Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

amended by 2020/878/EU

ULSFO-05

Version number: 1.0 ORIM05 Date of compilation: 27.08.2025

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

1.1 Product identifier

Trade name	**ULSFO-05**
Registration number (REACH)	not relevant (mixture)
Unique formula identifier (UFI)	3C00-T04J-U00J-AECQ

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

Relevant identified uses	Industrial use Fuels **For professional users only**

1.3 Details of the supplier of the safety data sheet

Orim Energy B.V.
Noordzijde Haven 40
4611 GT Bergen op Zoom
Netherlands

Telephone: +31 (0) 164820390
e-mail: info@orim-energy.com
Website: www.orim-energy.com

e-mail (competent person)	info@orim-energy.com

1.4 Emergency telephone number

Emergency information service	+31 (0) 164820390 This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

Poison centre

Country	Name	Telephone
Netherlands	Nationaal Vergiftigingen Informatie Centrum (UMC Utrecht) Uitsluitend bestemd om professionele hulpverleners te informeren bij acute vergiftigingen	+31 88 755 8000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.5	germ cell mutagenicity	1	Muta. 1	H340
3.6	carcinogenicity	1	Carc. 1	H350
3.7	reproductive toxicity	2	Repr. 2	H361d
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400

Section	Hazard class	Category	Hazard class and category	Hazard state-ment
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of H-phrases: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

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

- signal word Danger

- pictograms

GHS07, GHS08, GHS09



- hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

- precautionary statements

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P391	Collect spillage.

- hazardous ingredients for labelling

Contains: Residues (petroleum), atm. tower; Distillates (petroleum),light steam-cracked naphtha; Hydrocarbons, steam-cracking tar middle.

Labelling according to Regulation (EC) No. 1907/2006 (REACH) Annex XVII

Restriction R28-30:
-"Restricted to professional users."

2.3 Other hazards

This material is combustible, but will not ignite readily. Hydrogen sulphide can accumulate in tanks and confined spaces and reach potentially hazardous concentrations. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.

Endocrine disrupting properties

Information on this property is not available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Hazardous ingredients.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Residues (petroleum), atm. tower	CAS No 64741-45-3 EC No 265-045-2 Index No 649-008-00-1 REACH Reg. No 01-2119485975-17-xxxx	< 80	Acute Tox. 4 / H332 Muta. 2 / H341 Carc. 1B / H350 Repr. 2 / H361d STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410 EUH066		IOELV
Distillates (petroleum),light steam-cracked naphtha	CAS No 68475-80-9 EC No 270-662-5 Index No 649-440-00-0 REACH Reg. No 01-2119486563-29-xxxx	< 40	Skin Irrit. 2 / H315 Muta. 1B / H340 Carc. 1B / H350 STOT RE 2 / H373 Aquatic Chronic 2 / H411		GHS-HC
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	CAS No 68477-40-7 EC No 270-729-9 Index No 649-410-00-7 REACH Reg. No 01-2119486792-24-xxxx	< 20	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Carc. 2 / H351 Asp. Tox. 1 / H304 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410		GHS-HC
Hydrocarbons, steam-cracking tar middle	CAS No 86290-83-7 EC No 289-222-9 REACH Reg. No 01-2119485605-30-xxxx	< 20	Skin Irrit. 2 / H315 Muta. 1 / H340 Carc. 1 / H350 Asp. Tox. 1 / H304 Aquatic Chronic 2 / H411		

Notes

GHS-HC: Harmonised classification (the classification of the substance corresponds to the entry in the list according to 1272/2008/EC, Annex VI)

IOELV: Substance with a community indicative occupational exposure limit value

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
Residues (petroleum), atm. tower	CAS No 64741-45-3 EC No 265-045-2	-	-	11 $^{mg}/_{l}$/4h 4,1 $^{mg}/_{l}$/4h	inhalation: vapour inhalation: dust/mist
Distillates (petroleum), cracked stripped steam-	CAS No 68477-40-7	-	-	500 $^{mg}/_{kg}$	oral

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
cracked petroleum distillates, C10-12 fraction	EC No 270-729-9				

Remarks

Contains: Naphthalene (<25%); Benzene (<0.1%); H2S (<0.1%); Benzo[a]pyrene (SVHC <0.005%).
All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. If there is any suspicion of inhalation of H2S: Immediately call a POISON CENTER/doctor. Call a POISON CENTER/doctor.

