Eni Geum LFG 40

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878
Revision date: 8/7/2024 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 Geum LFG 40
Product code	:	7276
Type of product	:	Lubricant
Formula	:	0104-2014
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
Industrial/Professional use spec	:	Used in closed systems Wide dispersive use
Use of the substance/mixture	:	Lubricant for internal combustion engines
Function or use category	:	Lubricants and additives

1.2.2. Uses advised against

Recommended use are listed above; other uses are not recommended unless an assessment has provided that risks are controlled,For professional users only

1.3. Details of the supplier of the safety data sheet

Enilive S.p.A, Viale Giorgio Ribotta 51, 00144 Rome, ITALY, Tel. +39 06 59821, www.eni.com

Competent person responsible for the safety data sheet (Reg. EC nr. 1907/2006): SDS.Enilive@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]

Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412

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

Adverse physicochemical, human health and environmental effects

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

2.2. Label elements

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

CLP Signal word	:	-
Hazard statements (CLP)	:	H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP)	:	P273 - Avoid release to the environment. P501 - Dispose of contents and container to according to national or local regulations.
EUH-statements	:	EUH208 - Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs, calcium salts, Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol

(tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde. May produce an allergic reaction.

2.3. Other hazards (not relevant for classification)

Other hazards not contributing to the classification : This product is combustible, but not classified as Flammable. The creation of flammable vapour mixtures takes place at temperatures which are higher than normal ambient levels. In case of contact with eyes, this product may cause irritation. If the product is handled or used at high temperature, contact with hot product or vapours may cause burns. Any substance, in case of accidents involving pressurized circuits and the like, may be accidentally injected under the skin, even without external damage. In such a case, the victim should be brought to an hospital as soon as possible, to get specialized medical treatment. Do not wait for symptoms to develop. 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 and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7), Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50, Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (722503-68-6), Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde, Dodecylphenol, mixed isomers, branched (121158-58-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7), Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50, Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (722503-68-6), Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde, Dodecylphenol, mixed isomers, branched (121158-58-5)

The mixture contains substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are 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

Component	
Substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is 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	Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50, Dodecylphenol, mixed isomers, branched (121158-58-5)

Component	
Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7), Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (722503-68-6), Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Composition/information on ingredients
Mixture of hydrocarbons
Additives

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (see note [**], see note [***]) substance with national workplace exposure limit(s) (AT, BE, DK, ES, GB, HU, NL, SE)	CAS-No.: 64742-54-7 EC-No.: 265-157-1 EC Index-No.: 649-467-00-8 REACH-no: 01-2119484627-25	90 – 95	Not classified
Mineral base oil, severely refined (For identification of the substance, see note [*] , see note [***]) substance with national workplace exposure limit(s) (AT, BE, DK, ES, GB, HU, NL, SE)	EC-No.: N/A	3 - 4	Not classified
Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50 substance identified as having endocrine disrupting properties	EC-No.: 701-249-4 REACH-no: 01-2119524018-47	0,1 - 1,5	Aquatic Chronic 4, H413
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 - 0,9	Skin Sens. 1, H317

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde (Additive)	EC-No.: 944-406-4 EC Index-No.: N/A REACH-no: N/A	0,01 - 0,5	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 3, H412
phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched Substance included in REACH Candidate List (Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/or combinations thereof (PDDP)) substance identified as having endocrine disrupting properties	CAS-No.: 121158-58-5 EC-No.: 310-154-3 EC Index-No.: 604-092-00-9 REACH-no: 01-2119513207-49	0,1 - 0,2	Skin Corr. 1C, H314 Eye Dam. 1, H318 Repr. 1B, H360F Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits (%)**
Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde (Additive)	EC-No.: 944-406-4 EC Index-No.: N/A REACH-no: N/A	(9.83 ≤ C < 100) Skin Irrit. 2, H315

Comments : [*] 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 (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 general : IF exposed or concerned: Get medical advice/attention. If medical advice is needed, have product container or label at hand. Seek medical attention in all cases of serious burns.

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 skin irritation or rash occurs, get medical advice/attention. 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 so. Continue rinsing. If irritation, blurred vision or swelling occurs and persists, obtain medical advice from a specialist. 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. 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) : There are potential chronic health effects to consider.

