Eni Fin 332/F

Safety Data Sheet

According to Regulation (EU) No. 830/2015

Revision date: 30/07/2020 Supersedes: 10/10/2017 Version: 6.0

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

1.1. Product identifier

Product form	:	Mixture
Trade name	:	Eni Fin 332/F
Product code	:	4863
Type of product	:	Lubricants
Formula	:	3007-2020
Product group	:	Trade product

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

1.2.1. Relevant identified uses

Main use category	:	Industrial use,Professional use
Industrial/Professional use spec	:	Wide dispersive use Used in closed systems
Use of the substance/mixture	:	Protective for metals ---- Do not use the product for any purposes that have not been advised by the manufacturer.
Function or use category	:	Lubricants and additives, Corrosion inhibitor.

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.

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Phone: (+39) 06 59821

www.eni.com

Contact:

Refining & Marketing

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]

Flammable liquids, Category 3	H226
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Specific target organ toxicity — Repeated exposure, Category 1	H372
Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. Causes damage to organs through prolonged or repeated exposure. May cause drowsiness or dizziness. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. For specific information about the toxicological/ecotoxicological properties and classification of this product, see Sect. 11 and/or Sect. 12.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS07 GHS08

CLP Signal word : Danger

Hazardous ingredients and/or with relevant occupational exposure limits : Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)

Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H336 - May cause drowsiness or dizziness.
H372 - Causes damage to organs through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe Fumes, mist, spray, Vapours.
P273 - Avoid release to the environment.
P280 - Wear eye protection, face protection.
P312 - Call a POISON CENTER if you feel unwell.
P370+P378 - In case of fire: Use dry extinguishing powder to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents and container to according to national or local regulations.

2.3. Other hazards (not relevant for classification)

Other hazards not contributing to the classification : The product may charge electrostatically: use earthing leads when transferring from one container to another. Vapours may form flammable and explosive mixture with air. In case of contact with eyes, this product may cause irritation. Prolonged and repeated skin contact may cause reddening, irritation and dermatitis. 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.

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

Notes : Composition/ Information on ingredients:
Mixture of hydrocarbons
Rust inhibitor

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [EU-GHS / CLP]
Asphalt (bitumen) (see note [*])	(CAS-No.) 8052-42-4 (EC-No.) 232-490-9 (EC Index-No.) N/A (REACH-no) 01-2119480172-44	>= 50 < 60	Not classified
Residual oils (petroleum,) solvent-refined (see note [**], see note [***])	(CAS-No.) 64742-01-4 (EC-No.) 265-101-6 (EC Index-No.) 649-459-00-4 (REACH-no) 01-2119488707-21	>= 20 < 30	Not classified
Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	(EC-No.) 919-446-0 (EC Index-No.) N/A (REACH-no) 01-2119458049-33	>= 10 < 20	Flam. Liq. 3, H226 STOT SE 3, H336 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

Notes : Note [*]:
substance with national workplace exposure limit(s)
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 [***]:

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-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : In case of doubt or persistent symptoms, consult always a physician.

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 occurs: Get medical advice/attention.

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, blurred vision or swelling occurs and persists, obtain medical advice from a specialist.

First-aid measures after ingestion : 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. Do NOT induce vomiting.

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

Symptoms/effects after inhalation : Inhalation of vapours may cause headache, nausea, vomiting and an altered state of consciousness.

Symptoms/effects after skin contact : Prolonged and repeated skin contact may cause reddening, irritation and dermatitis, due to a defatting effect.

Symptoms/effects after eye contact : Contact with eyes may cause reddening and irritation.

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.

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 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 : Dry chemical, CO2, dry sand, or alcohol-resistant foam. 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 : Flammable liquid and vapour. The vapours are heavier than air and will accumulate in closed areas and at ground level, with backfire hazard.

Explosion hazard : The vapours are flammable and may form explosive mixtures with air.

