

ULSFO Finished Grade

Version number: GHS 1.0

Date of compilation: 2019-01-15

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

1.1 Product identifier

Trade name **ULSFO Finished Grade**
 Registration number (REACH) not relevant (mixture)

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

Relevant identified uses Fuels

1.3 Details of the supplier of the safety data sheet

ORIM ENERGY
 Noordzijde Haven 40
 4611 GT Bergen op Zoom
 Netherlands

Telephone: +31164820390
 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 +31164820390
 This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

Poison centre		
Country	Name	Telephone
United Kingdom	National Poisons Information Service (NPIS) (medical professionals only)	0344-8920111
United Kingdom	NHS (general public)	non-emergency: 111 or a doctor; emergency: 999

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
3.5	germ cell mutagenicity	1B	Muta. 1B	H340
3.6	carcinogenicity	1A	Carc. 1A	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
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: 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.

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2.2 Label elements

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

- signal word danger

- pictograms

GHS07, GHS08,
GHS09



- hazard statements

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 (liver, thymus, blood) 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.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P312 Call a POISON CENTRE/doctor if you feel unwell.
 P391 Collect spillage.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- supplemental hazard information

EUH066 Repeated exposure may cause skin dryness or cracking.

- hazardous ingredients for labelling

Fuel oil, residual, Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60°C and viscosity ≤ 20.5 mm²/s @ 40°C, benzene ≥ 0.1%, naphthalene ≥ 25%), Residues (petroleum), hydrocracked, Residues (petroleum), thermal cracked

2.3 Other hazards

This material is combustible, but will not ignite readily.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.


SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

The product does not contain any (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the substance and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Specific Conc. Limits	M-Factors
Fuel oil, residual	CAS No 68476-33-5 EC No 270-675-6 Index No 649-024-00-9 REACH Reg. No 01-	10 – < 90	Acute Tox. 4 / H332 Carc. 1B / H350 Repr. 2 / H361d STOT RE 2 / H373 Asp. Tox. 1 / H304 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410 EUH066			













Safety Data Sheet

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

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Name of sub-stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Specific Conc. Limits	M-Factors
	2119474894-22-xxxx					
Residues (petroleum), hydro-cracked	CAS No 64741-75-9 EC No 265-076-1 Index No 649-012-00-3 REACH Reg. No 01- 2119489964- 16-xxxx	10 – < 90	Acute Tox. 4 / H332 Carc. 1B / H350 Repr. 2 / H361d STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	  		
Residues (petroleum), thermal cracked	CAS No 64741-80-6 EC No 265-081-9 Index No 649-013-00-9 REACH Reg. No 01- 2119484869- 13-xxxx	10 – < 90	Acute Tox. 4 / H332 Carc. 1B / H350 Repr. 2 / H361d STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	  		
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	CAS No 98072-36-7 EC No 308-487-4 REACH Reg. No 01- 2119480164- 41-xxxx	5 – < 10	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Muta. 1B / H340 Carc. 1A / H350 Asp. Tox. 1 / H304 Aquatic Chronic 1 / H410	  		
Ethylene polymerisation (triethylaluminium catalysed), distillation residue, C20-40 fraction		1 – < 2.5	Asp. Tox. 1 / H304			
1,5,9-Cyclododecatriene	CAS No 4904-61-4 EC No 225-533-8 REACH Reg. No 01- 2119474883- 25-xxxx	< 1	Asp. Tox. 1 / H304 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	 		

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Specific Conc. Limits	M-Factors
Dodecan-1-ol	CAS No 112-53-8 EC No 203-982-0 REACH Reg. No 01- 2119485976- 15-xxxx	< 1	Eye Irrit. 2 / H319 Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411	 		
Tetradecan-1-ol	CAS No 112-72-1 EC No 204-000-3 REACH Reg. No 01- 2119485910- 33-xxxx 01- 2119787283- 29-xxxx	< 1	Skin Irrit. 2 / H315 Aquatic Chronic 1 / H410	 		

Remarks

For full text of Hazard- and EU Hazard-statements: see SECTION 16. All the percentages given are percentages by weight unless stated otherwise.

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. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

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

Following ingestion

Do NOT induce vomiting. Rinse mouth with water (only if the person is conscious). Call a POISON CENTER or doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Breathing difficulties. Cough. Death following aspiration.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

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SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media

Water mist; Dry extinguishing powder; Carbon dioxide (CO₂); Foam

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

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.

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

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Collect spillage: Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

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.

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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

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.

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 sources of ignition - No smoking. Take precautionary measures against static discharge.

- incompatible substances or mixtures

Observe hints for combined storage. Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures.

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)

There is no additional information.

