



# Eni Mix 2T

## Safety Data Sheet

According to Regulation (EU) No. 830/2015

Revision date: **13/04/2018**

Version: **4.0**

Supersedes: **28/02/2014**

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

### 1.1. Product identifier

Product form : Mixture  
Trade name : Eni Mix 2T  
Product code : 1401  
Type of product : Lubricants  
Formula : 1304-2018  
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 : Wide dispersive use  
Used in closed systems  
Use of the substance/mixture : Lubricant for two-stroke engines  
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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 S.p.A.  
P.le E. Mattei 1 - 00144 Rome Italy  
Phone: (+39) 06 59821  
www.eni.com

Contact:  
Refining & Marketing  
Via Laurentina 449 - 00142 Rome Italy  
Phone: (+39) 06 59881 - Fax (+39) 06 59885700

Competent person responsible for the Safety Data Sheet (Reg. EC nr. 1907/2006): SDSInfo@eni.com

### 1.4. Emergency telephone number

Emergency number : CNIT +39 0382 24444 (24h) (IT + EN)  
  
Poison centre (UK):  
National Poisons Information Service Edinburgh (24h)  
(+44) 844 892 0111  
0870 600 6266 (UK only)  
(Source: UN-WHO)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Aquatic Chronic 3 H412

Full text of H statements : see section 16

### Adverse physicochemical, human health and environmental effects

Contact with eyes may cause temporary reddening and irritation. Harmful to aquatic life with long lasting effects. 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]

CLP Signal word	: [None]
Hazard statements (CLP)	: H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P102 - Keep out of reach of children. P273 - Avoid release to the environment. P501 - Dispose of contents and container to according to national or local regulations.
Security closing plug for children	: No
Tactile warning	: No

### Other:

General advice : (Not applicable - Classified as dangerous according to (EC) No 1272/2008)

## 2.3. Other hazards (not relevant for classification)

Physical/chemical	: 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.
Health	: 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.
Environment	: None
Contaminants (air contaminants or other substances)	: 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 Heading 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

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Composition/information on ingredients	: Mixture of hydrocarbons Additives
Hazardous ingredients and/or with relevant occupational exposure limits	: See table

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Lubricating oils (petroleum), C24-50, solvent-extd., dewaxed, hydrogenated (Component, see note [**])	(CAS-No.) 101316-72-7 (EC-No.) 309-877-7 (EC Index-No.) 649-530-00-X (REACH-no) 01-2119489969-06	80 - 90	Not classified
Residual oils (petroleum,) solvent-refined, Baseoil - unspecified (Component, see note [**])	(CAS-No.) 64742-01-4 (EC-No.) 265-101-6 (EC Index-No.) 649-459-00-4 (REACH-no) 01-2119488707-21	10 - 15	Not classified
Kerosine (Petroleum) hydrodesulfurized	(CAS-No.) 64742-81-0 (EC-No.) 265-184-9 (EC Index-No.) 649-423-00-8 (REACH-no) 01-2119462828-25	3 - 5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts (Additive, see note [***])	(EC-No.) 939-603-7 (EC Index-No.) N/A (REACH-no) 01-2119978241-36	0,3 - 0,4	Not classified
Mineral base oil, severely refined		0,1 - 0,3	Not classified
Phenol, dodecyl-, branched, sulfurized	(CAS-No.) 96152-43-1 (EC-No.) 306-115-5 (EC Index-No.) N/A (REACH-no) 01-2119524001-62	0,1 - 0,2	Repr. 2, H361d Aquatic Chronic 4, H413
Dodecylphenol, mixed isomers, branched	(CAS-No.) 121158-58-5 (EC-No.) 310-154-3 (EC Index-No.) 604-092-00-9 (REACH-no) 01-2119513207-49	0,1 - 0,15	Skin Corr. 1C, H314 Eye Dam. 1, H318 Repr. 1B, H360F Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased	(CAS-No.) 68784-26-9 (EC-No.) 272-234-3 (EC Index-No.) N/A (REACH-no) 01-2119524004-56	0,1 - 0,15	Repr. 2, H361 Aquatic Chronic 4, H413

