SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation of the mixture	Diesel fuel (with biodiesel content-B6); Diesel fuel (with biodiesel content-B6-(CP))
Registration number	-
Synonyms	Motor Diesel
Issue date	14-November-2014
Version number	01
Revision date	-
Supersedes date	-

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

Identified uses	Use as a Fuel. Other registered uses, for this product, can be found in section 15 of this eSDS.
Uses advised against	-

1.3. Details of the supplier of the safety data sheet

Supplier

Company name	LUKOIL Neftohim Burgas AD
Address	Burgas 8104, Bulgaria
Telephone	+359 5511 5654
Fax	+359 5511 5555
e-mail	SDS@neftochim.bg
Contact person	REACH@neftochim.bg
Emergency number in the EU	112
1.4. Emergency telephone number	+1-760-476-3961 (333368)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification	Carc. Cat. 3;R40, Xn;R20-65, Xi;R38, N;R51-53

The full text for all R-phrases is displayed in section 16.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards		
Flammable liquids	Category 3	H226 - Flammable liquid and vapour.
Health hazards		
Acute toxicity, inhalation	Category 4	H332 - Harmful if inhaled.
Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Carcinogenicity	Category 2	H351 - Suspected of causing cancer.
Specific target organ toxicity - repeated exposure	Category 2	H373 - May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Category 1	H304 - May be fatal if swallowed and enters airways.
Environmental hazards		
Hazardous to the aquatic environment, long-term aquatic hazard	Category 2	H411 - Toxic to aquatic life with long lasting effects.

Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	Harmful by inhalation. Irritating to skin. Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed. Occupational exposure to the substance or mixture may cause adverse health effects.

Environmental hazards Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Specific hazards Breathing of high vapour concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness. Prolonged or repeated contact with skin may cause redness, itching, irritation, eczema/chapping and oil acne. Components of the product may be absorbed into the body through the skin. May cause damage to the liver. Suspect cancer hazard. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Main symptoms Irritation of eyes and mucous membranes. Skin irritation. Defatting of the skin. Dermatitis. Ingestion may cause irritation and malaise.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Fuels, diesel

Hazard pictograms

Signal word Danger

Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P331	Do NOT induce vomiting.

Storage

P403 + P235	Store in a well-ventilated place. Keep cool.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information None.

2.3. Other hazards Not a PBT or vPvB substance or mixture. Hydrogen sulfide (H2S) can accumulate in the headspace of storage tanks and reach potentially hazardous concentrations.

SECTION 3: Composition/information on ingredients

Mixture

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Fuels, diesel	≤93	68334-30-5 269-822-7	01-2119484664-27-0090	649-224-00-6	
Classification:	**DSD:**	Carc. Cat. 3;R40, Xn;R20-65, Xi;R38, N;R51-53			N
	CLP:	Flam. Liq. 3;H226, Asp. Tox. 1;H304, Skin Irrit. 2;H315, Acute Tox. 4;H332, Carc. 2;H351, STOT RE 2;H373, Aquatic Chronic 2;H411			N

List of abbreviations and symbols that may be used above

DSD: Directive 67/548/EEC.
CLP: Regulation No. 1272/2008.
Note N: The classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen. This note applies only to certain complex oil-derived substances in Part 3.

Composition comments This product is registered under the REACH Regulation 1907/2006 as a UVCB. The full text for all R- and H-phrases is displayed in section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Hydrogen sulphide (H2S) can accumulate in the headspace of storage tanks and reach potentially hazardous concentrations. For more detailed chemical composition, refer to the certificate of analysis.

SECTION 4: First aid measures

General information Get medical attention if any discomfort develops.

4.1. Description of first aid measures

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if discomfort develops or persists.

If there is any suspicion of inhalation of H2S:
Rescuers must wear breathing apparatus, belt and safety rope, and follow rescue procedures.
Remove casualty to fresh air as quickly as possible.
Immediately begin artificial respiration if breathing has ceased.
Provision of oxygen may help.
Obtain medical advice for further treatment.

Skin contact Remove contaminated clothing. Wash with soap and water. In case of rashes, wounds or other skin disorders: Seek medical attention and bring along these instructions.