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 in case of sprays and mists. In these cases overexposure to mists (e.g. through prolonged use in confined insufficiently ventilated spaces) may cause irritation to airways, nausea and dizziness.

Symptoms/effects after skin contact : Prolonged and repeated skin contact may cause reddening, irritation and dermatitis. May produce an allergic reaction. Contact with hot product may cause thermal burns.

Symptoms/effects after eye contact : Contact with eyes may cause a light transient irritation. Contact with hot product or vapours may cause burns.

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

Symptoms/effects upon intravenous administration : No information available.

Chronic symptoms : May damage fertility. May damage the unborn child.

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

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. CaOx. ZnOx.

5.3. Advice for firefighters

Firefighting instructions : Shut off source of product, if possible. If possible, move containers and drums away from the danger area, if safe to do so. 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 : Advice for firefighters and protective measures. 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 137. 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.

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. Work helmet. Antistatic non-skid safety shoes or boots. Goggles and /or face shield, if splashes or contact with eyes is possible or anticipated. Respiratory protection: A half or full-face respirator with filter(s) for organic vapours (A) (or A+B when applicable for H2S), or a Self-contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. A Self Contained Breathing Apparatus (SCBA) can be used according to the extent of spill and predictable amount of exposure. If the situation cannot be completely assessed, or if an oxygen deficiency is possible, only SCBA's should be used.

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

6.2. Environmental precautions

Do not let the product accumulate in confined or underground spaces. Do not let the product flow into sewers or water courses, or in any way contaminate the environment. In case of contamination of environment compartments (soil, subsoil, surface or underground waters), remove contaminated soil when possible, and in any case treat all involved compartments in accordance with local regulations.

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. 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. The product may release Hydrogen Sulphide: a specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls appropriate to local circumstances. See also Section 16, "Other information".
Hygiene measures	:	Ensure that proper housekeeping measures are in place. 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 oxidants.
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.

Germany

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

Switzerland

Storage class (LK)	:	LK 10/12 - Liquids

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

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
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 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)	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)
KGV (OEL STEL)	3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
WEL STEL (OEL STEL)	10 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 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)

Mineral base oil, severely refined	
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
VLA-EC (mg/m³)	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
KGV (OEL STEL)	3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
WEL STEL (OEL STEL)	10 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)

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

Applicable OEL and BLV for air contaminants : None known

8.1.4. DNEL and PNEC

Eni Geum LFG 40	
DNEL/DMEL (additional information)	
Additional information	Not applicable
PNEC (additional information)	
Additional information	Not applicable

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	1 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2.7 mg/m³
Long-term - local effects, inhalation	5.6 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0.74 mg/kg bodyweight/day
Long-term - local effects, inhalation	1.2 mg/m³/day
PNEC (Oral)	
PNEC oral (secondary poisoning)	9.33 mg/kg food

Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	40 mg/kg bodyweight/day
Acute - systemic effects, inhalation	133.6 mg/m³
Long-term - systemic effects, dermal	500 µg/kg bodyweight/day
Long-term - systemic effects, inhalation	3.5 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	20 mg/kg bodyweight
Acute - systemic effects, inhalation	66.8 mg/m³
Acute - systemic effects, oral	50 mg/kg bodyweight
Long-term - systemic effects,oral	250 µg/kg bodyweight/day
Long-term - systemic effects, inhalation	870 µg/m³
Long-term - systemic effects, dermal	250 µg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	1 mg/l
PNEC aqua (marine water)	100 µg/l
PNEC aqua (intermittent, freshwater)	10 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	87100 mg/kg dwt
PNEC sediment (marine water)	8710 mg/kg dwt
PNEC (Soil)	
PNEC soil	17.5 g/kg food
PNEC (Oral)	
PNEC oral (secondary poisoning)	20 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	100 mg/l

phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched (121158-58-5)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	166 mg/kg bodyweight/day
Acute - systemic effects, inhalation	44.18 mg/m³
Long-term - systemic effects, dermal	0.25 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.762 mg/m³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	50 mg/kg bodyweight
Acute - systemic effects, inhalation	13.26 mg/m³
Acute - systemic effects, oral	1.26 mg/kg bodyweight
Long-term - systemic effects,oral	0.075 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	0.79 mg/m³

phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched (121158-58-5)	
Long-term - systemic effects, dermal	0.075 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.074 µg/l
PNEC aqua (marine water)	0.0074 µg/l
PNEC aqua (intermittent, freshwater)	0.37 µg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	0.226 mg/kg dwt
PNEC sediment (marine water)	0.0266 mg/kg dwt
PNEC (Soil)	
PNEC soil	118 µg/kg dw
PNEC (Oral)	
PNEC oral (secondary poisoning)	4 mg/kg food
PNEC (STP)	
PNEC sewage treatment plant	100 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

Control banding : None known

8.2. Exposure controls

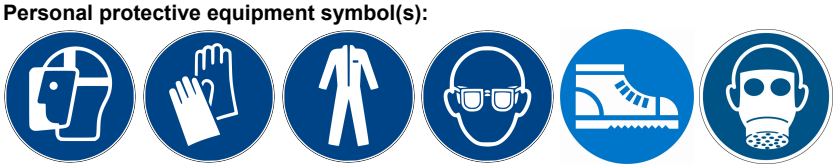
8.2.1. Appropriate engineering controls

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), 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".

8.2.2. Personal protection equipment

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

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Chemical goggles or face shield. ISO 16321-1

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

Consumer exposure controls:
Not applicable.

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	:	Slight odour of petroleum.
Odour threshold	:	There are no data available on the preparation/mixture itself.
Melting point	:	Not applicable
Freezing point	:	Not determined
Softening point	:	-30 °C (ASTM D97)
Boiling point	:	Not determined
Flammability	:	Not flammable
Lower explosion limit	:	Lack of data (on mixture / components of the mixture) - Data not available
Upper explosion limit	:	Lack of data (on mixture / components of the mixture) - Data not available
Flash point	:	231 °C (ASTM D 92)
Auto-ignition temperature	:	> 300 °C (CAS 101316-72-7)
Decomposition temperature	:	Not determined
pH	:	Lack of data (on mixture / components of the mixture) - Data not available
Viscosity, kinematic	:	13.4 mm²/s Viscosity, kinematic: 12,5 - 16,3 mm2/s (100 °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) (Mineral oil, ASTM D 5191) (CONCAWE, 2010)
Vapour pressure at 50°C	:	Not determined
Critical pressure	:	Not applicable for mixtures

Density	:	873 kg/m³ (15 °C) (ASTM D 4052)
Relative density	:	Lack of data (on mixture / components of the mixture) - Data not available
Relative vapour density at 20°C	:	Lack of data (on mixture / components of the mixture) - Data not available
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosion limits	:	≥ 45 g/m³ (Aerosol)
Critical temperature	:	Not applicable for mixtures

9.2.2. Other safety characteristics

Other properties	:	Total Base Number (TBN),4,5 mg KOH/g (ASTM D 2896)

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. Sensitivity to heat, friction or shock cannot be assessed in advance.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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)

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

LD50 oral rat	> 5000 mg/kg (OECD 401)
LD50 dermal rat	> 5000 mg/kg (OECD 402)
LD50 dermal rabbit	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat	> 5.53 mg/l/4h (EBSI, 1988)

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)

Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50	
LD50 oral rat	> 5000 mg/kg (401 Acute Oral Toxicity)
LD50 dermal rat	2000 mg/kg bodyweight
LD50 dermal rabbit	> 5000 nl/kg (402 Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 1.67 mg/l (403 Acute Inhalation Toxicity, 1h)

phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched (121158-58-5)	
LD50 oral rat	2200 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	15000 mg/kg bodyweight

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Lack of data (on mixture / components of the mixture) - Data not available

Additional information : (according to composition)

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)	
pH	Not applicable

Mineral base oil, severely refined	
pH	Not applicable

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Lack of data (on mixture / components of the mixture) - Data not available

Additional information : (according to composition)

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)	
pH	Not applicable

Mineral base oil, severely refined	
pH	Not applicable

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)
May cause an allergic skin reaction.