Hazardous decomposition products in case of fire : Incomplete combustion will generate poisonous carbon monoxide, carbon dioxide and other toxic gases. Oxygenated compounds (aldehydes, etc.).

5.3. Advice for firefighters

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

Special protective equipment for firefighters : Personal protection equipment for firefighters (see also sect. 8). In case of a large fire or in confined or poorly ventilated spaces, wear full fire resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. EN 443. EN 469. EN 659. Do not attempt to take action without suitable protective equipment.

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. Ventilate spillage area.

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. Antistatic non-skid safety shoes or boots, chemical resistant. 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 (AX) (and when applicable for H2S (B)), 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".

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. Contaminated work clothing should not be allowed out of the workplace. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in dry, well ventilated area. Store locked up. Keep away from open flames, hot surfaces and sources of ignition. Do not smoke. Keep cool. Protect from sunlight.

Incompatible products : Keep away from: strong oxidants. Strong bases. Strong acids.

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

Asphalt (bitumen) (8052-42-4)		
Belgium	Limit value (mg/m³)	5 mg/m³
Denmark	Grænseværdi (langvarig) (mg/m³)	1 mg/m³
Denmark	Grænseværdi (kortvarig) (mg/m³)	2 mg/m³
Germany	Occupational exposure limit value (mg/m³)	1,5 mg/m³
Germany	Limitation of exposure peaks (mg/m³)	3 mg/m³
Ireland	OEL (8 hours ref) (mg/m³)	0,5 mg/m³
Ireland	OEL (15 min ref) (mg/m3)	10 mg/m³
Poland	NDS (mg/m³)	5 mg/m³
Poland	NDSCh (mg/m³)	10 mg/m³
Spain	VLA-ED (mg/m³)	0,5 mg/m³
United Kingdom	WEL TWA (mg/m³)	5 mg/m³
United Kingdom	WEL STEL (mg/m³)	10 mg/m³
Switzerland	MAK (mg/m³)	10 mg/m³
Australia	TWA (mg/m³)	5
Canada (Quebec)	VECD (mg/m³)	5 mg/m³
USA - ACGIH	ACGIH TLV®-TWA (mg/m³)	0,5 mg/m³
USA - NIOSH	NIOSH REL (STEL) (mg/m³)	5 mg/m³

Residual oils (petroleum,) solvent-refined (64742-01-4)		
Austria	MAK (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Belgium	Limit value (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Denmark	Grænseværdi (langvarig) (mg/m³)	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Denmark	Grænseværdi (kortvarig) (mg/m³)	2 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Hungary	AK-érték	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Netherlands	MAC TGG 8h (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Spain	VLA-ED (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Spain	VLA-EC (mg/m³)	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden	Nivågränsvärde (NVG) (mg/m3)	1 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
Sweden	Kortidsvärde (KTV) (mg/m3)	3 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom	WEL TWA (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
United Kingdom	WEL STEL (mg/m³)	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)
USA - ACGIH	ACGIH TLV®-TWA (mg/m³)	5 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)

Residual oils (petroleum,) solvent-refined (64742-01-4)		
USA - ACGIH	ACGIH TLV®-STEL (mg/m³)	10 mg/m³ (Mineral base oil mist, severely refined, DMSO extract <3% m/m)

