Eni i-Sigma special TMS 5W-30

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878
Revision date: 29/08/2023 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 special TMS 5W-30
UFI	:	6410-H0F0-N00N-8J3C
Product code	:	1104
Type of product	:	Lubricants
Formula	:	0152-2020
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	:	Used in closed systems Wide dispersive use
Use of the substance/mixture	:	Lubricant for internal combustion engines ---- Do not use the product for any purposes that have not been advised by the manufacturer.
Function or use category	:	Lubricants and additives

1.2.2. Uses advised against

No additional information available

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

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317

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

Adverse physicochemical, human health and environmental effects

Causes serious eye irritation. Prolonged and repeated skin contact may cause reddening, irritation and dermatitis. May cause sensitization by skin contact. 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]

Hazard pictograms (CLP) :

GHS07

CLP Signal word : Warning

Contains : Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts; Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated; 2,5-Furandione, polymer with 1-hexadecene, methyloxirane polymer with oxirane bis (2-aminopropyl) ether and 2-methyl-1-propene, 4-(phenylamino)phenylimide; Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol

Hazard statements (CLP) : H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.

Precautionary statements (CLP) : P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear eye protection, face protection, protective gloves.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Nordic countries regulation

Denmark

MAL code : 00-1 (Executive Order No. 301 from 1993)

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. 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. A potential risk may arise from the release of hydrogen sulfide, when the product is stored or handled at high temperature. Hydrogen sulfide may accumulate in the tanks or other confined spaces, with danger to the workers that enter the spaces. In these cases overexposure to hydrogen sulfide may cause irritation to airways, nausea, dizziness, loss of consciousness and death.

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

Component	
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	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
Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (722503-68-6)	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
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	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
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	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 mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	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	
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified(72623-87-1)	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 mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate(125643-61-0)	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
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts(68784-31-6)	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
Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts(722503-68-6)	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
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	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]
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (see note [**], see note [***])	CAS-No.: 72623-87-1 EC-No.: 276-738-4 EC Index-No.: 649-483-00-5 REACH-no: 01-2119474889-13	65 - 75	Asp. Tox. 1, H304
Mineral base oil, severely refined (For identification of the substance, see note [*] , see note [***])	EC-No.: N/A	15 - 20	Not classified
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (Additive)	CAS-No.: 125643-61-0 EC-No.: 406-040-9 EC Index-No.: 607-530-00-7 REACH-no: 01-0000015551-76	2-4	Aquatic Chronic 4, H413
2,5-Furandione, polymer with 1-hexadecene, methyloxirane polymer with oxirane bis (2-aminopropyl) ether and 2-methyl-1-propene, 4-(phenylamino)phenylimide (Additive)	CAS-No.: 873694-48-5 EC-No.: 681-947-2 EC Index-No.: N/A REACH-no: N/A	1-3	Skin Sens. 1B, H317 Aquatic Chronic 4, H413

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (Additive)	CAS-No.: 68784-31-6 EC-No.: 272-238-5 EC Index-No.: N/A REACH-no: 01-2119657973-23	0,1 - 1	Eye Dam. 1, H318 Aquatic Chronic 2, H411
Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol (Additive)	CAS-No.: 1428353-74-5 EC-No.: 806-731-9 EC Index-No.: N/A REACH-no: 01-2120067755-46	0,1 - 1	Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Chronic 2, H411
Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (Additive)	CAS-No.: 722503-68-6 EC-No.: 682-816-2 EC Index-No.: N/A REACH-no: N/A	0,1 - 0,3	Skin Sens. 1B, H317
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated (Additive)	EC-No.: 953-650-0 EC Index-No.: N/A REACH-no: N/A	0,02 - 0,22	Skin Sens. 1B, H317 Repr. 2, H361d

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits (%)**
2,5-Furandione, polymer with 1-hexadecene, methyloxirane polymer with oxirane bis (2-aminopropyl) ether and 2-methyl-1-propene, 4-(phenylamino)phenylimide (Additive)	CAS-No.: 873694-48-5 EC-No.: 681-947-2 EC Index-No.: N/A REACH-no: N/A	(5 < C ≤ 100) Skin Sens. 1B, H317
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated (Additive)	EC-No.: 953-650-0 EC Index-No.: N/A REACH-no: N/A	(17,15 ≤ C < 100) Repr. 2, H361d

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 64742-70-7/EC 265-174-4/REACH Reg. # 01-2119487080-42-xxxx; CAS 64742-56-9/EC 2265-159-2/ 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 dust, remove the victim from exposure; keep at rest; if necessary, seek medical attention. See also section 4.3.

