Not applicable		
PNEC (additional information)			
Additional information	Not applicable		
Distillates (petroleum), hydrotreated heavy pa	rraffinic (64742-54-7)		
DNEL/DMEL (Workers)			
Long-term - systemic effects, dermal	1 mg/kg bodyweight/day		
Long-term - systemic effects, inhalation	2,7 mg/m³		
Long-term - local effects, inhalation	5,6 mg/m³		
DNEL/DMEL (General population)			
Long-term - systemic effects,oral	0,74 mg/kg bodyweight/day		
Long-term - local effects, inhalation	1,2 mg/m³/day		
PNEC (Oral)			
PNEC oral (secondary poisoning)	9,33 mg/kg food		
Phosphorodithioic acid, mixed O,O-bis(1,3-dia	methylbutyl and iso-Pr)esters, zinc salts (84605-29-8)		
DNEL/DMEL (Workers)			
Long-term - systemic effects, dermal	12,1 mg/kg bodyweight/day		
Long-term - systemic effects, inhalation	8,31 mg/m³		
DNEL/DMEL (General population)			
Long-term - systemic effects,oral	0,24 mg/kg bodyweight/day		
Long-term - systemic effects, inhalation	2,11 mg/m³		
Long-term - systemic effects, dermal	6,1 mg/kg bodyweight/day		
PNEC (Water)			
PNEC aqua (freshwater)	4 μg/l		
PNEC aqua (marine water)	4,6 µg/l		
PNEC aqua (intermittent, freshwater)	45 μg/l		
PNEC (Sediment)			
PNEC sediment (freshwater)	0,022 mg/kg dwt		
PNEC sediment (marine water)	0,0022 mg/kg dwt		
PNEC (Soil)			
PNEC soil	2,06 µg/kg		
PNEC (Oral)	PNEC (Oral)		
PNEC oral (secondary poisoning)	10,67 mg/kg food		
PNEC (STP)			
PNEC sewage treatment plant	100 mg/l		

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Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts		
DNEL/DMEL (Workers)		
Long-term - systemic effects, dermal	25 mg/kg bodyweight/day	
Long-term - local effects, dermal	1,05 mg/cm ²	
Long-term - systemic effects, inhalation	17,63 mg/m³	
DNEL/DMEL (General population)		
Long-term - systemic effects,oral	2,5 mg/kg bodyweight/day	
Long-term - systemic effects, inhalation	4,35 mg/m³	
Long-term - systemic effects, dermal	12,5 mg/kg bodyweight/day	
Long-term - local effects, dermal	0,526 mg/cm ²	
PNEC (Water)		
PNEC aqua (freshwater)	0,1 mg/l	
PNEC aqua (marine water)	0,1 mg/l	
PNEC aqua (intermittent, freshwater)	1 mg/l	
PNEC aqua (intermittent, marine water)	1 mg/l	
PNEC (Sediment)		
PNEC sediment (freshwater)	166,32 mg/kg dwt	
PNEC sediment (marine water)	166,32 mg/kg dwt	
PNEC (Soil)		
PNEC soil	33,12 mg/kg dwt	
PNEC (STP)		
PNEC sewage treatment plant	1000 mg/l	
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated heavy)		
DNEL/DMEL (Workers)		
Long-term - systemic effects, dermal	12,5 mg/kg bodyweight/day (DNEL)	
Long-term - systemic effects, inhalation	151 mg/m³ (DNEL)	
DNEL/DMEL (General population)		
Long-term - systemic effects,oral	7,5 mg/kg bodyweight/day (DNEL)	
Long-term - systemic effects, inhalation	32 mg/m³ (DNEL)	
Long-term - systemic effects, dermal	7,5 mg/kg bodyweight/day (DNEL)	
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)		
DNEL/DMEL (Workers)		
Long-term - systemic effects, dermal	0,97 mg/kg bodyweight/day	
Long-term - systemic effects, inhalation	2,73 mg/m³	
Long-term - local effects, inhalation	5,58 mg/m³	
DNEL/DMEL (General population)		
Long-term - systemic effects,oral	0,74 mg/kg bodyweight/day	
Long-term - local effects, inhalation	1,19 mg/m³	

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Note

: The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

8.1.5. Control banding

Control banding : None known

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Before entering storage tanks and commencing any operation in a confined area (e.g. tunnels), carry out an adequate clean-up, and check the atmosphere for oxygen content and flammability. See also Section 16, "Other information".