Eye contact Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops or persists.

Ingestion Immediately rinse mouth and drink plenty of water or milk. Keep person under observation. Do not induce vomiting. If vomiting occurs, keep head low. Transport immediately to hospital and take these instructions.

4.2. Most important symptoms and effects, both acute and delayed Irritation of eyes and mucous membranes. Skin irritation. Defatting of the skin. Dermatitis. Ingestion may cause irritation and malaise.

4.3. Indication of any immediate medical attention and special treatment needed Treat symptomatically. The effects might be delayed.

SECTION 5: Firefighting measures

General fire hazards The product is combustible, and heating may generate vapours which may form explosive vapour/air mixtures. Material will float and can be re-ignited on surface of water.

5.1. Extinguishing media

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterised. Sulfur Oxides (SOx). Nitrogen Oxides (NOx).

5.3. Advice for firefighters

Special protective equipment for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Stay upwind. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid contact with skin. Wear suitable protective clothing, gloves and eye/face protection. In case of spills, beware of slippery floors and surfaces.

For emergency responders Use personal protection as recommended in section 8 of the SDS.

6.2. Environmental precautions Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not contaminate water. Contact local authorities in case of spillage to drain/aquatic environment.

6.3. Methods and material for containment and cleaning up Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Small Spills: Absorb spillage with non-combustible, absorbent material.

Large Spills: Remove with vacuum trucks or pump to storage/salvage vessels. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Wash area with soap and water. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Before entering storage tanks and commencing any operation in a confined area check the atmosphere for oxygen content and flammability. (Subject to applicability) If sulfur compounds are suspected to be present in the product, check the atmosphere for H2S content. Access to work area should be restricted to people handling the product only. Should be handled in closed systems, if possible. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapours. Wear appropriate personal protective equipment. Take precautionary measures against static discharges. Ground container and transfer equipment to eliminate static electric sparks. Vapours are heavier than air and may travel along the floor and in the bottom of containers. Immediately change contaminated clothes. Do not eat, drink or smoke when using the product. Be aware of potential for surfaces to become slippery. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Follow rules for flammable liquids. Keep away from heat, sparks and open flame. Keep in a cool, well-ventilated place. Keep away from food, drink and animal feeding stuffs. Store away from incompatible materials.

7.3. Specific end use(s) For detailed information, see section 15. Recommendations given in the exposure scenario for the uses are distributed and annexed as separate documents to this eSDS.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL)

Material	Type	Route	Value	Form
Fuels, diesel (CAS 68334-30-5)	Workers	Dermal	2.9 mg/kg/8h	Long term Systemic effects
		Inhalation	4300 mg/m³/15min	Acute exposure systemic effect
		Inhalation	68 mg/m³/8h	Long term Systemic effects

Predicted no effect concentrations (PNECs)

Material	Type	Route	Value	Form
Fuels, diesel (CAS 68334-30-5)	Oral	Not applicable	0 mg/kg ww	

8.2. Exposure controls

Appropriate engineering controls Provide adequate ventilation and minimise the risk of inhalation of vapours and oil mist. Use explosion-proof equipment. Provide easy access to water supply and eye wash facilities.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Keep working clothes separately. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear goggles/face shield.

Skin protection

- Hand protection Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

- Other Protection suit must be worn. Anti-static and flame-retardant protective clothing is recommended.

Respiratory protection In case of inadequate ventilation or risk of inhalation of oil mist, suitable respiratory equipment with combination filter (type A2/P2) can be used. Wear air-supplied mask in confined areas. Seek advice from local supervisor.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures When using, do not eat, drink or smoke. Wash hands after handling. Launder contaminated clothing before reuse. Private clothes and working clothes should be kept separately. Handle in accordance with good industrial hygiene and safety practices. Observe any medical surveillance requirements.