First-aid measures after skin contact	:	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Take off contaminated clothing and wash it before reuse. If inflammation or irritation persists, seek medical advice. 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. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, seek medical advice. 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.
Symptoms/effects after skin contact	:	Prolonged and repeated skin contact may cause reddening, irritation and dermatitis. May cause sensitization by skin contact. Contact with hot product may cause thermal burns.
Symptoms/effects after eye contact	:	Causes serious eye 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

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. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2. Special hazards arising from the substance or mixture

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	:	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.

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). 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. EN 443. EN 469. EN 659.
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 accidental sprays on hot surfaces or electrical contacts. Avoid direct contact with released material. Keep upwind. Spill area may be slippery.

6.1.1. For non-emergency personnel

Protective equipment	:	See Section 8.
Emergency procedures	:	Keep non-involved personnel away from the area of spillage. Alert emergency personnel. 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. 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.

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. If in water: Confine the spillage. Remove from surface by skimming or suitable floating absorbents. Collect recovered product and other waste materials in suitable waterproof, oil resistant containers. Recover or dispose of according to local regulations. Do not use solvents or dispersants, unless specifically advised by an expert, and, if required, approved by local authorities.
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. 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. 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. 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, flammability, and the presence of sulphur compounds. See also Section 16, "Other information".
Handling temperature	:	This product can be handled at ambient temperatures.
Hygiene measures	:	Ensure that proper housekeeping measures are in place. 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. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace. Separate working clothes from town clothes. Launder separately.

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.
Storage temperature	:	This product can be stored at ambient temperatures.
Storage area	:	Storage area layout, tank design, equipment and operating procedures must comply with the relevant European, national or local legislation. Storage installations/areas should be designed with adequate bunds 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.
Packages and containers:	:	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.
Packaging materials	:	For containers, or container linings use materials specifically approved for use with this product. Compatibility should be checked with the manufacturer, according to the specific use conditions.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
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)

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
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	
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)

Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	
Belgium - Occupational Exposure Limits	
OEL TWA	5 mg/m³
Ireland - Occupational Exposure Limits	
OEL TWA [1]	4 mg/m³
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	5 mg/m³

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.

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Eni i-Sigma special TMS 5W-30	
DNEL/DMEL (additional information)	
Additional information	Not applicable
PNEC (additional information)	
Additional information	Not applicable

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
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	5,4 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
PNEC (Oral)	
PNEC oral (secondary poisoning)	9,33 mg/kg food

Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	100 mg/kg bodyweight/day
Acute - systemic effects, inhalation	496,4 mg/m³
Long-term - systemic effects, dermal	10,42 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2,93 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	50 mg/kg bodyweight/day
Acute - systemic effects, inhalation	198,6 mg/m³
Acute - systemic effects, oral	29 mg/kg bodyweight/day

Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	
Long-term - systemic effects,oral	0,21 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	11,75 mg/m³
Long-term - systemic effects, dermal	2,1 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	4 µg/l
PNEC aqua (marine water)	4,6 µg/l
PNEC aqua (intermittent, freshwater)	44 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,0701 mg/kg dwt
PNEC sediment (marine water)	0,00701 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,0548 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	8,33 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	3,8 mg/l

Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	2 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	14 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3,5 mg/m³
Long-term - systemic effects, dermal	1 mg/kg bodyweight/day
DNEL/DMEL (additional information)	
Additional information	Not yet determined.
PNEC (Water)	
PNEC aqua (freshwater)	0,36 mg/l
PNEC aqua (marine water)	0,036 mg/l
PNEC aqua (intermittent, freshwater)	0,493 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	6,37 mg/kg dwt
PNEC sediment (marine water)	0,637 mg/kg dwt
PNEC (Soil)	
PNEC soil	1,06 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	71,4 mg/l
PNEC (additional information)	
Additional information	Not derived - Not classified as hazardous for environment