8.2.2. Personal protection equipment

Personal protective equipment (for industrial or professional use):

Face shield. Gloves. Protective clothing. Safety glasses. Safety shoes or boots. High gas/vapour concentration: gas mask with filter for organic vapours (A) or organic vapours/H2S (A+B).

Personal protective equipment symbol(s):













8.2.2.1. Eye and face protection

Eye protection:

When there is a risk of contact with the eyes, use safety goggles or other means of protection (face shield). If necessary, refer to national standards or to the EN 166 standard.

8.2.2.2. Skin protection

Skin and body protection:

Long-sleeved overalls. If necessary, refer to the EN 340 and related standards, for definition of characteristics and performance according to the risk rating of the area. Antistatic non-skid safety shoes or boots, chemical resistant, if necessary heat resistant and insulated.

Hand protection:

When there is a risk of contact with the skin, use waterproof gloves, resistant to chemical products. Gloves must be felt-lined. Adequate materials: nitrile (NBR) or PVC with a protection index > 5 (permeation time > 240 mins). Use gloves respecting all the conditions and within the limits set by the manufacturer. Replace gloves immediately in case of cuts, holes or other signs of damages or degradation. If necessary, refer to the EN 374 standard. Personal hygiene is a key element for an effective hand care. Gloves must be worn only with clean hands. After wearing gloves, hands must be carefully washed and dried.

8.2.2.3. Respiratory protection

Respiratory protection:

Independently from other possible actions (technical modifications, operating procedures, and other means to limit the exposure of workers), personal protection equipment can be used according to necessity. Open or well ventilated spaces: in presence of oil mists and if the product is handled without adequate containment means: use full or half-face masks with filter for mists/aerosols (P). In case there is a significant presence of vapours (e.g. through handling at high temperature), use full or half-face masks with a filter for organic vapours (A), and H2S (B) where applicable. (EN 136/140/145). Combined gas/dust mask with filter type: EN 14387. Closed or confined areas (e.g. tank interiors): the use of protection measures for airways (masks or self-contained breathing apparatus), must be assessed according to the specific activity, as well as level and duration of predicted exposure. (EN 136/140/145). Approved respiratory protection equipment shall be used in spaces where hydrogen sulphide may accumulate: full face mask with cartridge/filter type "B" (grey for inorganic vapours including H2S) or self-contained breathing apparatus (SCBA). (EN 136/140/145)

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8.2.2.4. Thermal hazards

Thermal hazard protection:

If contact with hot product is possible or anticipated, gloves should be heat-resistant and thermally insulated.

8.2.3. Environmental exposure controls

Environmental exposure controls:

Do not discharge the product into the environment. Storage areas/installations should be designed with adequate bunds so as to prevent ground and water pollution in case of leaks or spills. Prevent discharge of undissolved substance to or recover from onsite wastewater. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Consumer exposure controls:

No special requirements.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : Yellow to amber.
Appearance : Clear liquid.

Odour : Slight odour of petroleum.

Odour threshold : Not determined Melting point : Not determined Freezing point : Not determined : Not determined

Boiling point : > 315 °C (CAS 64742-54-7)

Flash point : > 180 $^{\circ}$ C (ASTM D 93)

Auto-ignition temperature : 250 – 370 °C (CAS 64742-54-7)

Decomposition temperature : Not determined pH : Not determined

Viscosity, kinematic : 12,5 - 16,3 mm²/s Viscosity, kinematic: 12,5 - 16,3 mm²/s (100 °C) (ASTM D 445)

Viscosity, dynamic : Not determined

Solubility : Water: Immiscible and insoluble

Log Kow : Not available

Log Pow : Not applicable for mixtures

Vapour pressure : ≤ 0,1 hPa (20 °C) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)

Vapour pressure at 50°C : Not determined
Density : Not determined
Relative density : Not determined
Relative vapour density at 20°C : Not determined
Particle characteristics : Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosion limits : ≥ 45 g/m³ (Aerosol)

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : Negligible.