Environmental exposure controls Contain spills and prevent releases and observe national regulations on emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Dark amber liquid.
Physical state	Liquid.
Form	Liquid.
Colour	Dark amber.
Odour	Characteristic.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	-40 - 6 °C (-40 - 42.8 °F)
Initial boiling point and boiling range	141 - 462 °C (285.8 - 863.6 °F)
Flash point	> 56.0 °C (> 132.8 °F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	≥225°C
Decomposition temperature	Not available.
Viscosity	≥1.5 mm2/s
Viscosity temperature	40 °C (104 °F)
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
9.2. Other information	
Bulk density	Not applicable.
Density	0.80 - 0.91 g/cm³
Percent volatile	Not available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Stable at normal conditions.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur. Hazardous reactions do not occur.
10.4. Conditions to avoid	Heat, sparks, flames, elevated temperatures. Contact with incompatible materials.
10.5. Incompatible materials	Strong acids. Strong oxidising agents.
10.6. Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of co-ordination. Continued inhalation may result in unconsciousness.
Skin contact	Causes skin irritation. Repeated exposure may cause skin dryness or cracking. May be absorbed through the skin.
Eye contact	May cause eye irritation on direct contact.
Ingestion	Ingestion may cause irritation and malaise.
Symptoms	Irritation of eyes and mucous membranes. Skin irritation. Defatting of the skin. Dermatitis. Ingestion may cause irritation and malaise.

11.1. Information on toxicological effects

Acute toxicity Harmful if swallowed - may enter lungs if swallowed or vomited. Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of co-ordination. Continued inhalation may result in unconsciousness. May irritate and cause stomach pain, vomiting, diarrhoea and nausea.

Product	Species	Test results
Fuels, diesel (CAS 68334-30-5)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Inhalation		
LC50	Rat	> 4100 mg/m3, 4 Hours
Oral		
LD50	Rat	> 2000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation May cause eye irritation on direct contact.

Respiratory sensitisation Not classified.

Skin sensitisation Not a skin sensitiser.

Germ cell mutagenicity Test data conclusive but not sufficient for classification.

Carcinogenicity Suspect cancer hazard.

Reproductive toxicity Test data conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure Test data conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure May cause damage to the following organs through prolonged or repeated exposure: Liver

Aspiration hazard Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Mixture versus substance information Not available.

Other information Components of the product may be absorbed into the body through the skin.

SECTION 12: Ecological information

12.1. Toxicity Oil spills are generally hazardous to the environment.

Product		Species	Test results
Fuels, diesel (CAS 68334-30-5)			
Aquatic			
Algae	EL50	Freshwater algae	22 mg/l, 72 Hours
Crustacea	EL50	Daphnia	68 mg/l, 48 Hours
Fish	LL50	Freshwater fish	21 mg/l, 96 Hours

12.2. Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential Evaluation of representative hydrocarbons indicates that no structure meets the very bioaccumulative (vB) criterion but some meet the bioaccumalitive (B) criterion. Potential to bioaccumulate is low.

Partition coefficient n-octanol/water (log Kow) Not applicable.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Based on the calculation model the product has a potential of being absorbed in the soil.

Mobility in general The product is insoluble in water. It will spread on the water surface while some of the components will eventually sediment in water systems. The volatile components of the product will spread in the atmosphere.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Toxic to aquatic life with long lasting effects. Oil spills are generally hazardous to the environment. The product contains volatile organic compounds which have a photochemical ozone creation potential.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	13 07 01* 13 07 03* The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Dispose in accordance with all applicable regulations. This material and/or its container must be disposed of as hazardous waste.

SECTION 14: Transport information

ADR

14.1. UN number	UN1202
14.2. UN proper shipping name	DIESEL FUEL
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Hazard No. (ADR)	30
Tunnel restriction code	D/E
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN1202
14.2. UN proper shipping name	DIESEL FUEL
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN1202
14.2. UN proper shipping name	DIESEL FUEL
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN1202
14.2. UN proper shipping name	DIESEL FUEL
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	III
14.5. Environmental hazards	Yes
ERG Code	3L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number	UN1202
14.2. UN proper shipping name	DIESEL FUEL
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable. However, this product is a liquid and if transported in bulk covered under MARPOL 73/78, Annex I.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Fuels, diesel (CAS 68334-30-5)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Fuels, diesel (CAS 68334-30-5)

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Fuels, diesel (CAS 68334-30-5)

Directive 94/33/EC on the protection of young people at work

Fuels, diesel (CAS 68334-30-5)