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)		
Belgium	Limit value (mg/m³)	533 mg/m³ (White spirit, arom. < 20 %)
Belgium	Limit value (ppm)	100 ppm (White spirit, arom. < 20 %)
Denmark	Grænseværdi (langvarig) (mg/m³)	140 mg/m³ (White spirit, arom. < 20 %)
Denmark	Grænseværdi (langvarig) (ppm)	25 ppm (White spirit, arom. < 20 %)
Denmark	Grænseværdi (kortvarig) (mg/m³)	280 mg/m³ (White spirit, arom. < 20 %)
Denmark	Grænseværdi (kortvarig) (ppm)	50 ppm (White spirit, arom. < 20 %)
Ireland	OEL (8 hours ref) (mg/m³)	573 mg/m³ (White spirit, arom. < 20 %)
Ireland	OEL (8 hours ref) (ppm)	100 ppm (White spirit, arom. < 20 %)
Poland	NDS (mg/m³)	300 mg/m³ (White spirit, arom. < 20 %)
Poland	NDSP (mg/m³)	900 mg/m³ (White spirit, arom. < 20 %)
Switzerland	MAK (mg/m³)	525 mg/m³
Switzerland	MAK (ppm)	100 ppm
USA - NIOSH	NIOSH REL (TWA) (mg/m³)	350 mg/m³ (White spirit, arom. < 20 %)
USA - NIOSH	NIOSH REL (STEL) (mg/m³)	1800 mg/m³ (15 min) (White spirit, arom. < 20 %)
USA - OSHA	OSHA PEL (TWA) (mg/m³)	2900 mg/m³ (White spirit, arom. < 20 %)
USA - OSHA	OSHA PEL (TWA) (ppm)	500 ppm (White spirit, arom. < 20 %)

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.

Eni Fin 332/F	
DNEL/DMEL (additional information)	
Additional information	Not applicable
PNEC (additional information)	
Additional information	Not applicable

Asphalt (bitumen) (8052-42-4)	
DNEL/DMEL (Workers)	
Long-term - local effects, inhalation	2,9 mg/m³ (DNEL, 8h) (Asphalt [bitumen] fume)
DNEL/DMEL (General population)	
Long-term - local effects, inhalation	0,6 mg/m³ (DNEL, 24h) (Asphalt [bitumen] fume)
PNEC (additional information)	
Additional information	Not applicable. Substance is complex UVCB

Residual oils (petroleum,) solvent-refined (64742-01-4)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	0,97 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2,73 mg/m³
Long-term - local effects, inhalation	5,58 mg/m³
DNEL/DMEL (General population)	
Long-term - systemic effects,oral	0,74 mg/kg bodyweight/day
Long-term - local effects, inhalation	1,19 mg/m³
PNEC (Oral)	
PNEC oral (secondary poisoning)	9,33 mg/kg food

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	570 mg/m³ (DNEL)
Long-term - systemic effects, dermal	44 mg/kg bodyweight/day (DNEL)
Long-term - systemic effects, inhalation	330 mg/m³ (DNEL)
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	570 mg/m³ (DNEL)
Long-term - systemic effects,oral	26 mg/kg bodyweight/day (DNEL)
Long-term - systemic effects, inhalation	71 mg/m³ (DNEL)

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
Long-term - systemic effects, dermal	26 mg/kg bodyweight/day (DNEL)

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:

Ensure good ventilation of the work station. 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:

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.

Eye protection:

Chemical goggles or safety glasses. EN 166

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. Coveralls should be changed at the end of the work shift and cleaned as necessary to avoid transfer of product to clothes or underwear.

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). Combined gas/dust mask with filter type: EN 14387. Closed or confined areas (e.g. tank interiors): the use of protection measures for airways (masks or self-contained breathing apparatus), must be assessed according to the specific activity, as well as level and duration of predicted exposure. (EN 136/140/145). Approved respiratory protection equipment shall be used in spaces where hydrogen sulphide may accumulate: full face mask with cartridge/filter type “B” (grey for inorganic vapours including H2S) or self-contained breathing apparatus (SCBA). (EN 136/140/145)

Personal protective equipment symbol(s):

Thermal hazard protection:

None in normal use conditions.

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:

Not applicable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid, bright & clear.