[\*] Note: this product may be formulated with one or more of the following severely refined mineral base oils (not classified as hazardous): CAS 101316-72-7/EC 309-877-7/REACH Reg. # 01-2119489969-06-xxxx; CAS 64742-54-7/EC 265-157-1/REACH Reg. # 01-2119484627-25-xxxx; CAS 64742-01-4/EC 265-101-6/REACH Reg. # 01-2119488707-21-xxxx; CAS 72623-87-1/EC 276-738-4/REACH Reg. # 01-2119474889-13-xxxx; CAS 64742-71-8/EC 265-176-5/REACH Reg. # 01-2119485040-48-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.  
All these substances have a value < 3 % wt of DMSO extract, according to IP 346/92 (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 346/92. 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 [\*\*\*]: Total Base Number (TBN): > 300 mgKOH/g (ASTM D 2896), More detailed information: See section 11.

Full text of H-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.
- First-aid measures after skin contact : Take off contaminated clothing and shoes. Wash thoroughly with soap and water. If inflammation or irritation persists, seek medical advice. In case of contact with hot product, cool affected part with plenty of cold water, and cover with gauze or clean cloth. Call a doctor or bring to an hospital. Do not use salves or ointments, unless directed by doctor. 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 contact with hot product, cool affected part with plenty of cold water, and cover with gauze or clean cloth. Call a doctor or bring to an hospital. Do not use salves or ointments, unless directed by doctor.

First-aid measures after ingestion : Do not induce vomiting to avoid aspiration into the lungs. 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 / injuries (general indications) : Not expected to present a significant hazard under anticipated conditions of normal use.

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 : Contact with hot product may cause thermal burns.

Symptoms/effects after eye contact : Contact with eyes may cause reddening and irritation. Contact with hot product or vapours may cause burns.

Symptoms/effects after ingestion : Accidental ingestion of small quantities of the product may cause irritation, nausea and gastric disturbances. Taking into account the taste of the product, however, ingestion of dangerous quantities is very unlikely.

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. If there is any suspicion of inhalation of H<sub>2</sub>S (hydrogen sulphide). The casualty should be sent immediately 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 : The vapours are flammable and may form explosive mixtures with air.

Combustion products : Incomplete combustion will generate poisonous carbon monoxide, carbon dioxide and other toxic gases, Combustion products include sulphur oxides (SO<sub>2</sub> and SO<sub>3</sub>) and Hydrogen sulphide H<sub>2</sub>S, Oxygenated compounds (aldehydes, etc.), CaOx

#### 5.3. Advice for firefighters

Firefighting instructions : Shut off source of product, if possible. Spilled product which is not burning should be covered with sand or foam. If possible, move containers and drums away from danger area. 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 : Personal protection equipment for firefighters (see also sect. 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 accidental sprays on hot surfaces or electrical contacts. Avoid direct contact with released material. Keep upwind.

#### 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 H<sub>2</sub>S), 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 : Notify local authorities according to relevant 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 : Ensure that all relevant regulations regarding handling and storage facilities of flammable products are followed. Do not use compressed air for filling, discharging, or handling operations. Keep away from heat/sparks/open flames/hot surfaces. Use and store only outdoors or in a well-ventilated area. During transfer and mixing operations, ensure that all equipment is correctly grounded. Avoid the build-up of electric charges. 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 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 : 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.

### 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 oxidants.
- 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 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.
- 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.

### 7.3. Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Lubricating oils (petroleum), C24-50, solvent-extd., dewaxed, hydrogenated (101316-72-7)		
Austria	MAK (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Belgium	Limit value (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Denmark	Grænseværdi (langvarig) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Denmark	Grænseværdi (kortvarig) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Hungary	AK-érték	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Netherlands	MAC TGG 8h (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Spain	VLA-ED (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Spain	VLA-EC (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden	Nivågränsvärde (NVG) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden	Kortidsvärde (KTV) (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)