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	20 mg/kg bodyweight/day
Acute - systemic effects, inhalation	1750 mg/m³
Acute - local effects, dermal	1 mg/cm²
Long-term - systemic effects, dermal	0,22 mg/kg bodyweight/day
Long-term - local effects, dermal	0,006 mg/cm²
Long-term - systemic effects, inhalation	3 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	50 mg/kg bodyweight
Acute - local effects, dermal	8,33 mg/cm²
Long-term - systemic effects,oral	0,43 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0,74 mg/m³
Long-term - systemic effects, dermal	4,3 mg/kg bodyweight/day
Long-term - local effects, inhalation	875 mg/m³
PNEC (Water)	
PNEC aqua (freshwater)	4,3 µg/l
PNEC aqua (marine water)	1,8 µg/l
PNEC aqua (intermittent, freshwater)	43 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0,37 mg/kg dwt
PNEC sediment (marine water)	0,037 mg/kg dwt
PNEC (Soil)	
PNEC soil	0,632 mg/kg dwt
PNEC (Oral)	
PNEC oral (secondary poisoning)	33 µg/kg
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

2,5-Furandione, polymer with 1-hexadecene, methyloxirane polymer with oxirane bis (2-aminopropyl) ether and 2-methyl-1-propene, 4-(phenylamino)phenylimide (873694-48-5)	
DNEL/DMEL (additional information)	
Additional information	not derived
PNEC (additional information)	
Additional information	Not yet determined.

Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol (1428353-74-5)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1,1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	800 µg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0,1 mg/kg bodyweight/day

Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol (1428353-74-5)	
Long-term - systemic effects, inhalation	200 µg/m³
Long-term - systemic effects, dermal	0,6 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	7 µg/l
PNEC aqua (marine water)	700 ng/l
PNEC aqua (intermittent, freshwater)	21,5 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	16,74 mg/kg dwt
PNEC sediment (marine water)	1,674 mg/kg dwt
PNEC (Soil)	
PNEC soil	13,59 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

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

No additional information available

8.2. Exposure controls

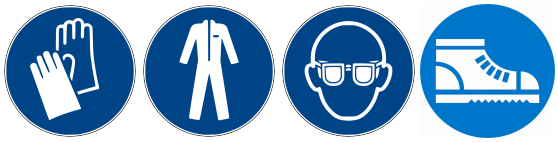
8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure that there is a suitable ventilation system. Before entering storage tanks and commencing any operation in a confined area (e.g. tunnels), check the atmosphere for oxygen content, presence of hydrogen sulphide (H2S) and SOx, and flammability. See also Section 16, "Other information".

8.2.2. Personal protection equipment

Personal protective equipment (for industrial or professional use):
Gloves. Protective clothing. Safety glasses. Safety shoes or boots.

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 and insulated.

Hand protection:
Protective gloves. 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. 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)

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. Onsite wastewater treatment required. Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Consumer exposure controls:
Ensure adequate ventilation. Wear protective gloves.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Yellow-brown.
Appearance	:	Liquid, bright & clear.
Odour	:	characteristic.
Odour threshold	:	There are no data available on the preparation/mixture itself.
Melting point	:	Not determined
Freezing point	:	Not determined
Boiling point	:	> 250 °C (CAS 72623-87-1)
Flammability	:	Not flammable
Lower explosion limit	:	Not determined
Upper explosion limit	:	Not determined
Flash point	:	> 200 °C (ASTM D 93)
Auto-ignition temperature	:	> 300 °C (CAS 72623-87-1)
Decomposition temperature	:	Not determined
pH	:	substance/mixture is non-polar/aprotic
Viscosity, kinematic	:	71,6 mm²/s (40°C) (ASTM D 445)
Solubility	:	Water: Immiscible and insoluble
Log Kow	:	Not applicable for mixtures
Log Pow	:	Not applicable for mixtures
Vapour pressure	:	< 0,1 hPa (20°C)
Vapour pressure at 50°C	:	Not determined
Critical pressure	:	Not applicable for mixtures
Density	:	855,9 kg/m³ (15°C) (ASTM D 4052)
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

Critical temperature : Not applicable for mixtures

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : Negligible.
Additional information : No data available

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.