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/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
EU	hydrogen sulfide	7783-06-4	IOEL V	5	7	10	14				2009/161/EU
GB	hydrogen sulfide	7783-06-4	WEL	5	7	10	14				EH40/2005

Notation

Ceiling-C
STEL

ceiling value is a limit value above which exposure should not occur
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)

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Notation

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
Fuel oil, residual	68476-33-5	DNEL	4,700 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
Fuel oil, residual	68476-33-5	DNEL	0.065 mg/cm ³	human, dermal	worker (industry)	chronic - systemic effects
Fuel oil, residual	68476-33-5	DNEL	0.12 mg/cm ³	human, inhalatory	worker (industry)	chronic - systemic effects
Fuel oil, residual	68476-33-5	DNEL	0.015 mg/cm ³	human, oral	worker (industry)	chronic - local effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Fuel oil, residual	68476-33-5	PNEC	66.7 mg/kg	aquatic organisms	water	short-term (single instance)
Dodecan-1-ol	112-53-8	PNEC	0.003 mg/l	aquatic organisms	freshwater	short-term (single instance)
Dodecan-1-ol	112-53-8	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Dodecan-1-ol	112-53-8	PNEC	0.021 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Dodecan-1-ol	112-53-8	PNEC	1.1 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Dodecan-1-ol	112-53-8	PNEC	0.11 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Dodecan-1-ol	112-53-8	PNEC	0.888 mg/kg	terrestrial organisms	soil	short-term (single instance)
Tetradecan-1-ol	112-72-1	PNEC	0 mg/l	aquatic organisms	freshwater	short-term (single instance)
Tetradecan-1-ol	112-72-1	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
Tetradecan-1-ol	112-72-1	PNEC	0.002 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection (EN 166).

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Skin protection

Protective clothing (EN 340 & EN ISO 13688).

- 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

- material thickness

≥ 0,38 mm

- breakthrough times 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/half mask/quarter mask (EN 136/140). When heating the product.: Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Colour	brown
Odour	characteristic

Other safety parameters

pH (value)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	150 °C at 1,013 hPa calculated value
Flash point	>60 °C calculated value
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)

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Explosive limits

- lower explosion limit (LEL)	0.5 vol%
- upper explosion limit (UEL)	5 vol%
Vapour pressure	<0.01 bar at 37.8 °C calculated value
Density	0.86 – 0.91 g/cm ³ at 15 °C
Vapour density	this information is not available
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	>250 °C calculated value

Viscosity

- kinematic viscosity	>20.5 mm ² /s at 40 °C 84.73 cSt at 50 °C calculated value
Explosive properties	none
Oxidising properties	none

9.2 Other information

there is no additional information

Of no significance.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat.

10.5 Incompatible materials

Acids. Bases. 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.

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

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)

Inhalation: vapour 12.22 mg/l/4h

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Fuel oil, residual	68476-33-5	oral	LD50	5,270 mg/kg	rat
Fuel oil, residual	68476-33-5	inhalation: dust/mist	LC50	4,100 mg/m ³ /4h	rat
Fuel oil, residual	68476-33-5	dermal	LD50	>2,000 mg/kg	rabbit
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	oral	LD50	5,000 mg/kg	rat
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	inhalation: vapour	LC50	28.1 mg/l/4h	rat
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	dermal	LD50	>2,000 mg/kg	rabbit
Ethylene polymerisation (triethylaluminium catalysed), distillation residue, C20-40 fraction		oral	LD50	>2,000 mg/kg	rat
Ethylene polymerisation (triethylaluminium catalysed), distillation residue, C20-40 fraction		dermal	LD50	>2,000 mg/kg	rat
1,5,9-Cyclododecatriene	4904-61-4	oral	LD50	4,400 mg/kg	rat
Dodecan-1-ol	112-53-8	oral	LD50	>2,000 mg/kg	rat
Dodecan-1-ol	112-53-8	inhalation: dust/mist	LC50	>71 mg/l/1h	rat
Dodecan-1-ol	112-53-8	dermal	LD50	12,000 mg/kg	rabbit

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

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Germ cell mutagenicity

May cause genetic defects.

Carcinogenicity

May cause cancer.

Reproductive toxicity

Suspected of damaging the unborn child.

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 (liver, thymus, blood) through prolonged or repeated exposure.