Colour	:	Dark brown to off-black.
Odour	:	Petroleum-like.
Odour threshold	:	There are no data available on the preparation/mixture itself.
pH	:	Not applicable.
Relative evaporation rate (butylacetate=1)	:	Negligible.
Melting point	:	<= -9 °C (pour point) (ASTM D 97)
Freezing point	:	No data available
Boiling point	:	> 150 °C (ASTM D 86)
Flash point	:	38 °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	:	> 1 kPa (37,8 °C, EN 13016-1)
Critical pressure	:	Not applicable for mixtures
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	0,96 g/cm³ (15 °C) (ASTM D 4052)
Solubility	:	Water: Immiscible and insoluble
Log Pow	:	Not applicable for mixtures
Log Kow	:	Not applicable for mixtures
Viscosity, kinematic	:	> 21 mm²/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	:	1,1 - 6 vol %

9.2. Other information

Additional information : No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable product, according to its intrinsic properties (in normal conditions of storage and handling).

10.3. Possibility of hazardous reactions

None (in normal conditions of storage and handling).

10.4. Conditions to avoid

Keep away from strong oxidizers. Keep away from open flames, hot surfaces and sources of ignition. Avoid the build-up of electrostatic charge.

10.5. Incompatible materials

Strong oxidants and strong acids. Strong bases/alkalis.

10.6. Hazardous decomposition products

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 H2S. See also Section 16, "Other information".

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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)

Asphalt (bitumen) (8052-42-4)	
LD50 oral rat	> 5000 mg/kg bodyweight [API (1982a/b) - OECD 401]
LD50 dermal rabbit	> 2000 mg/kg bodyweight [API (1982a/b) - OECD 402]
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 94,4 mg/l/4h (OECD 403)

Residual oils (petroleum,) solvent-refined (64742-01-4)	
LD50 oral rat	5000 mg/kg bodyweight
LD50 dermal rat	2000 - 5000 mg/kg bodyweight
LC50 inhalation rat (mg/l)	2,18 - 5,53 mg/l/4h

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
LD50 oral rat	> 15000 mg/kg bodyweight (OECD 401 - C9-C10 2-25% arom.; ExxonMobil, 1977)
LD50 dermal rat	> 4 ml/kg (C9-C12 2-25% arom.; Coombs et al, 1977)
LC50 inhalation rat (mg/l)	> 13,1 mg/l/4h (OECD 403 - C9-C12 2-25% arom.; Coombs et al, 1977)

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Not applicable.

Additional information : (according to composition)

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Not applicable.

Additional information : (according to composition)

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

Additional information : (according to composition)

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 : 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.

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
NOAEL (chronic, oral, animal/male, 2 years)	300 mg/kg bodyweight (OECD 408; Read-across C10-C13 arom., Exxon Biomedical Sciences, 1991)

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

Additional information : (according to composition)

STOT-single exposure : May cause drowsiness or dizziness.

Additional information : (according to composition)
This product is very volatile, also at ambient temperature. Overexposure to vapours (e.g. through prolonged use in confined insufficiently ventilated spaces) may cause irritation to airways, dizziness, nausea and loss of conscience

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
LOAEL (oral, rat)	116 mg/kg bodyweight (OECD 408, 30 d - C11-C14 2-25 % arom.; DHC Solvent Chemie, 1984)
LOAEC (inhalation, rat, vapour)	100 mg/m³ (OECD 413, 28 d - C9-C11 2-25 % arom.; ExxopnMobil, 1979)
NOAEC (inhalation, rat, vapour)	300 mg/m³ (OECD 413, 30 d - C9-C11 2-25 % arom.; ExxonMobil, 1979)

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.

Additional information : (according to composition)
This product contains : Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)
Causes damage to organs (central nervous system) through prolonged or repeated exposure (inhalation).