SECTION 10: Stability and reactivity

10.1. Reactivity

This mixture does not offer any further hazard for reactivity, except what is reported in the following paragraphs.

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10.2. Chemical stability

Stable product, according to its intrinsic properties.

10.3. Possibility of hazardous reactions

None (in normal conditions of storage and handling). Contact with strong oxidizers (peroxides, chromates, etc.) may cause a fire hazard. Sensitivity to heat, friction or shock cannot be assessed in advance.

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidants.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition may produce: Toxic fumes. In exceptional cases (i.e prolonged storage in tanks contaminated with water, and presence of anaerobic sulfate-reducing microbial colonies), the product may undergo a degradation and generate small amounts of sulfur compounds, including H2S.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Additional information :	(according to composition)	
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)		
LD50 oral rat	> 5000 mg/kg (OECD 401)	
LD50 dermal rat	> 5000 mg/kg (OECD 402)	
LD50 dermal rabbit	> 2000 mg/kg bodyweight	
LC50 Inhalation - Rat	> 5,53 mg/l/4h (EBSI, 1988)	
Mineral base oil, severely refined (N/A)		
LD50 oral rat	≥ 5000 mg/kg bodyweight (OECD 401)	
LD50 dermal rat	≥ 5000 mg/kg bodyweight (OECD 402)	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr)esters, zinc salts (84605-29-8)		
LD50 dermal rat	2002 mg/kg bodyweight	
LC50 Inhalation - Rat	2,3 mg/l/4h	
Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts		
LD50 oral rat	10000 – 20000 mg/kg bodyweight	
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402)	
LC50 Inhalation - Rat	> 1,9 mg/l air (EPA OPP 81-3)	
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated heavy)		
LD50 oral rat	> 8000 mg/kg bodyweight	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)	