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United Kingdom	WEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Canada (Quebec)	VECD (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - ACGIH	ACGIH TLV®-TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - ACGIH	ACGIH TLV®-STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
<b>Residual oils (petroleum,) solvent-refined, Baseoil - unspecified (64742-01-4)</b>		
Austria	MAK (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Belgium	Limit value (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Denmark	Grænseværdi (langvarig) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Denmark	Grænseværdi (kortvarig) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Hungary	AK-érték	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Netherlands	MAC TGG 8h (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Spain	VLA-ED (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Spain	VLA-EC (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden	Nivågränsvärde (NVG) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden	Kortidsvärde (KTV) (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Canada (Quebec)	VECD (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - ACGIH	ACGIH TLV®-TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - ACGIH	ACGIH TLV®-STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
<b>Kerosine (Petroleum) hydrodesulfurized (64742-81-0)</b>		
Belgium	Limit value (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup> (Total HC)



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USA - ACGIH	ACGIH TLV®-TWA (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup> (Total HC)
USA - NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup> (Total HC)
<b>Mineral base oil, severely refined</b>		
Austria	MAK (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Belgium	Limit value (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Denmark	Grænseværdi (langvarig) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Denmark	Grænseværdi (kortvarig) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Hungary	AK-érték	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Netherlands	MAC TGG 8h (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Spain	VLA-ED (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Spain	VLA-EC (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden	Nivågränsvärde (NVG) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden	Kortidsvärde (KTV) (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Canada (Quebec)	VECD (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - ACGIH	ACGIH TLV®-TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - ACGIH	ACGIH TLV®-STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - NIOSH	NIOSH REL (STEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> (Mineral base oil mist, severely refined, DMSO extract <3% m/m)

<b>Eni Mix 2T</b>	
DNEL/DMEL (additional information)	
Additional information	Not applicable
PNEC (additional information)	
Additional information	Not applicable

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.



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.

### 8.2. Exposure controls

Appropriate engineering controls : Before entering storage tanks and commencing any operation in a confined area, 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".

Personal protective equipment (for industrial or professional use) : Face shield. Gloves. Protective clothing. Safety glasses. Safety shoes or boots. Dust/aerosol mask.



Hand protection : When there is a risk of contact with the skin, use hydrocarbon-resistant, felt-lined 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.

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.

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.

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. In case there is a significant presence of vapours (e.g. through handling at high temperature), use full or half-face masks with filter for hydrocarbon vapours. (EN 136/140/145). Combination filter device (DIN EN 141). 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). 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)

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

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 : No special requirements necessary, if handled at room temperature.

### 8.3. Hygiene measures

General protective and hygienic measures : Avoid contact with skin and eyes, Do not breathe vapours or mists, Do not clean hands with dirty or oil-soaked rags, Do not keep dirty rags in the overall pockets, Do not drink, eat or smoke with dirty hands, Wash hands with water and mild soap, do not use solvents or other irritant products which have a defatting effect on the skin, Do not re-use clothes, if they are still contaminated.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid, bright & clear.
Molecular mass	: Not applicable for mixtures
Colour	: Red.
Odour	: Slight odour of petroleum.
Odour threshold	: There are no data available on the preparation/mixture itself.
pH	: Not applicable.
Relative evaporation rate (butylacetate=1)	: Negligible.
Melting point	: -28 °C (pour point) (ASTM D 97)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 111 °C (ASTM D 93)
Critical temperature	: Not applicable for mixtures
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Critical pressure	: Not applicable for mixtures
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 871 kg/m <sup>3</sup> (15 °C) (ASTM D 4052)
Solubility	: Water: Immiscible and insoluble
Log Pow	: Not applicable for mixtures
Log Kow	: Not applicable for mixtures
Viscosity, kinematic	: 62 mm <sup>2</sup> /s (40 °C) (ASTM D 445)
Viscosity, dynamic	: No data available
Explosive properties	: None (according to composition).
Oxidising properties	: None (according to composition).
Explosive limits	: No data available

### 9.2. Other information

Additional information : No data available

*The above data (9.1 - 9.2) are typical values and do not constitute a specification.*

## 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 (in normal conditions of storage and handling).

### 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. Avoid the build-up of electrostatic charge.

### 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 generates : Carbon dioxide, Carbon monoxide, 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 H<sub>2</sub>S. See also Section 16, "Other information".