Following skin contact

Wash with plenty of soap and water. Call a POISON CENTER/doctor.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Delayed effects can be expected after short or long-term exposure. Respiratory tract irritation. Hydrogen sulphide (H2S): May displace oxygen and cause rapid suffocation. Victim may not be aware of asphyxiation.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray; Dry extinguishing powder; Carbon dioxide (CO2);
Co-ordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hydrogen sulphide (H2S) can accumulate in the headspace of storage tanks and reach potentially hazardous concentrations.

Hazardous combustion products

During fire hazardous fumes/smoke could be produced. Carbon monoxide (CO). Carbon dioxide (CO2). Sulphur oxides (SOx).

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (EN 133). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required. Hydrogen sulphide (H2S) can accumulate in the headspace of storage tanks and reach potentially hazardous concentrations. Personal protective equipment: see section 8.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid binder, universal binder, sawdust).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

- specific notes/details

Hydrogen sulphide (H2S) can accumulate in the headspace of storage tanks and reach potentially hazardous concentrations. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Personal protective equipment: see section 8.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge.

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

Store in a well-ventilated place. Keep container tightly closed.

- ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

- packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
EU	benzene	71-43-2	IOELV	0,5	1,65			H	2022/431/EU
EU	hydrogen sulfide	7783-06-4	IOELV	5	7	10	14		2009/161/EU
EU	naphthalene	91-20-3	IOELV	10	50				91/322/EEC
NL	benzene	71-43-2	GW	0,2	0,7			H	SC-SZW
NL	sulfur hydride	7783-06-4	GW	1,64	2,3				SC-SZW
NL	naphthalene	91-20-3	GW	10	50	16	80		SC-SZW

Notation

H	absorbed through the skin
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Residues (petroleum), atm. tower	64741-45-3	DNEL	0,18 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Residues (petroleum), atm. tower	64741-45-3	DNEL	4.717 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Residues (petroleum), atm. tower	64741-45-3	DNEL	0,065 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Residues (petroleum), atm. tower	64741-45-3	DNEL	0,015 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	DMEL	3,25 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	DMEL	23,4 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	DMEL	3,25 µg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	DMEL	464 µg/kg	human, dermal	consumer (private households)	chronic - systemic effects
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	DMEL	0,464 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
Hydrocarbons, steam-cracking tar middle	86290-83-7	DMEL	3,25 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Hydrocarbons, steam-cracking tar middle	86290-83-7	DMEL	23,4 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Hydrocarbons, steam-cracking tar middle	86290-83-7	DMEL	14,7 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Hydrocarbons, steam-cracking tar middle	86290-83-7	DMEL	42,4 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Hydrocarbons, steam-cracking tar middle	86290-83-7	DMEL	4,23 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	DMEL	3,25 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	DMEL	23,4 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	DNEL	10,2 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	DNEL	42,4 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	DNEL	2,1 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

8.2 Exposure controls

Appropriate engineering controls

Industrial use of substances in closed systems. Use only in well-ventilated areas. Use local exhaust ventilation. Provide eye-wash stations and safety showers at the workplace.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection (EN 166).

Skin protection



Protective clothing (EN 340 & EN ISO 13688). Antistatic protective clothing.

Hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Chemical protection gloves are suitable, which are tested according to EN 374. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- type of material

Nitrile rubber

- breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Full face mask (DIN EN 136). Type: A-P2 (combined filters against particles and organic gases and vapours, colour code: Brown/White). At high concentrations (like vessel/ container cleaning) a breathing apparatus must be used (self-contained: SCBA/ fresh air hose breathing apparatus). Hydrogen sulphide can accumulate in tanks and confined spaces and reach potentially hazardous concentrations. Hydrogen sulphide (H2S): May displace oxygen and cause rapid suffocation (concentration H2S > 10 ppm / oxygen <19.5%: wear self-contained breathing apparatus)

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	dark brown - black
Odour	characteristic
Melting point/freezing point	4 °C calculated value, referring to a component of the mixture
Boiling point or initial boiling point and boiling range	170 °C at 1.013 hPa calculated value, referring to a component of the mixture
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	LEL: UEL: not determined
Flash point	>60 °C at 101,3 kPa

Auto-ignition temperature	≥250 °C (auto-ignition temperature (liquids and gases)) calculated value, referring to a component of the mixture
Decomposition temperature	no data available
pH (value)	not determined
Kinematic viscosity	>20,5 – 380 cSt at 40 °C
Solubility	not determined

Partition coefficient n-octanol/water (log value)	this information is not available

Vapour pressure	1.033 Pa at 20 °C calculated value, referring to a component of the mixture

Density and/or relative density

Density	0,9 – 0,991 $^{g}/_{cm^3}$ at 15 °C
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Hydrogen sulphide (H2S) may be given off when this material is heated.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if inhaled.