Hazard category	Target organ	Exposure route
2	liver	if exposed
2	thymus	if exposed
2	blood	if exposed

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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
Fuel oil, residual	68476-33-5	LL50	79 mg/l	fish	96 h
Fuel oil, residual	68476-33-5	EL50	0.22 mg/l	aquatic invertebrates	48 h
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	LC50	54.4 mg/l	fish	48 h
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	LL50	4.9 mg/l	fish	96 h
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	EC50	2.7 mg/l	aquatic invertebrates	48 h

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Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	EL50	3.3 mg/l	aquatic invertebrates	48 h
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	ErC50	12.2 mg/l	algae	72 h
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	EbC50	0.91 mg/l	algae	96 h
1,5,9-Cyclododecatriene	4904-61-4	EC50	0.47 mg/l	aquatic invertebrates	96 h
1,5,9-Cyclododecatriene	4904-61-4	ErC50	>100 mg/l	algae	72 h
Dodecan-1-ol	112-53-8	LC50	1.01 mg/l	fish	96 h
Dodecan-1-ol	112-53-8	EC50	0.765 mg/l	aquatic invertebrates	48 h
Dodecan-1-ol	112-53-8	ErC50	0.66 mg/l	algae	72 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Fuel oil, residual	68476-33-5	EL50	2.56 mg/l	aquatic invertebrates	24 h
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	EL50	<9.83 mg/l	aquatic invertebrates	24 h
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	EC50	470 mg/l	microorganisms	180 min
Ethylene polymerisation (triethylaluminium catalysed), distillation residue, C20-40 fraction		EC50	>1,000 mg/l	microorganisms	3 h

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12.2 Persistence and degradability

Degradability of components of the mixture						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7	oxygen depletion	7.3 %	28 d		ECHA
Ethylene polymerisation (triethylaluminium catalysed), distillation residue, C20-40 fraction		carbon dioxide generation	92 %	28 d		ECHA
1,5,9-Cyclododecatriene	4904-61-4	oxygen depletion	0 %	28 d		ECHA

12.3 Bioaccumulative potential

Bioaccumulative potential of components of the mixture				
Name of substance	CAS No	BCF	Log KOW	BOD ₅ /COD
Fuel oil, residual	68476-33-5		3 – 6	
Aromatic hydrocarbons, distn. residues, naphthalene-rich (flashpoint > 60 °C and viscosity ≤ 20.5 mm ² /s @ 40 °C, benzene ≥ 0.1%, naphthalene ≥ 25%)	98072-36-7		>3.3 – <5.4 (25 °C)	
Ethylene polymerisation (triethylaluminium catalysed), distillation residue, C20-40 fraction			>6.5 (pH value: 7, 20 °C)	
1,5,9-Cyclododecatriene	4904-61-4	2,630 – 12,500	4.5 (23 °C)	
Dodecan-1-ol	112-53-8		5.4 (pH value: 7.1, 23 °C)	
Tetradecan-1-ol	112-72-1		5.5	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

Endocrine disrupting potential

None of the ingredients are listed.

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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	3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name (Hazardous ingredients)	Fuel oil, residual, Residues (petroleum), thermal cracked
14.3 Transport hazard class(es)	
Class	9 (environmentally hazardous)
14.4 Packing group	III (substance presenting low danger)
14.5 Environmental hazards	hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment)	Fuel oil, residual, Residues (petroleum), thermal cracked
14.6 Special precautions for user	
Provisions for dangerous goods (ADR) should be complied within the premises.	
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	
No data available.	

Information for each of the UN Model Regulations

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

UN number	3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class	9
Classification code	M6
Packing group	III
Danger label(s)	9, fish and tree
	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	-

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Hazard identification No	90
Emergency Action Code	3Z
International Maritime Dangerous Goods Code (IMDG)	
UN number	3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class	9
Marine pollutant	yes (hazardous to the aquatic environment)
Packing group	III
Danger label(s)	9, fish and tree



Special provisions (SP)	274, 335, 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)

UN number	3082
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Class	9
Environmental hazards	yes (hazardous to the aquatic environment)
Packing group	III
Danger label(s)	9, fish and tree



Special provisions (SP)	A97, A158, A197
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

None of the ingredients are listed.

Dangerous substances with restrictions (REACH, Annex XVII)					
Name of substance	Name acc. to inventory	CAS No	Type of registration	Restriction	No
ULSFO Finished Grade	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		1907/2006/EC annex XVII	R3	3

Legend

- 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 ash-trays,

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Legend

- 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 R65 or 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 Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - (a) lamp oils, labelled with R65 or 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 R65 or 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 may lead to life threatening lung damage';
 - (c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
- 6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.
- 7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.

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
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100	200	56)

Notation

56) hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

None of the ingredients are listed.

Regulation 98/2013/EU on the marketing and use of explosives precursors

None of the ingredients are listed.

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
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)

Safety Data Sheet

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

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Abbr.	Descriptions of used abbreviations
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
Asp. Tox.	Aspiration hazard
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
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
IMDG	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
log KOW	n-Octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
Muta.	Germ cell mutagenicity
NLP	No-Longer Polymer
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

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Abbr.	Descriptions of used abbreviations
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

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 2015/830/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 chapter 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.
H350	May cause cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs (liver, thymus, blood) 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.