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Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated heavy)		
LD50 dermal rabbit	≥ 3160 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)	
LC50 Inhalation - Rat	4951 mg/l/4h	
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)		
LD50 oral rat	> 5000 mg/kg bodyweight	
LD50 dermal rat	> 5000 mg/kg bodyweight	
LD50 dermal rabbit	2000 – 5000 mg/kg bodyweight	
LC50 Inhalation - Rat	> 5 mg/l/4h	
Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)		
LD50 oral rat	> 5000 mg/kg (OECD 401)	
LD50 dermal rat	> 5000 mg/kg (OECD 402)	
LC50 Inhalation - Rat	> 5 mg/l/4h (OECD 403)	
Skin corrosion/irritation :	Not classified (Based on available data, the classification criteria are not met) pH: Not determined	
Additional information :	(according to composition) This product contains components with a Specific Concentration Limit (SCL).	
Distillates (petroleum), hydrotreated heavy pa	araffinic (64742-54-7)	
pH	Not applicable	
Mineral base oil, severely refined (N/A)		
pH	Not applicable	
Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)		
obtained by treating a petroleum fraction with carbon numbers predominantly in the range of	hydrogen in the presence of a catalyst. It consists of hydrocarbons having of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F	
obtained by treating a petroleum fraction with carbon numbers predominantly in the range of	hydrogen in the presence of a catalyst. It consists of hydrocarbons having of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F	
obtained by treating a petroleum fraction with carbon numbers predominantly in the range of (19cSt at 40°C). It contains a relatively large petroleum phetroleum phet	hydrogen in the presence of a catalyst. It consists of hydrocarbons having of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F roportion of saturated hydrocarbons.] (64742-54-7) Not applicable Not classified (Based on available data, the classification criteria are not met) pH: Not determined (according to composition) This product contains components with a Specific Concentration Limit (SCL). This product is formulated with a component which contains substances classified as Eye Dam.1, H318. The component itself has been tested by the manufacturer and has been assessed as NOT irritant to eyes. This result has been used for classification of the final mixture (Bridging principle "Dilution"). On basis of test data: Not irritating to eyes	
obtained by treating a petroleum fraction with carbon numbers predominantly in the range of (19cSt at 40°C). It contains a relatively large pth Serious eye damage/irritation	hydrogen in the presence of a catalyst. It consists of hydrocarbons having of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F roportion of saturated hydrocarbons.] (64742-54-7) Not applicable Not classified (Based on available data, the classification criteria are not met) pH: Not determined (according to composition) This product contains components with a Specific Concentration Limit (SCL). This product is formulated with a component which contains substances classified as Eye Dam.1, H318. The component itself has been tested by the manufacturer and has been assessed as NOT irritant to eyes. This result has been used for classification of the final mixture (Bridging principle "Dilution"). On basis of test data: Not irritating to eyes	
obtained by treating a petroleum fraction with carbon numbers predominantly in the range of (19cSt at 40°C). It contains a relatively large petroleum phetroleum phet	hydrogen in the presence of a catalyst. It consists of hydrocarbons having of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F roportion of saturated hydrocarbons.] (64742-54-7) Not applicable Not classified (Based on available data, the classification criteria are not met) pH: Not determined (according to composition) This product contains components with a Specific Concentration Limit (SCL). This product is formulated with a component which contains substances classified as Eye Dam.1, H318. The component itself has been tested by the manufacturer and has been assessed as NOT irritant to eyes. This result has been used for classification of the final mixture (Bridging principle "Dilution"). On basis of test data: Not irritating to eyes	
obtained by treating a petroleum fraction with carbon numbers predominantly in the range of (19cSt at 40°C). It contains a relatively large purple. Serious eye damage/irritation : Additional information : Distillates (petroleum), hydrotreated heavy page of the period of the peri	hydrogen in the presence of a catalyst. It consists of hydrocarbons having of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F roportion of saturated hydrocarbons.] (64742-54-7) Not applicable Not classified (Based on available data, the classification criteria are not met) pH: Not determined (according to composition) This product contains components with a Specific Concentration Limit (SCL). This product is formulated with a component which contains substances classified as Eye Dam.1, H318. The component itself has been tested by the manufacturer and has been assessed as NOT irritant to eyes. This result has been used for classification of the final mixture (Bridging principle "Dilution"). On basis of test data: Not irritating to eyes	

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NOAEL (dermal, rat/rabbit, 90 days)

NOAEC (inhalation,rat, vapour, 90 days)

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Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)

рН	Not applicable
Respiratory or skin sensitisation Additional information	 Not classified (Based on available data, the classification criteria are not met) (according to composition) This product contains components with a Specific Concentration Limit (SCL). Exposure may produce an allergic reaction
Germ cell mutagenicity Additional information	 Not classified (Based on available data, the classification criteria are not met) (according to composition)
Carcinogenicity Additional information	: Not classified (Based on available data, the classification criteria are not met) : (according to composition) This product contains: Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil—unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.], Distillates (petroleum), hydrotreated light naphthenic; Baseoil—unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C15 through C30 and produces a finished of with a viscosity of less than 100 SUS at 100 °F (19cSt at 40 °C). It contains relatively few normal paraffins.] this product has a value of DMSO extract < 3 % wt, according to IP 346. According to the criteria laid out by the EU (note L, Annex VI of Regulation (CE) 1272/2008), this product must be regarded as non carcinogenic. All the mineral base oils contained in this product have a value < 3 % wt of DMSO extract, according to IP 346 (Nota L - Annex VI Reg (CE) 1272/2008, # 1.1.3) No carcinogenic effect
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: (according to composition)
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
NOAEL (animal/male, F0/P)	1000 mg/kg bodyweight
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: (according to composition)