- acute toxicity estimate (ATE)

Exposure route	ATE
Inhalation: vapour	13,75 $^{mg}/_{l}$/4h

Acute toxicity estimate (ATE) of components			
Name of substance	**CAS No**	**Exposure route**	**ATE**
Residues (petroleum), atm. tower	64741-45-3	inhalation: vapour	11 $^{mg}/_{l}$/4h
Residues (petroleum), atm. tower	64741-45-3	inhalation: dust/mist	4,1 $^{mg}/_{l}$/4h
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	oral	500 $^{mg}/_{kg}$

Acute toxicity of components					
Name of substance	**CAS No**	**Exposure route**	**Endpoint**	**Value**	**Species**
Residues (petroleum), atm. tower	64741-45-3	oral	LD50	5.270 $^{mg}/_{kg}$	rat
Residues (petroleum), atm. tower	64741-45-3	inhalation: dust/mist	LC50	4.100 $^{mg}/_{m^3}$/4h	rat
Residues (petroleum), atm. tower	64741-45-3	dermal	LD50	>2.000 $^{mg}/_{kg}$	rabbit
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	oral	LD50	>2.000 $^{mg}/_{kg}$	rat
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	inhalation: vapour	LC50	28,1 $^{mg}/_{l}$/4h	rat
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	dermal	LD50	>2.000 $^{mg}/_{kg}$	rat
Hydrocarbons, steam-cracking tar middle	86290-83-7	oral	LD50	>2.000 $^{mg}/_{kg}$	rat
Hydrocarbons, steam-cracking tar middle	86290-83-7	inhalation: vapour	LC50	28,1 $^{mg}/_{l}$/4h	rat
Hydrocarbons, steam-cracking tar middle	86290-83-7	dermal	LD50	>2.000 $^{mg}/_{kg}$	rat
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	oral	LD50	>2.000 $^{mg}/_{kg}$	rat
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	inhalation: vapour	LC50	28,1 $^{mg}/_{l}$/4h	rat
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	dermal	LD50	>2.000 $^{mg}/_{kg}$	rat

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

May cause genetic defects.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Suspected of damaging the unborn child.

Summary of evaluation of the CMR properties

The product contains substances that are listed on the "SZW-lijst van kankerverwekkende, mutagene en voor de voortplanting giftige stoffen". See section 15 for more information on the ingredients.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Other information

Hydrogen sulphide (H2S): May displace oxygen and cause rapid suffocation.

11.2 Information on other hazards

Endocrine disrupting properties

Information on this property is not available.

Other information

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Residues (petroleum), atm. tower	64741-45-3	LL50	79 $^{mg}/_{l}$	fish	96 h
Residues (petroleum), atm. tower	64741-45-3	EL50	0,22 $^{mg}/_{l}$	aquatic invertebrates	48 h
Residues (petroleum), atm. tower	64741-45-3	NOELR	0,05 $^{mg}/_{l}$	algae	72 h
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	LL50	<32 $^{mg}/_{l}$	fish	96 h
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	LC50	1 $^{mg}/_{l}$	fish	96 h
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	EL50	13 $^{mg}/_{l}$	aquatic invertebrates	48 h
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	EC50	1,2 $^{mg}/_{l}$	aquatic invertebrates	48 h
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	ErC50	2 $^{mg}/_{l}$	algae	72 h
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	EbC50	1,3 $^{mg}/_{l}$	algae	72 h
Distillates (petroleum),light steam-	68475-80-9	NOEC	5,6 $^{mg}/_{l}$	fish	96 h

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
cracked naphtha					
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	NOELR	2,1 mg/l	fish	96 h
Hydrocarbons, steam-cracking tar middle	86290-83-7	LC50	>22 - <32 mg/l	fish	96 h
Hydrocarbons, steam-cracking tar middle	86290-83-7	LL50	32 mg/l	fish	96 h
Hydrocarbons, steam-cracking tar middle	86290-83-7	EL50	13 mg/l	aquatic invertebrates	48 h
Hydrocarbons, steam-cracking tar middle	86290-83-7	EC50	2,4 mg/l	aquatic invertebrates	48 h
Hydrocarbons, steam-cracking tar middle	86290-83-7	ErC50	2 mg/l	algae	72 h
Hydrocarbons, steam-cracking tar middle	86290-83-7	EbC50	1,3 mg/l	algae	72 h
Hydrocarbons, steam-cracking tar middle	86290-83-7	NOEC	5,6 mg/l	fish	96 h
Hydrocarbons, steam-cracking tar middle	86290-83-7	NOELR	2,1 mg/l	fish	96 h
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	LL50	9,9 mg/l	fish	48 h
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	LC50	0,58 mg/l	fish	96 h
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	EL50	1,6 mg/l	aquatic invertebrates	24 h
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	EC50	0,76 mg/l	aquatic invertebrates	48 h
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	ErC50	1,4 mg/l	algae	72 h
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	NOEC	0,94 mg/l	algae	96 h
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	NOELR	0,23 mg/l	algae	72 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	EC50	470 mg/l	microorganisms	180 min
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	growth (EbCx) 10%	220 mg/l	microorganisms	180 min
Hydrocarbons, steam-cracking tar middle	86290-83-7	EC50	470 mg/l	microorganisms	180 min