Other regulations	The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended and respective national laws implementing EC directives. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. 96/82/EC (Seveso II) Directive; Part 2 (Classified Substances) - Dangerous for the Environment (ii)
National regulations	Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. Pregnant women should not work with the product, if there is the least risk of exposure. Follow national regulation for work with chemical agents.
15.2. Chemical safety assessment	No Chemical safety assessment has been carried out for the mixture. The Chemical safety assessment has been carried out for the components of the mixture listed in section 3 of the SDS. Exposure scenarios relevant for these substances are annexed and distributed as separate document to this eSDS. Other registered uses: Industrial uses: Distribution of a substance. Professional uses: Use as a Fuel. Consumer uses: Use as a Fuel.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No-Effect Level.

PNEC: Predicted No-Effect Concentration.
PBT: Persistent, bioaccumulative and toxic.
vPvB: Very Persistent and very Bioaccumulative.
DSD: Directive 67/548/EEC.
CLP: Regulation No. 1272/2008.
CEN: European Committee for Standardisation.
LD50: Lethal Dose, 50%.
LC50: Lethal Concentration, 50%.
LL50: Lethal level, 50%.
EL50: Effective level, 50%.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
MARPOL: International Convention for the Prevention of Pollution from Ships.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
CSA: Chemical Safety Assessment.
eSDS: extended Safety Data Sheet.

References	IUCLID: International uniform chemical information database. IARC Monographs. Overall Evaluation of Carcinogenicity CLP files – http://concawe.org/ CONCAWE compilation of selected physical-chemical properties of petroleum substances and sulfur, Brussels, November 2010 ESIS (European chemical Substances Information System)
Information on evaluation method leading to the classification of mixture	The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.
Full text of any statements or R-phrases and H-statements under Sections 2 to 15	R20 Harmful by inhalation. R38 Irritating to skin. R40 Limited evidence of a carcinogenic effect. R51 Toxic to aquatic organisms. R53 May cause long-term adverse effects in the aquatic environment. R65 Harmful: may cause lung damage if swallowed. H226 Flammable liquid and vapour. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H332 Harmful if inhaled.

H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Training information

Follow training instructions when handling this material.

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available at the date of revision and exclusively refer to the product in its as-delivered condition. The information and recommendations are offered for the user's consideration and examination. The logo and the name "LUKOIL oil company" may include anyone or more of LUKOIL Neftohim Burgas AD or LUKOIL or any affiliates in which they directly or indirectly hold any interest.

Annex to the extended Safety Data Sheet (eSDS)

Distribution of Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411– Industrial

Exposure Scenario

Section 1 Exposure Scenario Title Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411	
Title	
Distribution of Substance	
Use Descriptor	
Sector(s) of Use	3
Process Categories	4, 8a, 8b, 9, 15
Environmental Release Categories	1, 2, 3, 4, 5, 6a, 6b, 6c, 6d, 7
Specific Environmental Release Category	ESVOC SpERC 1.1b.v1
Processes, tasks, activities covered	
Bulk loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading, maintenance and associated laboratory activities.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid With potential for aerosol generation [CS138]
Vapour pressure (kPa)	Liquid, vapour pressure <0.5 kPa at STP. OC3.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions**
General measures applicable to all activities CS135	Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions. G25
General measures (skin irritants) G19	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General exposures (Closed systems) CS15	Handle substance within a closed system E47
General exposures (Open systems) CS16	Wear suitable gloves tested to EN374 PPE15
Process sampling CS2	No other specific measures identified EI20
Laboratory activities CS36	No other specific measures identified EI20
Bulk closed loading and unloading CS501	Handle substance within a closed system E47 Wear suitable gloves tested to EN374 PPE15
Bulk open loading and unloading CS503	Wear suitable gloves tested to EN374 PPE15
Drum and small pack filling CS6	Wear suitable gloves tested to EN374 PPE15
Equipment cleaning and maintenance CS39	Drain down system prior to equipment break-in or maintenance. E65. Wear chemically resistant gloves (tested to EN374) in combination with 'basic'