Distillates (petroleum), nydrotreated neavy paraminic (64742-54-7)		
NOAEL (animal/male, F0/P)	1000 mg/kg bodyweight	
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)	
Additional information	: (according to composition)	
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)	
Additional information	: (according to composition)	
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)		
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day (OECD TG 408)	
Mineral base oil, severely refined (N/A)		
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day (OECD TG 408)	
Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts		
NOAEL (oral, rat, 90 days)	> 500 mg/kg bodyweight	
NOAEL (dermal, rat/rabbit, 90 days)	> 1000 mg/kg bodyweight (21/28d, OECD 410)	
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)		
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day	

30 - 2000 mg/kg bodyweight/day

980 mg/m³

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Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7) 125 mg/kg bodyweight/day (OECD TG 408) LOAEL (oral, rat, 90 days) Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)

	Viscosity, kinematic: > 20,5 mm2/s (40 °C) (ASTM D 445)	
Eni i-Sigma top MS 15W-40		
Viscosity, kinematic	12,5 – 16,3 mm²/s Viscosity, kinematic: 12,5 - 16,3 mm2/s (100 °C) (ASTM D 445)	
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)		
Viscosity, kinematic	40 mm²/s (40 °C) (ASTM D 445)	
Mineral base oil, severely refined (N/A)		
Viscosity, kinematic	> 21 mm²/s	
Hydrocarbon	Yes	
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated heavy)		
Viscosity, kinematic	1,8 mm²/s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm²/s)'	
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)		
Viscosity, kinematic	> 20,5 mm²/s	

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)

27,2 - 29,2 mm²/s (40 °C) (ASTM D 445) Viscosity, kinematic

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

11.2.2. Other information

Potential adverse human health effects and symptoms

Other information

: Contact with eyes may cause temporary reddening and irritation, Prolonged and repeated skin contact may cause reddening, irritation and dermatitis, May cause an allergic skin reaction, Avoid all eye and skin contact and do not breathe vapour and mist : None

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general

: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. An uncontrolled release to the environment may nevertheless produce a contamination of different environmental compartments (soil, underground, surface water bodies, aquifers). Handle according to general working hygiene practices to avoid pollution and release into the environment.

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Ecology - air :	This product has a low vapour pressure, and in normal conditions at ambient temperature the concentration in the air is negligible. A significant concentration may build up only in case of sprays and mists. In these cases overexposure to mists (e.g. through prolonged use in confined insufficiently ventilated spaces) may cause irritation to airways, nausea and dizziness.	
Ecology - water :	This product is not soluble in water. It floats on water and forms a film on the surface. The	
Hazardous to the aquatic environment, short–term : (acute)	damage to aquatic organisms is of mechanical kind (immobilization and entrapment) Not classified (Based on available data, the classification criteria are not met)	
,	Not classified (Based on available data, the classification criteria are not met)	
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)		
LC50 fish 1	> 100 mg/l (LL 50)	
EC50 Daphnia 1	> 10000 mg/l WAF, 48 h (OECD 202)	
Mineral base oil, severely refined (N/A)		
LC50 fish 1	> 100 mg/l (LL 50)	
EC50 Daphnia 1	> 10000 mg/l WAF, 48 h (OECD 202)	
Phosphorodithioic acid, mixed O,O-bis(1,3-di	methylbutyl and iso-Pr)esters, zinc salts (84605-29-8)	
LC50 fish 1	46 mg/l	
EC50 Daphnia 1	23 mg/l	
EC50 72h - Algae [1]	21 – 24 mg/l	
Reaction products of benzenesulfonic acid, r	nono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts	
LC50 fish 1	100 mg/l (LL50)	
EC50 Daphnia 1	100 – 1000 (EL50)	
EC50 72h - Algae [1]	100 – 1000 mg/l	
EC50 96h - Algae [1]	1000 mg/l	
Hydrocarbons, C10-C13, n-alkanes, isoalkane heavy)	es, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated	
LC50 fish 1	> 1000 mg/l (Oncorhynchus mykiss)	
EC50 Daphnia 1	> 1000 mg/l	
ErC50 (algae)	> 1000 mg/l (96h) (Scenedesmus subspicatus)	
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)		
LC50 fish 1	> 100 mg/l (Pimephales promelas)	
LC50 other aquatic organisms 1	> 10 g/l (LL50)	
EC50 Daphnia 1	> 10 g/l	
NOEC chronic fish	> 5000 mg/l (7d)	
NOEC chronic crustacea	> 1000 mg/l (21d)	
Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)		
LC50 fish 1	> 100 mg/l (LL 50)	
EC50 Daphnia 1	> 10000 mg/l WAF, 48 h (OECD 202)	