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	**CAS No**	**Endpoint**	**Value**	**Species**	**Exposure time**
Hydrocarbons, steam-cracking tar middle	86290-83-7	growth (EbCx) 10%	220 $^{mg}/_{l}$	microorganisms	180 min

12.2 Persistence and degradability

Degradability of components					
Name of substance	**CAS No**	**Process**	**Degradation rate**	**Time**	**Method**
Distillates (petroleum),light steam-cracked naphtha	68475-80-9	oxygen depletion	20 %	22 d	
Hydrocarbons, steam-cracking tar middle	86290-83-7	oxygen depletion	20 %	22 d	
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	oxygen depletion	0 %	28 d	

12.3 Bioaccumulative potential

Bioaccumulative potential of components				
Name of substance	**CAS No**	**BCF**	**Log KOW**	**BOD5/COD**
Distillates (petroleum),light steam-cracked naphtha	68475-80-9		>2,4 – <5,2 (pH value: 6,2, 23 °C)	
Hydrocarbons, steam-cracking tar middle	86290-83-7		>2,4 – <5,2 (pH value: 6,2, 23 °C)	
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7		>3,1 – <4,7 (25 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0,1%.

12.6 Endocrine disrupting properties

Information on this property is not available.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled

separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 3082
IMDG-Code	UN 3082
ICAO-TI	UN 3082

14.2 UN proper shipping name

ADR/RID/ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (heavy fuel oil)
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
ICAO-TI	Environmentally hazardous substance, liquid, n.o.s.
Technical name (Hazardous ingredients)	heavy fuel oil

14.3 Transport hazard class(es)

ADR/RID/ADN	9
IMDG-Code	9
ICAO-TI	9
Other remarks/details	Dangers (ADN) N1, CMR, F NSTR: 3270 Heavy Fuel Oil

14.4 Packing group

ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

hazardous to the aquatic environment

Environmentally hazardous substance (aquatic environment)	Residues (petroleum), atm. tower, Distillates (petroleum),light steam-cracked naphtha

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

No data available.

Additional information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - additional information

Classification code	M6
Danger label(s)	9, fish and tree



Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601, 650
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L

Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90

International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant	yes (hazardous to the aquatic environment) (Residues (petroleum), atm. tower)
Danger label(s)	9, fish and tree



Special provisions (SP)	274, 335, 375, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-A, S-F
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, fish and tree



Special provisions (SP)	A97, A158, A197, A215
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Name acc. to inventory	Restriction	No
this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC	R3	3
carcinogenic	R28-30	28
substances in tattoo inks and permanent make-up	R75	75

Legend

R28-30 1. Shall not be placed on the market, or used,
- as substances,
- as constituents of other substances, or,
- in mixtures,

for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than:
- either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or,
- the relevant generic concentration limit specified in Part 3 of Annex I of Regulation (EC) No 1272/2008.

Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows:
'Restricted to professional users'.
2. By way of derogation, paragraph 1 shall not apply to:
(a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;

Legend

(b) cosmetic products as defined by Directive 76/768/EEC;
(c) the following fuels and oil products:
- motor fuels which are covered by Directive 98/70/EC,
- mineral oil products intended for use as fuel in mobile or fixed combustion plants,
- fuels sold in closed systems (e.g. liquid gas bottles);
(d) artists' paints covered by Regulation (EC) No 1272/2008;
(e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date;
(f) devices covered by Regulation (EU) 2017/745.