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

Additional information : (according to composition)

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)	
NOAEL (animal/male, F0/P)	1000 mg/kg bodyweight

phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched (121158-58-5)	
NOAEL (animal/male, F1)	1.5 mg/kg
NOAEL (animal/female, F1)	15 mg/kg (OECD 416)

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

Additional information : (according to composition)

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

Additional information : (according to composition)

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight/day (OECD TG 408)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	> 0.98 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

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

Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50	
NOAEL (subacute, oral, animal/male, 28 days)	300 kg/kg food
NOAEL (oral, rat, 90 days)	300 mg/kg bodyweight/day
NOAEL (dermal, rat/rabbit, 90 days)	250 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 Geum LFG 40	
Viscosity, kinematic	13.4 mm²/s Viscosity, kinematic: 12,5 - 16,3 mm2/s (100 °C) (ASTM D 445)

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.] (64742-54-7)	
Viscosity, kinematic	100 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 contains substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are 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

Component	
Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50	The substance is identified for having endocrine disrupting properties but there is no additional data available (see section 2.3)
phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched (121158-58-5)	The substance is identified for having endocrine disrupting properties but there is no additional data available (see section 2.3)

11.2.2. Other information

Potential adverse human health effects and symptoms : Prolonged and repeated skin contact may cause reddening, irritation and dermatitis,May produce an allergic reaction,Contact with eyes may cause temporary reddening and irritation.

Other information : None

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : An uncontrolled release to the environment may nevertheless produce a contamination of different environmental compartments (soil, underground, surface water bodies, aquifers). Handle according to general working hygiene practices to avoid pollution and release into the environment.

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) : Harmful to aquatic life with long lasting effects.

Eni Geum LFG 40	
Additional information	This product contains one or more components with a branched alkylphenol impurity that is highly toxic to aquatic organisms (see section 3). The components containing the impurity have been tested by the manufacturer and are not toxic to aquatic organisms. This information has been used to classify the final product for environmental hazard. This result has been used for classification of the final mixture (Bridging principle "Dilution").

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LC50 fish 1	> 100 mg/l (LL 50)
EC50 Daphnia 1	> 10000 mg/l WAF, 48 h (OECD 202)

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

Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50	
LC50 fish 1	1 – 10 g/l (LL50)
EC50 Daphnia 1	1 g/l (EL50)
EC50 72h - Algae [1]	1000 mg/l (EL50)
NOEC chronic algae	220 mg/l (NOEL, 96h, Pseudokirchneriella subcapitata)

Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde	
LC50 fish 1	1 – 10 g/l (LL50)
EC50 Daphnia 1	17 mg/l (WAF, OECD 202)
EC50 72h - Algae [1]	1000 mg/l (EL50)
ErC50 (algae)	36 mg/l (ELR50, WAF, OECD 201)
NOEC chronic algae	220 mg/l (NOEL, 96h, Pseudokirchneriella subcapitata)

Dodecylphenol, mixed isomers, branched (121158-58-5)	
LC50 fish 1	40 mg/l (Pimephales promelas)
EC50 Daphnia 1	92.7 µg/l Test organisms (species): Daphnia magna
EC50 other aquatic organisms 1	> 0.58 mg/l (96h, Mysidopsis Bahia)
EC50 72h - Algae [1]	> 0.765 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	0.36 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 (algae)	0.36 mg/l (21d)
LOEC (chronic)	0.012 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.0037 mg/l (21d)

12.2. Persistence and degradability

Eni Geum LFG 40	
Persistence and degradability	A fraction of the constituents of the product should be considered as "inherently biodegradable", but not "readily biodegradable", and they may be moderately persistent, particularly in anaerobic conditions.

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Persistence and degradability	The most significant constituents of the product should be considered as "inherently biodegradable", but not "readily biodegradable", and they may be moderately persistent, particularly in anaerobic conditions..

Mineral base oil, severely refined	
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..

Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50	
Persistence and degradability	Not readily biodegradable.

Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (722503-68-6)	
Persistence and degradability	Rapidly degradable

Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde	
Persistence and degradability	Not readily biodegradable.