Asphalt (bitumen) (8052-42-4)	
LOAEC (inhalation,rat,dust/mist/fume,90 days)	106,6 mg/l/6h/day (OECD 413)
NOAEL (dermal, rat/rabbit, 90 days)	200 mg/kg bodyweight/day (API, 1983 c/d)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	20,1 mg/l air (OECD 413)
NOAEC, Chronic, rat, local	10,4 mg/m³ (104 weeks, (OECD 451))

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
LOAEC (inhalation, rat, vapour, 90 days)	345 ppm (M= 345 ppm; F=1293 ppm) (Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)) (OECD 413, Shell Research Ltd, 1980)
NOAEL (oral, rat, 90 days)	≥ 495 mg/kg bodyweight/day (Read across, kerosene - API, 1997)

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
NOAEC (inhalation,rat, vapour, 90 days)	690 ppm (OECD 413 - Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics 2-25%) (Shell Research Ltd, 1980)
NOAEL (subacute, oral, animal/female, 28 days)	1056 mg/kg bodyweight (OECD 408, 30 d - C11-C14 2-25 % arom.; DHC Solvent Chemie, 1984)

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 Fin 332/F	
Viscosity, kinematic	> 21 mm²/s (40 °C) (ASTM D 445)

Potential adverse human health effects and symptoms : Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard). High concentration of vapours may induce: headache, nausea, dizziness. Contact with eyes may cause reddening and irritation. Prolonged and repeated skin contact may cause reddening, irritation and dermatitis, due to a defatting effect. 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 : A fraction of the product will evaporate quickly, diffusing in the atmosphere: this phenomenon may promote the creation of photochemical smog.

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.

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.

Bitumen (8052-42-4)	
LC50 fish 1	1000 mg/l [Oncorhynchus mykiss - Redman, et al. (2010b)]
EC50 72h algae (1)	> 1000 mg/l (Pseudokirchnerella subcapitata - Redman, et al. (2010b)
NOEC (chronic)	1000 mg/l (NOEL / 28 d) (QSAR, Oncorhynchus mykiss, Redman et al, 2010)

Residual oils (petroleum,) solvent-refined (64742-01-4)	
LC50 fish 1	100 mg/l
EC50 Daphnia 1	10 g/l

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
LC50 fish 1	10 - 30 mg/l (LL50, 48 h - C9-C11 2-25 % arom., Oncorhynchus mykiss, Shell, 1997)
LC50 fish 2	30 - 100 mg/l (LL50, 24 h - C9-C11 2-25 % arom., Oncorhynchus mykiss, Shell, 1997)
EC50 Daphnia 1	100 - 200 mg/l (EL50, 48h - OECD 202, C9-C12 2-25 % arom, Shell, 1995)
ErC50 (algae)	0,94 mg/l (EC50, 72h - OECD 201, Pseudokirchnerella subcapitata, C9-C12 2-25 % arom, Exxon, 2005)
NOEC (acute)	0,097 mg/l (NOEC 21 d - OECD 211, Daphnia magna, C9-C12 2-25 % arom, Exxon, 2005)

12.2. Persistence and degradability

Eni Fin 332/F	
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.

Bitumen (8052-42-4)	
Persistence and degradability	Substance is complex UVCB. The test methods for this endpoint are not applicable to UVCB substances. 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.

Residual oils (petroleum,) solvent-refined (64742-01-4)	
Persistence and degradability	Substance is complex UVCB. The test methods for this endpoint are not applicable to UVCB substances.

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
Persistence and degradability	The product should be considered as "Not persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1).

12.3. Bioaccumulative potential

Eni Fin 332/F	
Log Pow	Not applicable for mixtures
Log Kow	Not applicable for mixtures
Bioaccumulative potential	Not established.

Bitumen (8052-42-4)	
Bioaccumulative potential	The test methods for this endpoint are not applicable to UVCB substances.

Residual oils (petroleum,) solvent-refined (64742-01-4)	
Bioaccumulative potential	The test methods for this endpoint are not applicable to UVCB substances.

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
Log Pow	Not applicable (UVCB)

12.4. Mobility in soil

Eni Fin 332/F	
Ecology - soil	No data available.