R3 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
— can be used as fuel in decorative oil lamps for supply to the general public, and
— present an aspiration hazard and are labelled with H304.
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
(b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage';
(c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.';

R75 1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:
(a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
(b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
(c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
(d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
(i) 0,1 % by weight, if the substance is used solely as a pH regulator;
(ii) 0,01 % by weight, in all other cases;
(e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
(f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
(i) "Rinse-off products";
(ii) "Not to be used in products applied on mucous membranes";
(iii) "Not to be used in eye products";
(g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
(h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
2. For the purposes of this entry use of a mixture "for tattooing purposes" means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
(a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
(b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.
6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:

Legend

(a) the statement “Mixture for use in tattoos or permanent make-up”;
(b) a reference number to uniquely identify the batch;
(c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. “Ingredient” means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
(d) the additional statement “pH regulator” for substances falling under point (d)(i) of paragraph 1;
(e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13;
(f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
(g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.
The information shall be clearly visible, easily legible and marked in a way that is indelible.
The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.
Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.
Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.
8. Mixtures that do not contain the statement “Mixture for use in tattoos or permanent make-up” shall not be used for tattooing purposes.
9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).
10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
34	petroleum product	2.500	25.000	

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Hydrocarbons, steam-cracking tar middle	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	

List of pollutants (WFD)				
Name of substance	**Name acc. to inventory**	**CAS No**	**Listed in**	**Remarks**
Distillates (petroleum),light steam-cracked naphtha	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Residues (petroleum), atm. tower	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	

Legend

a) Indicative list of the main pollutants

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National regulations (Netherlands)

SZW-lijst CMR effects

List of carcinogenic, mutagenic and reproductive toxic substances (SZW-lijst)				
Name acc. to inventory	**CAS No**	**Carcinogenicity**	**Mutagenicity**	**Reproductive toxicity**
(complex) petroleum and coal derivatives		carc		

Legend

carc Listed in "B List of carcinogenic substances"

List of Substances of Very High Concern, Rijksinstituut voor Volksgezondheid en Milieu (RIVM)

List of Substances of Very High Concern (ZZS-lijst)				
Name acc. to inventory	**CAS No**	**Dust class for air emissions**	**Remarks**	**Emission limit value**
Distillates (petroleum), cracked stripped steam-cracked petroleum distillates, C10-12 fraction	68477-40-7	MVP 1	rem-85 rem-156	0,05 mg/Nm3
Distillates (petroleum), light steam-cracked naphtha (Cracked gasoil)	68475-80-9		rem-153	
Residues (petroleum), atm. tower (heavy fuel oil)	64741-45-3	MVP 1	rem-154	0,05 mg/Nm3

Legend

rem-153 De meeste aardolie- en steenkool derivaten zijn niet als ZZS opgenomen in bijlage III van het BAL. Alleen als deze producten minder dan 0,1 % aan ZZS componenten bevatten, kan stofklasse gO.2 worden aangehouden. Als er meer dan 0,1 % ZZS componenten aanwezig zijn, moet het product als ZZS worden beschouwd. Bij de aanwezigheid van vluchtige ZZS-componenten adviseren we de

Legend

	stofklasse MVP 2 te hanteren; bij de aanwezigheid van niet-vluchtige ZZS-componenten adviseren we de stofklasse MVP 1 te hanteren. Voor meer gedetailleerde criteria voor stoffen en mengsels met een ZZS-component zie: rvs.rivm.nl/stoffenlijsten/Zeer-Zorgwekkende-Stoffen/ZZS-in-mengels. Advies voor vergunningverlening voor mengsels en stoffen met ZZS-bestanddelen wordt gegeven op de website van het IPLO: https://iplo.nl/thema/zeer-zorgwekkende-stoffen-zzs/mengsels-zzs/
rem-154	Dit aardolie- of steenkoolderivaat bevat een groot gehalte aan PAKs, daarom worden hier de stofklasse en emissiegrenswaarde voor PAKs weergegeven.
rem-156	Deze stof staat niet in bijlage III van het BAL maar bevat één of meerdere ZZS. De stofklasse van de ZZS met de strengste stofklasse is weergegeven.
rem-85	Deze stof wordt als ZZS geïdentificeerd omdat deze volgens de gegevens bij ECHA (echa.europa.eu) één of meerdere ZZS bevat. In overeenkomst met de mengselnotitie wordt de stof dan als ZZS geïdentificeerd.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2009/161/EU	Commission Directive establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
2022/431/EU	Directive (EU) 2022/431 of the European Parliament and of the Council of 9 March 2022 amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
91/322/EEC	Commission Directive on establishing indicative limit values by implementing Council Directive 80/1107/EEC
Acute Tox.	Acute toxicity
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of

Abbr.	Descriptions of used abbreviations
	substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
log KOW	n-Octanol/water
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
NOELR	No Observed Effect Loading Rate
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
SC-SZW	Staatscourant: Regeling van de Minister van Sociale Zaken en Werkgelegenheid tot wijziging van de Arbeidsomstandighedenregeling
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin

Abbr.	Descriptions of used abbreviations
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H340	May cause genetic defects.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.