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12.2. Persistence and degradability

Eni i-Sigma top MS 15W-40		
Persistence and degradability	The most significant constituents of the product should be considered as "inherently biodegradable", but not "readily biodegradable", and they may be moderately persistent, particularly in anaerobic conditions.	
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)		
Persistence and degradability	The most significant constituents of the product should be considered as "inherently biodegradable", but not "readily biodegradable", and they may be moderately persistent, particularly in anaerobic conditions.	
Mineral base oil, severely refined (N/A)		
Persistence and degradability	The most significant constituents of the product should be considered as "inherently biodegradable", but not "readily biodegradable", and they may be moderately persistent, particularly in anaerobic conditions.	
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated heavy)		
Persistence and degradability	Readily biodegradable.	
Biodegradation	= 70 % (28d, OECD Guideline 301 F)	
Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)		
Persistence and degradability	The most significant constituents of the product should be considered as "inherently biodegradable", but not "readily biodegradable", and they may be moderately persistent, particularly in anaerobic conditions.	

12.3. Bioaccumulative potential

Eni i-Sigma top MS 15W-40		
Log Pow	Not applicable for mixtures	
Bioaccumulative potential	Not established.	
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr)esters, zinc salts (84605-29-8)		
Log Kow	0,56	
Log Kow 0,56		

12.4. Mobility in soil

Eni i-Sigma top MS 15W-40	
Ecology - soil	No data available.

12.5. Results of PBT and vPvB assessment

Eni i-Sigma top MS 15W-40		
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII		
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII		
Results of PBT-vPvB assessment	The components in this formulation do not meet the criteria for classification as PBT or vPvB. The product should be considered prudentially as "Persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1)	

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Component	
Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII This substance does not meet the criteria for classification as PBT or vPvB. The product should be considered prudentially as "Persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1)
Mineral base oil, severely refined (N/A)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII This substance does not meet the criteria for classification as PBT or vPvB. The product should be considered prudentially as "Persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1)
Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII This substance does not meet the criteria for classification as PBT or vPvB. The product should be considered prudentially as "Persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1)
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-48-9: Naphtha (petroleum), hydrotreated heavy)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Distillates (petroleum), hydrotreated light naphthenic (64742-53-6)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII This substance does not meet the criteria for classification as PBT or vPvB. The product should be considered prudentially as "Persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1)

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

12.7. Other adverse effects

Other adverse effects Additional information

- · None
- : This product has no specific properties for inhibition of bacterial activity. In any case, wastewater containing this product should be treated in plants that are suited for the specific purpose.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Did di

Do not dispose of the product, either new or used, by dumping on the ground, or discharging into sewers, tunnels, lakes or water courses. Deliver to a qualified official collector.

Sewage disposal recommendations

: Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Dispose of in a safe manner in accordance with local/national regulations.

Product/Packaging disposal recommendations

: European Waste Catalogue code(s) (Decision 2001/118/CE): 13 02 05* (mineral-based non-chlorinated engine, gear and lubricating oils). This EWC code is only a general indication, and takes into account the original composition of the product and its intended use. The user has the responsibility of choosing the right EWC code, considering the actual use of the product, alterations and contaminations.

Additional information

: Empty containers may contain combustible product residues. Do not cut, weld, bore, burn or incinerate emptied containers, unless they have been cleaned and declared safe.

Ecology - waste materials

: The product as it is does not contain halogenated substances.