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met) (according to composition)

<b>Lubricating oils (petroleum), C24-50, solvent-extd., dewaxed, hydrogenated (101316-72-7)</b>	
LD50 oral rat	> 5000 mg/kg (OECD 401)
LD50 dermal rat	> 5000 mg/kg (OECD 402)
LC50 inhalation rat (mg/l)	> 5 mg/l/4h (OECD 403)

<b>Residual oils (petroleum,) solvent-refined, Baseoil - unspecified (64742-01-4)</b>	
LD50 oral rat	> 5000 mg/kg (OECD 401)
LD50 dermal rat	> 5000 mg/kg (OECD 402)
LC50 inhalation rat (mg/l)	> 5 mg/l/4h (OECD 403)

<b>Kerosine (Petroleum) hydrodesulfurized (64742-81-0)</b>	
LD50 oral rat	> 5000 mg/kg bodyweight (EPA OTS 798.1175 eq. OECD 420 - CAS 68333-23-3, ARCO, 1992)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (EPA OTS 798.1100 - CAS 68333-23-3, ARCO, 1982)
LC50 inhalation rat (mg/l)	> 4,3 mg/l/4h (OECD 403, CAS 8008-20-6 - API, 1987)

<b>Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts</b>	
LD50 oral rat	> 5000 mg/kg bodyweight ((Sanitised, F. (1989), OECD Guideline 401))
LD50 dermal rat	> 2000 mg/kg bodyweight ((Sanitised, G. (1989), OECD Guideline 402))
LC50 inhalation rat (mg/l)	> 1,9 mg/l/4h ((Hoffman, G.M. (1986), EPA OPP 81-3))

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

<b>Phenol, dodecyl-, branched, sulfurized (96152-43-1)</b>	
LD50 oral rat	≥ 5000 mg/kg bodyweight (OECD 401) (Read-across)
LD50 dermal rabbit	≥ 4000 mg/kg bodyweight (OECD 402) (Read-across)

<b>Dodecylphenol, mixed isomers, branched (121158-58-5)</b>	
LD50 oral rat	2100 - 2200 mg/kg bodyweight
LD50 dermal rabbit	15000 mg/kg bodyweight

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met) (according to composition)

pH: Not applicable.

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met) (according to composition)

pH: Not applicable.

Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met) (according to composition) This product is formulated with one or more ingredients (complex additive mixtures) which contains calcium sulfonates. All these ingredients have each a TBN value > 300 mg KOH/g, therefore they are not classified as sensitizers.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met) (according to composition)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met) (according to composition) All the mineral base oils contained in this product have a value < 3 % wt of DMSO extract, according to IP 346/92 (Nota L - Annex VI Reg (CE) 1272/2008, # 1.1.3) This product contains also the following substances : 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).], Residual oils (petroleum) solvent-refined, Baseoil - unspecified, [A complex combination by hydrocarbons obtained as the solvent insoluble fraction from solvent refining of a residuum using a polar organic solvent such as phenol or furfural. It consists of hydrocarbons having carbon numbers predominantly higher than C25 and boiling above approximately 400 °C (752 °F).] this product has a value of DMSO extract < 3 % wt, according to IP 346/92. 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.
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met) (according to composition) This product is formulated with an additive containing a dodecylphenol impurity. Rats given high, repeated daily doses of dodecylphenol by oral intubation, experienced various effects on a number of organs, including adrenal, thyroid, liver, ovary, testes, bone marrow, and blood cell formation. The relevance of these effects to humans is uncertain. May damage fertility. This product contains an UVCB substance (Dodecylphenol, branched, sulfurized) classified as Repr. 2, H361 (CLP) according to the criteria of EU Suspected of damaging the unborn child.
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met) (according to composition)

### Kerosine (Petroleum) hydrodesulfurized (64742-81-0)

NOAEL (dermal, rat/rabbit)	≥ 0,5 ml/kg (OECD 410; CAS 68333-23-3; ARCO, 1992)
NOAEC (inhalation, rat, vapour)	≥ 24 mg/m <sup>3</sup> (OECD 412; CAS 64742-81-0; API, 1986)

### Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts

NOAEL (dermal, rat/rabbit)	2500 mg/kg bodyweight
NOAEC (inhalation, rat, vapour)	881,58 mg/m <sup>3</sup>