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.) or alkali metals may cause a fire hazard.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Thermal decomposition generates : 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)

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
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)

Mineral base oil, severely refined	
LD50 oral rat	> 5000 mg/kg bodyweight (OECD 401)
LD50 dermal rat	> 5000 mg/kg bodyweight (OECD 402)
LC50 Inhalation - Rat	> 5 mg/l/4h (OECD 403)

Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	
LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	
LD50 oral rat	3640 mg/kg bodyweight
LD50 dermal rabbit	> 2000 mg/kg bodyweight

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	
LD50 oral rat	500 – 2000 mg/kg bodyweight
LD50 dermal rat	2000 mg/kg bodyweight

Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol (1428353-74-5)	
LD50 oral rat	200 mg/kg bodyweight
LD50 dermal rat	2000 mg/kg bodyweight

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: substance/mixture is non-polar/aprotic
Additional information : (according to composition)

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
pH	Not applicable

Mineral base oil, severely refined	
pH	Not applicable

Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	
pH	≈ 7 Temp.: 25 °C Concentration: (≈)0,00116 other: Remarks on result: 'other:'

Serious eye damage/irritation : Causes serious eye irritation.
pH: substance/mixture is non-polar/aprotic
Additional information : (according to composition)

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
pH	Not applicable

Mineral base oil, severely refined	
pH	Not applicable

Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	
pH	≈ 7 Temp.: 25 °C Concentration: (≈)0,00116 other: Remarks on result: 'other:'

Respiratory or skin sensitisation : May cause an allergic skin reaction.
Additional information : (according to composition)
Causes sensitisation
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Additional information : (according to composition)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)
This product contains : Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high-viscosity; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating light vacuum gas oil, heavy vacuum gas oil, and; solvent deasphalted residual oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil having a viscosity of approximately 112cSt at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.], Lubricating oils (petroleum), C24-50, solvent-extd, dewaxed, hydrogenated; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C24 through C50 and produces a finished oil with a viscosity in the order of 16cSt to 75cSt at 40 °C (104 °F).]
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)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	
LOAEL (oral, rat)	5 mg/kg bw/day (28 d)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day (OECD TG 408)

Mineral base oil, severely refined	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day (OECD TG 408)

Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	
NOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	
NOAEL (oral, rat, 90 days)	300 mg/kg bodyweight/day

Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol (1428353-74-5)	
NOAEL (dermal, rat/rabbit, 90 days)	1000 mg/kg bodyweight/day

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 special TMS 5W-30	
Viscosity, kinematic	71,6 mm²/s (40°C) (ASTM D 445)

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
Viscosity, kinematic	9 mm²/s (40 °C) (ASTM D 445)

Mineral base oil, severely refined	
Viscosity, kinematic	> 21 mm²/s
Hydrocarbon	Yes

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 : Irritating to eyes,Prolonged and repeated skin contact may cause reddening, irritation and dermatitis,May cause sensitization by skin contact,Avoid all eye and skin contact and do not breathe vapour and mist

Other information : 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 (air, soil, underground, surface water bodies, aquifers). Handle according to general working hygiene practices to avoid pollution and release into the environment.

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 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.

Ecology - water : This product is not soluble in water. It floats on water and forms a film on the surface. The damage to aquatic organisms is of mechanical kind (immobilization and entrapment)

Hazardous to the aquatic environment, short–term (acute) : Not classified (Based on available data, the classification criteria are not met)

Hazardous to the aquatic environment, long–term (chronic) : Not classified (Based on available data, the classification criteria are not met)

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
LC50 fish 1	> 100 mg/l (LL 50)
EC50 Daphnia 1	> 10000 mg/l WAF, 48 h (OECD 202)

Mineral base oil, severely refined	
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(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	
LC50 fish 1	46 mg/l Test organisms (species): Cyprinodon variegatus

Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	
LC50 fish 1	180 mg/l (Oryzias latipes)
EC50 Daphnia 1	85,4 mg/l
EC50 72h - Algae [1]	49,3 mg/l (Desmodesmus subspicatus)
NOEC (chronic)	25 mg/l (21d)

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	
LC50 fish 1	> 74 mg/l (Brachydanio rerio, OECD 203)
EC50 Daphnia 1	> 100 mg/l (24h, OECD 202)
EC50 72h - Algae [1]	> 3 mg/l (Scenedesmus sp, OECD 201)

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	
ErC50 (algae)	> 33,7 mg/l (OECD 201, 72 h, Pseudokirchnerella subspicata)
NOEC (acute)	33,7 mg/l (72 h, Pseudokirchnerella subspicata)
NOEC chronic crustacea	≥ 1 mg/l (21d, Daphnia magna)

Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol (1428353-74-5)	
EC50 72h - Algae [1]	1 – 10 mg/l
EC50 72h - Algae [2]	2,2 – 7,4 mg/l
NOEC chronic fish	320 µg/L (28d)
NOEC chronic crustacea	70 µg/L (21d)

12.2. Persistence and degradability

Eni i-Sigma special TMS 5W-30	
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.

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	
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	
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.

Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	
Persistence and degradability	Readily biodegradable.

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	
Persistence and degradability	Not biodegradable.

12.3. Bioaccumulative potential

Eni i-Sigma special TMS 5W-30	
Log Pow	Not applicable for mixtures
Log Kow	Not applicable for mixtures
Bioaccumulative potential	Not established.

Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	
Log Pow	2,7

reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	
Bioconcentration factor (BCF REACH)	260 (35 d, Oncorhynchus mykiss, OECD 305)

12.4. Mobility in soil

Eni i-Sigma special TMS 5W-30	
Ecology - soil	No data available.

12.5. Results of PBT and vPvB assessment

Eni i-Sigma special TMS 5W-30	
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)

Component	
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified (72623-87-1)	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)
Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (722503-68-6)	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
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts (68784-31-6)	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
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated	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 mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate (125643-61-0)	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 : None.

Additional information : 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 : 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. Dispose of empty containers and wastes safely.

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

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

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
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

Not applicable

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). Regulation EU (649/2012) - Export and Import of hazardous chemicals (PIC). Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants).

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(b)	Eni i-Sigma special TMS 5W-30 ; Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified ; Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts ; Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts ; Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated ; 2,5-Furandione, polymer with 1-hexadecene, methyloxirane polymer with oxirane bis (2-aminopropyl) ether and 2-methyl-1-propene, 4-(phenylamino)phenylimide ; Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol	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

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(c)	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts ; reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate ; 2,5-Furandione, polymer with 1-hexadecene, methyloxirane polymer with oxirane bis (2-aminopropyl) ether and 2-methyl-1-propene, 4-(phenylamino)phenylimide ; Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol	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)	:	Not applicable.
Water hazard class (WGK) (D)	:	WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).
WGK remark	:	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 (BGBl 2017, Teil I, Nr. 22, Seite 905).
Storage class (LGK, TRGS 510)	:	LGK 10 - Combustible liquids.
Hazardous Incident Ordinance (12. BImSchV)	:	Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

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
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	:	None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	:	None of the components are listed

Denmark

MAL code	:	00-1 (Executive Order No. 301 from 1993)
Danish National Regulations	:	Young people under 18 years are not allowed to use the product Pregnant/breastfeeding women working with the product must not be in direct contact with it

15.2. Chemical safety assessment

For this mixture a chemical safety assessment has been not carried out

A chemical safety assessment has been carried out for the following components of this mixture::
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, Baseoil - unspecified
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, borated
reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate
Coconut oil, reaction products with boric acid (H3BO3), diethanolamine and glycerol

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

Abbreviations and acronyms:	
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)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
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
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
vPvB	Very Persistent and Very Bioaccumulative

Data sources : 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.

Training advice : Provide adequate training to professional operators for the use of PPEs, according to the information contained in this Safety Data Sheet.

Other information : 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
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1

Full text of H- and EUH-statements:	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
Repr. 2	Reproductive toxicity, Category 2
Skin Sens. 1B	Skin sensitisation, category 1B

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method

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.