EURAL code (EWC)

: 13 02 05* - Mineral-based non-chlorinated engine, gear and lubricating oils

12/05/2023 (Revision date) EU - en 21/27

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SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID	
14.1. UN number or ID n	14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	
14.2. UN proper shippin	14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	
14.3. Transport hazard class(es)					
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	
14.4. Packing group					
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	
14.5. Environmental hazards					
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated	
None.					

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

IBC code : Not applicable.

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Other information, restriction and prohibition regulations

: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). (et sequens). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (et sequens). Directives 89/391/CEE, 89/654/CEE, 89/655/CEE, 89/656/CEE, 90/269/CEE, 90/270/CEE, 90/394/CEE, 90/679/CEE, 93/88/CEE, 95/63/CE, 97/42/CE, 98/24/CE, 99/38/CE, 99/92/CE, 2001/45/CE, 2003/10/CE, 2003/18/CE (Health and safety on the workplace). Directive 2012/18/CE (Control of major-accident hazards involving dangerous substances). Directive 2004/42/CE (Limitation of emissions of Volatile Organic Compounds). Directive 98/24/EC (protection of the health and safety of workers from the risks related to chemical agents at work). Directive 92/85/CE (measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding). Substances Depleting the Ozone layer (1005/2009) - Annex I Substances (ODP). POP (2019/1021) - Persistent Organic Pollutants. Regulation EU (649/2012) -Export and Import of hazardous chemicals (PIC). Commission Delegated Regulation (EU) 2017/2100. Commission Regulation (EU) 2018/605.

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(b)	Mineral base oil, severely refined; Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr)esters, zinc salts; Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics; Benzene, polypropene derivs., sulfonated, calcium salts; Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.]	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10

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EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(c)	Phosphorodithioic acid, mixed O,O-bis(1,3- dimethylbutyl and iso- Pr)esters, zinc salts	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

No ingredients are included in the REACH Candidate list (> 0,1 % m/m).

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

National adoption of EU Directives concerning health and safety on the workplace.

National adoption of EU Directives concerning control of major-accident hazards involving dangerous substances (2012/18/CE).

Relevant national laws on prevention of water pollution.

Relevant national laws on protection of the health of pregnant workers (National adoption of Dir. 92/85/EEC).

National adoption of Directive 2008/98/CE concerning disposal of used oils.

France

Maladies professionelles (F)	
Code	Description
RG 36	Diseases caused by oils and fats of mineral or synthetic origin

Germany	
Employment restrictions	: Employment prohibitions or restrictions on the protection of young people at work according to § 22 JArbSchG in the case of formation of hazardous substances have to be observed.
National Rules and Recommendations	 TRGS 400: Hazard assessment for activities involving Hazardous Substances. TRGS 401: Risks resulting from skin contact - identification, assessment, measures. TRGS 402: Identification and Assessment of the Risks from Activities involving Hazardous Substances: Inhalation Exposure. TRGS 555: Working instruction and information for workers. TRGS 800: Fire protection measures. TRGS 900: Occupational Exposure Limits.
VbF class (D) Water hazard class (WGK) (D) WGK remark	 Not applicable. WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1). Classification is carried out on the basis of the Ordinance on facilities for handling substances that are hazardous to water (Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV)) of 18 April 2017 (BGBI 2017, Teil I, Nr. 22, Seite

Storage class (LGK, TRGS 510) : LGK 10 - Combustible liquids.

Hazardous Incident Ordinance (12. BlmSchV) : Is not subject of the Hazardous Incident Ordinance (12. BlmSchV)

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Netherlands

Saneringsinspanningen : C - Minimize discharge

SZW-lijst van kankerverwekkende stoffen : None of the components are listed SZW-lijst van mutagene stoffen : None of the components are listed SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed : None of the components are listed

SZW-lijst van reprotoxische stoffen -

Vruchtbaarheid

SZW-lijst van reprotoxische stoffen - Ontwikkeling

: None of the components are listed

Denmark

Danish National Regulations : Pregnant/breastfeeding women working with the product must not be in direct contact with it

15.2. Chemical safety assessment

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

No chemical safety assessment has been carried out

A chemical safety assessment has been carried out for the following components of this mixture::

Distillates (petroleum), hydrotreated heavy paraffinic

Reaction products of benzenesulfonic acid, mono-C20-24 (even)-sec-alkyl derivs. para-, calcium salts

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics

Distillates (petroleum), hydrotreated light naphthenic

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil—unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.]