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

### Lubricating oils (petroleum), C24-50, solvent-extd., dewaxed, hydrogenated (101316-72-7)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day (OECD TG 408)
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### Residual oils (petroleum,) solvent-refined, Baseoil - unspecified (64742-01-4)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day (OECD TG 408)
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### Kerosine (Petroleum) hydrodesulfurized (64742-81-0)

LOAEL (oral, rat, 90 days)	1500 mg/kg bodyweight/day
LOAEL (dermal, rat/rabbit, 90 days)	≈ 165 mg/kg bodyweight/day (OECD 411; Battelle, 1997)
LOAEC (inhalation, rat, vapour, 90 days)	500 - 2000 mg/l (OECD 413; Jet Fuel JP-8; Mattie et al., 1991) (Shell, 1979)
NOAEL (oral, rat, 90 days)	750 mg/kg bodyweight/day (OECD 412; Jet Fuel JP-8; Mattie et al., 2000)
NOAEL (dermal, rat/rabbit, 90 days)	>= 495 mg/kg bodyweight/day (OECD 411; Battelle, 1997)
NOAEC (inhalation, rat, vapour, 90 days)	>= 1000 mg/m <sup>3</sup> (OECD 413; Jet Fuel JP-8; Mattie et al., 1991) (Shell, 1979)

### Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts

NOAEL (dermal, rat/rabbit, 90 days)	> 1000 (OECD Guideline 410)
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NOAEL (subacute, oral, animal/male, 28 days)	> 500 mg/kg bodyweight (OECD Guideline 407)
<b>Mineral base oil, severely refined</b>	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day (OECD TG 408)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met) Viscosity, kinematic: > 20,5 mm <sup>2</sup> /s (40 °C) (ASTM D 445)
<b>Eni Mix 2T</b>	
Viscosity, kinematic	62 mm <sup>2</sup> /s (40 °C) (ASTM D 445)
Potential adverse human health effects and symptoms	: Contact with eyes may cause reddening and irritation. 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	: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. An uncontrolled release to the environment may 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. Notify authorities if product enters sewers or public waters.
Ecology - air	: This product has a low vapour pressure. A significant exposure may happen only if the product is used at high temperature, or in case of sprays and mists.
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)
Ecology - water	: Harmful to aquatic life.

**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).] (101316-72-7)**

LC50 fish 1	> 100 mg/l (LL 50)
EC50 Daphnia 1	> 10000 mg/l WAF, 48 h (OECD 202)

### **Residual oils (petroleum,) solvent-refined, Baseoil - unspecified (64742-01-4)**

LC50 fish 1	> 100 mg/l (LL 50)
EC50 Daphnia 1	> 10000 mg/l WAF, 48 h (OECD 202)

### **Kerosine (Petroleum) hydrodesulfurized: Kerosine - unspecified (64742-81-0)**

LC50 fish 1	2 - 5 mg/l (LL50, 48 h - OECD 203; CAS 64742-94-5, Oncorhynchus mykiss, Shell, 1994)
LC50 other aquatic organisms 1	677,9 mg/l (LL50, 72 h - QSAR; CAS 64742-94-5, Tetrahymena pyriformis, Redman A. et al., 2010b)
EC50 Daphnia 1	1,4 mg/l (EL50, 48h - OECD 202, CAS 64742-81-0, Exxon, 1995)
NOEC (acute)	0,48 - 1,2 mg/l (NOEC 21 d - OECD 211, Daphnia magna, CAS 64742-81-0, ExxonMobil 2010)

### **Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts**

LC50 fish 1	≥ 100 mg/l LL50/96h, OECD 203 (WAF) (Read-across) - Oncorhynchus mykiss - Goodband, T.J. (2005a)
EC50 Daphnia 1	≥ 1000 mg/l EC50/48h, EPA OTS 797.1300 (WAF) (Read-across) - Ward, T.J (1993)
LC50 fish 2	≥ 10000 mg/l LL50/96h, OECD 203 (WAF) (Read-across) - Cyprinodon variegatus - Nicholson, R.B. (1986)
ErC50 (algae)	≥ 1000 mg/l EC50/72h, EPA OTS 797.1050 (WAF) (Read-across) - Pseudokirchnerella subcapitata - Ward, T.J (1994)