	employee training. PPE16
Storage CS67	Handle substance within a closed system. E84
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tones/year)	2.8e7
Fraction of Regional tonnage used locally	0.002
Annual site tonnage (tonnes/year)	5.6e4
Maximum daily site tonnage (kg/day)	1.9e5
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	1.0e-3
Release fraction to wastewater from process (initial release prior to RMM)	1.0e-6
Release fraction to soil from process (initial release prior to RMM)	0.00001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by human via indirect exposure (primarily ingestion) [TCR1j] Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14].No wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥(%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥(%)	0
Organisation measures to prevent/limit release from site	
Prevent discharge of undissolved substance to or recover from wastewater [OMS1]. Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Conditions and measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.1
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d)	2.9e6
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
External treatment and disposal of waste should comply with applicable regulations [ETW3].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations [ERW1].	
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	
4.2. Environment	
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1].	

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

Annex to the extended Safety Data Sheet (eSDS)

Formulation & (Re)packing of Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411 – Industrial

Exposure Scenario

Section 1 Exposure Scenario Title Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411	
Title	
Formulation & (Re)packing of Substances and Mixtures	
Use Descriptor	
Sector(s) of Use	3, 10
Process Categories	1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15
Environmental Release Categories	2
Specific Environmental Release Category	ESVOC SpERC 2.2.v1
Processes, tasks, activities covered	
Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletization, extrusion, large and small scale packing, maintenance, sampling and associated laboratory activities	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	

Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid With potential for aerosol generation [CS138]
Vapour pressure (kPa)	Liquid, vapour pressure <0.5 kPa at STP. OC3.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions**
General measures applicable to all activities CS135	Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions. G25
General measures (skin irritants) G19	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
General exposures (closed systems) CS15	Handle substance within a closed system E47
General exposures (open systems) CS16	Wear suitable gloves tested to EN374 PPE15
Batch processes at elevated temperatures [CS136]	Provide extract ventilation to points where emissions occur E54
Process sampling CS2	No other specific measures identified EI20

Drum and batch transfers CS8	Use drum pumps or carefully pour from container E64 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training PPE16
Bulk transfers CS14	Handle substance within a closed system E47 Wear suitable gloves tested to EN374 PPE15
Mixing operations (open systems) CS30	Provide extract ventilation to points where emissions occur E54 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training PPE16
Production or preparation or articles by tabletting, compression, extrusion or pelletisation CS100	Wear suitable gloves tested to EN374 PPE15
Drum and small package filling CS8	Wear suitable gloves tested to EN374 PPE15
Laboratory activities CS36	No other specific measures identified EI20
Equipment clean down and maintenance CS39	Drain down system prior to equipment break-in or maintenance. E65. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. PPE16
Storage CS67	Store substance within a closed system. E84
Section 2.2 Control of environmental exposure	
Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	2.8e7
Fraction of Regional tonnage used locally	0.0011
Annual site tonnage (tonnes/year)	3.0e4
Maximum daily site tonnage (kg/day)	1.0e5
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (after typical onsite RMMs, consistent with EU Solvent Emissions Directive requirements)	1.0e-2
Release fraction to wastewater from process (initial release prior to RMM)	2.0e-5
Release fraction to soil from process (initial release prior to RMM)	0.0001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. Prevent discharge of undissolved substance to or recover from onsite wastewater [TCR14]. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency $\geq$ (%)	59.9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of $\geq$(%)	0
Organisation measures to prevent/limit release from site	
Prevent discharge of undissolved substance to or recover from wastewater [OMS1]. Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Conditions and measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.1
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d)	6.8e5
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	

External treatment and disposal of waste should comply with applicable regulations [ETW3].
Conditions and measures related to external recovery of waste
External recovery and recycling of waste should comply with applicable regulations [ERW1].
Section 3 Exposure Estimation
3.1. Health
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.
3.2. Environment
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].
Section 4 Guidance to check compliance with the Exposure Scenario
4.1. Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.
4.2. Environment
Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

Annex to the extended Safety Data Sheet (eSDS)

Use of Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411 as a Fuel – Industrial