Bitumen (8052-42-4)	
Ecology - soil	The test methods for this endpoint are not applicable to UVCB substances.

Residual oils (petroleum,) solvent-refined (64742-01-4)	
Ecology - soil	The test methods for this endpoint are not applicable to UVCB substances.

Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)	
Mobility in soil	Low mobility (soil)

12.5. Results of PBT and vPvB assessment

Eni Fin 332/F	
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	
Bitumen (8052-42-4)	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 The product should be considered as "Persistent" in the environment, according to the REACH Annex XIII criteria (part 1, point 1.1)
Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%) ()	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII The product should be considered as "Not persistent" in the environment, according to the REACH Annex XIII criteria (point 1.1)
Residual oils (petroleum,) solvent-refined (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

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 : Comply with applicable regulations for solid waste disposal.

Additional information : Empty containers may contain flammable 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) : 07 06 04* - other organic solvents, washing liquids and mother liquors
13 02 05* - Mineral-based non-chlorinated engine, gear and lubricating oils

SECTION 14: Transport information

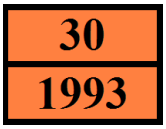
In accordance with ADN / ADR / IATA / IMDG / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1993	1993	1993	1993	1993
14.2. UN proper shipping name				
FLAMMABLE LIQUID, N.O.S.	FLAMMABLE LIQUID, N.O.S.	Flammable liquid, n.o.s.	FLAMMABLE LIQUID, N.O.S.	FLAMMABLE LIQUID, N.O.S.
Transport document description				
UN 1993 FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)), 3, III, (D/E)	UN 1993 FLAMMABLE LIQUID, N.O.S., 3, III	UN 1993 Flammable liquid, n.o.s., 3, III	UN 1993 FLAMMABLE LIQUID, N.O.S., 3, III	UN 1993 FLAMMABLE LIQUID, N.O.S., 3, III
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
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
None.				

14.6. Special precautions for user

- Overland transport

Transport regulations (ADR) : Subject to the provisions
Classification code (UN) : F1
Limited quantities (ADR) : 5l
Excepted quantities (ADR) : E1
Transport category (ADR) : 3
Hazard identification number (Kemler No.) : 30
Orange plates :



Tunnel restriction code : D/E

- Transport by sea

Transport regulations (IMDG) : Subject to the provisions
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Stowage category (IMDG) : A

- Air transport

Transport regulations (IATA) : Subject to the provisions
PCA Excepted quantities (IATA) : E1
PCA limited quantity max net quantity (IATA) : 10L
PCA max net quantity (IATA) : 60L

- Inland waterway transport

Transport regulations (ADN) : Subject to the provisions

Classification code (ADN)	:	F1
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1

- Rail transport

Transport regulations (RID)	:	Subject to the provisions
Classification code (RID)	:	F1
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E1
Transport category (RID)	:	3
Hazard identification number (RID)	:	30

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

IBC code : Not applicable (refer to Annex I of the MARPOL Convention).

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(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	Eni Fin 332/F - Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)
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	Eni Fin 332/F - Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)
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 Fin 332/F - Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%)

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

Contains no REACH Annex XIV substances

Other information, restriction and prohibition regulations	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). (et sequens). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (et sequens). Directives 89/391/CEE, 89/654/CEE, 89/655/CEE, 89/656/CEE, 90/269/CEE, 90/270/CEE, 90/394/CEE, 90/679/CEE, 93/88/CEE, 95/63/CE, 97/42/CE, 98/24/CE, 99/38/CE, 99/92/CE, 2001/45/CE, 2003/10/CE, 2003/18/CE (Health and safety on the workplace). Directive 2012/18/CE (Control of major-accident hazards involving dangerous substances). Directive 2004/42/CE (Limitation of emissions of Volatile Organic Compounds). Directive 98/24/EC (protection of the health and safety of workers from the risks related to chemical agents at work). Directive 92/85/CE (measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding). Substances Depleting the Ozone layer (1005/2009) - Annex I Substances (ODP). Regulation EU (649/2012) - Export and Import of hazardous chemicals (PIC). Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants.
Seveso Information	:	Seveso Category: P5c

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).