### **Mineral base oil, severely refined**

LC50 fish 1	> 100 mg/l (LL 50)
EC50 Daphnia 1	> 10000 mg/l WAF, 48 h (OECD 202)

### **Phenol, dodecyl-, branched, sulfurized (96152-43-1)**

LC50 fish 1	≥ 500 mg/l (LL50 - 96h)
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EC50 Daphnia 1	≥ 750 mg/l (LL50 - 96h)
<b>Dodecylphenol, mixed isomers, branched (121158-58-5)</b>	
LC50 fish 1	40 mg/l (Pimephales promelas)
EC50 Daphnia 1	37 - 92,7 µg/l
EC50 other aquatic organisms 1	> 0,58 mg/l (96h, Mysidopsis Bahia)
EC50 Daphnia 2	0,037 mg/l
ErC50 (algae)	0,36 mg/l (21d)
NOEC (chronic)	0,0037 mg/l (21d)
<b>Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased (68784-26-9)</b>	
LC50 other aquatic organisms 1	≥ 100 mg/l (96h - Crangon crangon)
EC50 Daphnia 1	≥ 1000 mg/l (48h, OECD 202)
NOEC (acute)	≥ 1000 mg/l (96h, OECD 203 - Pimephales promelas)
NOEC (additional information)	NOEC algae, Pseudokirchneriella subcapitata: > 500 mg/l (96 Hours)

## 12.2. Persistence and degradability

<b>Eni Mix 2T</b>	
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.
<b>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).] (101316-72-7)</b>	
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.
<b>Residual oils (petroleum,) solvent-refined, Baseoil - unspecified (64742-01-4)</b>	
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.
<b>Kerosine (Petroleum) hydrodesulfurized: Kerosine - unspecified (64742-81-0)</b>	
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.
Biodegradation	< 60 % (28d)
<b>Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts</b>	
Persistence and degradability	Not readily biodegradable.
Biodegradation	8 % (28d - OECD Guideline 301 D)
<b>Mineral base oil, severely refined</b>	
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.
<b>Phenol, dodecyl-, branched, sulfurized (96152-43-1)</b>	
Biodegradation	13,4 % (28d)
<b>Dodecylphenol, mixed isomers, branched (121158-58-5)</b>	
Biodegradation	25 % (28 d, OECD TG 301 B)
<b>Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased (68784-26-9)</b>	
Biodegradation	13,4 % (28d, Dir.67/548/CEE, Annex V, C.4.C.)

## 12.3. Bioaccumulative potential

<b>Eni Mix 2T</b>	
Log Pow	Not applicable for mixtures
Log Kow	Not applicable for mixtures
Bioaccumulative potential	Not established.



# Eni Mix 2T

## Safety Data Sheet

According to Regulation (EU) No. 830/2015

Product code: 1401

Revision date: 13/04/2018

Version: 4.0

**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).] (101316-72-7)**

Bioaccumulative potential	The test methods for this endpoint are not applicable to UVCB substances.
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### **Kerosine (Petroleum) hydrodesulfurized: Kerosine - unspecified (64742-81-0)**

Log Pow	The test methods for this endpoint are not applicable to UVCB substances
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Bioaccumulative potential	The test methods for this endpoint are not applicable to UVCB substances.
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### **Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts**

BCF fish 1	70,8 (L/Kg w/w)
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Log Pow	6,91
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Log Kow	8 (OECD Guideline 107 (EU Method A.8))
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### **Dodecylphenol, mixed isomers, branched (121158-58-5)**

Bioconcentration factor (BCF REACH)	794,33
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Log Kow	7,14
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### **Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased (68784-26-9)**

BCF fish 1	2,2
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Log Pow	9,5
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## 12.4. Mobility in soil

### **Eni Mix 2T**

Ecology - soil	No data available.
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**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).] (101316-72-7)**

Ecology - soil	The test methods for this endpoint are not applicable to UVCB substances.
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### **Kerosine (Petroleum) hydrodesulfurized: Kerosine - unspecified (64742-81-0)**

Ecology - soil	The test methods for this endpoint are not applicable to UVCB substances.
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### **Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts**

Log Koc	15,65 - 15,75 (QSAR, Chemservice S.A. (2013a))
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## 12.5. Results of PBT and vPvB assessment

### **Eni Mix 2T**

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**

Residual oils (petroleum,) solvent-refined, Baseoil - unspecified (64742-01-4)	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)
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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).] (101316-72-7)	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)
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Kerosine (Petroleum) hydrodesulfurized: Kerosine - unspecified (64742-81-0)	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
Mineral base oil, severely refined ()	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, di-C10-14-alkyl derivs., 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)

### 12.6. 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 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, drill, burn or incinerate empty containers or drums, 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 / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
Not regulated for transport				
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
Other information : None.				