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Notes
	First issue.		

Abbreviations and acronyms:		
	Complete text of the H phrases quoted in this Safety Data Sheet. These phrases are reported here for information only, and MAY NOT correspond to the classification of the product.	
	N/D = not available	
	N/A = not applicable	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways	
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road	
ATE	Acute Toxicity Estimate	
BCF	Bioconcentration factor	
CAS-No.	Chemical Abstract Service number	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008	
DMEL	Derived Minimal Effect level	
DNEL	Derived-No Effect Level	
EC50	Effective concentration for 50 percent of test population (median effective concentration)	
EC-No.	European Community number	
ED	Endocrine disrupting properties	
IARC	International Agency for Research on Cancer	
IATA	International Air Transport Association	

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Abbreviations and acronyms:		
IMDG	International Maritime Dangerous Goods	
LC50	Lethal concentration for 50 percent of test population (median lethal concentration)	
LD50	Lethal dose for 50 percent of test population (median lethal dose)	
LOAEL	Lowest Observed Adverse Effect Level	
NOAEC	No-Observed Adverse Effect Concentration	
NOAEL	No-Observed Adverse Effect Level	
NOEC	No-Observed Effect Concentration	
OECD	Organisation for Economic Co-operation and Development	
OEL	Occupational Exposure Limit	
PBT	Persistent Bioaccumulative Toxic	
PNEC	Predicted No-Effect Concentration	
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals, Regulation (EC) No 1907/2006	
RID	Regulation concerning the International Carriage of Dangerous Goods by Railways	
SDS	Safety Data Sheet	
STP	Sewage treatment plant	
VOC	Volatile Organic Compounds	
vPvB	Very Persistent and Very Bioaccumulative	
WGK	Water Hazard Class	

Data sources

Training advice

Other information

- : This Safety Data Sheet is based on the real characteristics of the components and their combination, taking into account the information provided by the suppliers.
- : Provide adequate training to professional operators for the use of PPEs, according to the information contained in this Safety Data Sheet.
- Do not use the product for any purposes that have not been advised by the manufacturer. In exceptional cases (i.e prolonged storage in tanks contaminated with water, and presence of anaerobic sulfate-reducing microbial colonies), the product may undergo a degradation and generate small amounts of sulfur compounds, including H2S. This situation is especially relevant in all those circumstances which require to enter a confined space, with direct exposure to the vapours. If this possibility is suspected, a specific assessment of inhalation risks from the presence of H2S in confined spaces must be made, to help determine prevention measures and controls (i.e. PPE) appropriate to local circumstances, and adequate emergency procedures. If there is any suspicion of inhalation of H2S (hydrogen sulphide), Rescuers must wear breathing apparatus, belt and safety rope, and follow rescue procedures. Send patient to hospital. Immediately begin artificial respiration if breathing has ceased. Administer oxygen if necessary. This situation is especially relevant for those operations which involve direct exposure to the vapours in the interior of tanks or other confined spaces. Therefore, it is very important to follow the above mentioned precautionary measures also with used oils.

Full text of H- and EUH-statements:		
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2	
Asp. Tox. 1	Aspiration hazard, Category 1	
EUH066	Repeated exposure may cause skin dryness or cracking.	
EUH208	Contains Benzene, polypropene derivs, sulfonated, calcium salts. May produce an allergic reaction.	
EUH210	Safety data sheet available on request.	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1	

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Full text of H- and EUH-statements:		
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	
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.	
H319	Causes serious eye irritation.	
H411	Toxic to aquatic life with long lasting effects.	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
Skin Sens. 1B	Skin sensitisation, category 1B	

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.