France

Maladies professionelles (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) 3, Highly 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).
VbF class (D)	:	A II - Liquids with a flashpoint between 21°C and 55°C
Storage class (LGK) (D)	:	LGK 3 - Flammable 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. BlmSchV (Hazardous Incident Ordinance)
Other information, restrictions and prohibition regulations	:	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 500: Protective measures TRGS 555: Working instruction and information for workers TRGS 800: Fire protection measures TRGS 900: Occupational Exposure Limits

Netherlands

Waterbezwaarlijkheid	:	8 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment 9 - Harmful to aquatic organisms
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
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	:	None of the components are listed

Denmark

Class for fire hazard	:	Class II-1
Store unit	:	5 liter
Classification remarks	:	R10 <H226;H336;H372;H412>; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations	:	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:
Asphalt (bitumen) Hydrocarbons, C9-C12, n-alkanes, isoalkanes,cyclics, aromatics (2-25%) Residual oils (petroleum,) solvent-refined

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Notes
1.1	Formula	Modified	
2.3	Other hazards not contributing to the classification	Added	
3	Composition/information on ingredients	Modified	
3.2	Comments	Added	
3.2	Notes	Added	
4.1	First-aid measures after ingestion	Modified	
4.1	First-aid measures after eye contact	Modified	
4.1	First-aid measures after skin contact	Modified	
4.1	First-aid measures after	Modified	

	inhalation		
4.2	Symptoms/effects after skin contact	Modified	
4.2	Symptoms/effects after ingestion	Modified	
4.2	Symptoms/effects after eye contact	Modified	
4.3	Other medical advice or treatment	Modified	
5.1	Suitable extinguishing media	Modified	
5.2	Hazardous decomposition products in case of fire	Added	
5.3	Special protective equipment for firefighters	Modified	
5.3	Firefighting instructions	Modified	
6.1	Protective equipment	Modified	
6.1	Emergency procedures	Modified	
7.1	Hygiene measures	Modified	
7.1	Handling temperature	Removed	
7.2	Incompatible products	Modified	
7.2	Storage conditions	Modified	
7.2	Storage temperature	Removed	
8.1	DNEL/DMEL and PNEC values	Added	
8.2	Respiratory protection	Modified	
8.2	Skin and body protection	Modified	
8.2	Thermal hazard protection	Modified	
8.2	Eye protection	Modified	
8.2	Appropriate engineering controls	Modified	
9.1	Viscosity, kinematic	Modified	
9.1	Density	Modified	
9.1	Molecular mass	Removed	
9.1	Flash point	Modified	
11.1	Additional information	Modified	
11.1	Potential adverse human health effects and symptoms	Modified	
12.1	Ecology - water	Added	
12.1	Ecology - general	Modified	
14.6	Limited quantities (RID)	Added	
14.6	Mixed packing provisions (RID)	Removed	
14.7	IBC code	Modified	
15.1	Waterbezwaarlijkheid	Modified	
15.1	Water hazard class (WGK) (D)	Modified	
15.1	Other information, restrictions and prohibition regulations	Modified	
15.1	WGK remark	Modified	
15.1	Regional legislation	Modified	
15.1	REACH Annex XVII	Modified	
15.1	Other information, restriction and prohibition regulations	Added	
16	Indication of changes	Added	

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 prolunged 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.

Full text of H- and EUH-statements:

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
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.
H336	May cause drowsiness or dizziness.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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

Flam. Liq. 3	H226	On basis of test data:
STOT SE 3	H336	Calculation method
STOT RE 1	H372	Calculation method
Aquatic Chronic 3	H412	Calculation method

SDS EU (REACH Annex II)

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.