# Eni Mix 2T

## Safety Data Sheet

According to Regulation (EU) No. 830/2015

Product code: 1401

Revision date: 13/04/2018

Version: 4.0

### 14.6. Special precautions for user

Special transport precautions : None.

#### - Overland transport

Transport regulations (ADR) : Not subject

#### - Transport by sea

Transport regulations (IMDG) : Not subject

Limited quantities (IMDG) : Not applicable

#### - Air transport

Transport regulations (IATA) : Not subject

#### - Inland waterway transport

Transport regulations (ADN) : Not subject

#### - Rail transport

Transport regulations (RID) : Not subject

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : 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

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	Phenol, dodecyl-, branched, sulfurized - Dodecylphenol, mixed isomers, branched - Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts - Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased
3(a) 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 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F	Kerosine (Petroleum) hydrodesulfurized
3(b) 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	Kerosine (Petroleum) hydrodesulfurized - Phenol, dodecyl-, branched, sulfurized - Dodecylphenol, mixed isomers, branched - Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased
3(c) 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	Eni Mix 2T - Kerosine (Petroleum) hydrodesulfurized - Phenol, dodecyl-, branched, sulfurized - Dodecylphenol, mixed isomers, branched - Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased

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

Contains no REACH Annex XIV substances

Relevant EU Legislation : 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 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)  
Directive 2012/18/CE (Control of major-accident hazards involving dangerous substances)  
Directive 2004/42/CE (Limitation of emissions of Volatile Organic Compounds)

### 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 Directives 75/439/CEE - 87/101/CEE concerning disposal of used oils.

#### France

Maladies professionnelles (F) : RG 36 - Affections provoquées par les huiles et graisses d'origine minérale ou de synthèse

#### Germany

Reference to AwSV : Water hazard class (WGK) (D) 1, low hazard to waters (Classification according to AwSV, Annex 1)  
WGK remark : Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS)  
VbF class (D) : Not applicable.  
Storage class (LGK) (D) : LGK 12 - Non-combustible liquids  
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.  
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)  
Other information, restrictions and prohibition regulations : TRGS 900: Occupational Exposure Limits  
TRGS 800: Fire protection measures  
TRGS 555: Working instruction and information for workers  
TRGS 402: Identification and Assessment of the Risks from Activities involving Hazardous Substances: Inhalation Exposure  
TRGS 401: Risks resulting from skin contact - identification, assessment, measures  
TRGS 400: Hazard assessment for activities involving Hazardous Substances

#### Netherlands

Waterbezuwaarlijkheid : 8 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
9 - Harmful to aquatic organisms  
Saneringsinspanningen : C - Lozing minimaliseren  
SZW-lijst van kankerverwekkende stoffen : None of the components are listed  
SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : Dodecylphenol, mixed isomers, branched is listed

## Denmark

Recommendations Danish Regulation : 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:

Residual oils (petroleum,) solvent-refined, Baseoil - unspecified  
Lubricating oils (petroleum), C24-50, solvent-extd., dewaxed, hydrogenated  
Kerosine (Petroleum) hydrodesulfurized  
Phenol, dodecyl-, branched, sulfurized  
Dodecylphenol, mixed isomers, branched  
Benzenesulfonic acid, di-C10-14-alkyl derivs., calcium salts  
Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased

## SECTION 16: Other information

Indication of changes:

Modification according to Regulation (EC) 830/2015.

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
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 H <sub>2</sub> S. 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 H <sub>2</sub> S 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 H <sub>2</sub> S (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.

Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1C	Skin corrosion/irritation, Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
H360F	May damage fertility.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Aquatic Chronic 3	H412	Calculation method
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SDS EU (REACH Annex II) eni 2015

*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*