Dodecylphenol, mixed isomers, branched (121158-58-5)	
Persistence and degradability	Rapidly degradable
Biodegradation	25 % (28 d, OECD TG 301 B)

12.3. Bioaccumulative potential

Eni Geum LFG 40	
Log Pow	Not applicable for mixtures
Log Kow	Not applicable for mixtures
Bioaccumulative potential	Not established.

Dodecylphenol, mixed isomers, branched (121158-58-5)	
Bioconcentration factor (BCF REACH)	794.33
Log Kow	7.14

12.4. Mobility in soil

Eni Geum LFG 40	
Ecology - soil	No data available.

12.5. Results of PBT and vPvB assessment

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

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7), Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50, Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (722503-68-6), Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde, Dodecylphenol, mixed isomers, branched (121158-58-5)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7), Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50, Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts (722503-68-6), Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde, Dodecylphenol, mixed isomers, branched (121158-58-5)

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The mixture contains substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are 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.

Component	
Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50	The substance is identified for having endocrine disrupting properties but there is no additional data available (see section 2.3)
Dodecylphenol, mixed isomers, branched (121158-58-5)	Has an endocrine mode of action, i.e. it alters the function(s) of the endocrine system

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

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

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

Ecology - waste materials : The product as it is does not contain halogenated substances.
EURAL code (EWC) : 13 02 05* - Mineral-based non-chlorinated engine, gear and lubricating oils

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				
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). POP (2019/1021) - Persistent Organic Pollutants. Commission Delegated Regulation (EU) 2017/2100. Commission Regulation (EU) 2018/605.

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(b)	phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched ; Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50 ; Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts ; Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde	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)	phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched ; Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50 ; Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde	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
30.	phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched	Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.

REACH Annex XIV (Authorisation List)

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

REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations ≥ 0.1 % or SCL: phenol, dodecyl-, branched; phenol, 2-dodecyl-, branched; phenol, 3-dodecyl-, branched (EC 310-154-3, CAS 121158-58-5)

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)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

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 410: Exposure list in case of hazard of carcinogenic or mutagenic hazardous substances with the categories 1A or 1B.
TRGS 500: Protective measures.
TRGS 555: Working instruction and information for workers.
TRGS 560: Air recirculation in activities involving carcinogenic, mutagenic and fertility hazardous dusts.
TRGS 900: Occupational Exposure Limits.
TRGS 905: List of mutagenic, carcinogenic or teratogenic substances.
TRGS 907: List of sensitizing substances and activities with sensitizing substances.

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).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject to 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 : Dodecylphenol, mixed isomers, branched is listed

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

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::
Phenol, paraalkylation products with C10-15 branched olefins (C12 rich) derived from propene oligomerization, calcium salts, sulfurized, including distillates (petroleum), hydrotreated, solvent-refined, solvent-dewaxed, or catalyc dewaxed, light or heavy paraffinic C15-C50

SECTION 16: Other information

Indication of changes			
Section	**Changed item**	**Change**	**Comments**
	First issue.		

Abbreviations and acronyms:	
	Complete text of the H phrases quoted in this Safety Data Sheet. These phrases are reported here for information only, and MAY NOT correspond to the classification of the product.
	N/D = not available
	N/A = not applicable
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Effective concentration for 50 percent of test population (median effective concentration)
EC-No.	European Community number
ED	Endocrine disrupting properties
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50 percent of test population (median lethal concentration)
LD50	Lethal dose for 50 percent of test population (median lethal dose)
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals, Regulation (EC) No 1907/2006
RID	Regulation concerning the International Carriage of Dangerous Goods by Railways
SDS	Safety Data Sheet
STP	Sewage treatment plant
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Data sources : 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 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 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment – Chronic Hazard, Category 4
EUH208	Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs, calcium salts, Phenol, 2 (or 4)-C20-24-sec-alkyl derivatives, reaction products with distillation residues from manufacture of phenol (tetrapropenyl) derivatives and phenol (tetrapropenyl) derivatives, carbon dioxide, calcium dihoxyde. May produce an allergic reaction.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H360F	May damage fertility.
H400	Very toxic to aquatic life.
H410	Very 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.
Repr. 1B	Reproductive toxicity, Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1, Sub-Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Aquatic Chronic 3	H412	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.