Exposure Scenario

Section 1 Exposure Scenario Title Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411	
Title	
Use as a Fuel	
Use Descriptor	
Sector(s) of Use	3
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	7
Specific Environmental Release Category	ESVOC SpERC 7.12a.v1
Processes, tasks, activities covered	
Covers the use as a fuel (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid With potential for aerosol generation [CS138]
Vapour pressure (kPa)	Liquid, vapour pressure <0.5 kPa at STP. OC3.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions**
General measures applicable to all activities CS135	Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions. G25
General measures (skin irritants) G19	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
Bulk transfers CS14	Wear suitable gloves tested to EN374. PPE15
Drum/batch transfers CS8	Wear suitable gloves tested to EN374.PPE15
Use as a fuel (closed systems) GEST_12I, CS107	No other specific measures identified EI20
Equipment cleaning and maintenance CS39	Drain down system prior to equipment break-in or maintenance E65 Wear chemically resistant gloves (tested to type EN374) in combination with 'basic' employee training PPE16
Storage CS67	Handle substance within a closed system. E84
Section 2.2 Control of environmental exposure	
Product characteristics	

Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	4.5e6
Fraction of Regional tonnage used locally	0.34
Annual site tonnage (tonnes/year)	1.5e6
Maximum daily site tonnage (kg/day)	5.0e6
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	300
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from process (initial release prior to RMM)	5.0e-3
Release fraction to wastewater from process (initial release prior to RMM)	0.00001
Release fraction to soil from process (initial release prior to RMM)	0
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment [TCR1b]. If discharging to domestic sewage treatment plant, no onsite wastewater treatment required [TCR9].	
Treat air emission to provide a typical removal efficiency of (%)	95
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥(%)	97.7
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥(%)	60.4
Organisation measures to prevent/limit release from site	
Prevent discharge of undissolved substance to or recover from wastewater [OMS1]. Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Conditions and measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.1
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	97.7
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d)	5.0e6
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls [ETW1]. Combustion emissions considered in regional exposure assessment [ETW2].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations [ERW1].	
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	
4.2. Environment	

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1].
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

Annex to the extended Safety Data Sheet (eSDS)

Use of Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411 as a Fuel – Professional

Exposure Scenario

Section 1 Exposure Scenario Title Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411	
Title	
Use as a Fuel	
Use Descriptor	
Sector(s) of Use	22
Process Categories	1, 2, 3, 8a, 8b, 16
Environmental Release Categories	9a, 9b
Specific Environmental Release Category	ESVOC SpERC 9.12b.v1
Processes, tasks, activities covered	
Covers the use as a fuel (or fuel additives and additive components) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.	
Assessment Method	
See Section 3.	
Section 2 Operational conditions and risk management measures	
Section 2.1 Control of worker exposure	
Product characteristics	
Physical form of product	Liquid With potential for aerosol generation [CS138]
Vapour pressure (kPa)	Liquid, vapour pressure <0.5 kPa at STP. OC3.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) G13
Frequency and duration of use/exposure	Covers daily exposures up to 8 hours (unless stated differently) G2
Other Operational Conditions affecting exposure	Assumes use at not more than 20°C above ambient temperature, unless stated differently. G15. Assumes a good basic standard of occupational hygiene is implemented G1.
Contributing Scenarios	**Specific Risk Management Measures and Operating Conditions**
General measures applicable to all activities CS135	Control any potential exposure using measures such as contained systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of exposure potential and aware of basic actions to minimise exposures; ensure suitable personal protective equipment is available; clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; provide regular health surveillance as appropriate; identify and implement corrective actions. G25
General measures (skin irritants) G19	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin effects that may develop. E3
Bulk transfers CS14	Wear suitable gloves tested to EN374. PPE15
Drum/batch transfers CS8	Use drum pumps or carefully pour from container E64 Wear suitable gloves tested to EN374.PPE15
Refuelling activities CS507	Wear suitable gloves tested to EN374 PPE15
Use as a fuel (closed systems) GEST_12I, CS107	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) E11 **or** Ensure operation is undertaken outdoors E69
Equipment cleaning and maintenance CS39	Drain down system prior to equipment break-in or maintenance E65 Wear chemically resistant gloves (tested to EN374) in combination with basic employee training PPE16
Storage CS67	Store substance within a closed system E84
Section 2.2 Control of environmental exposure	

Product characteristics	
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].	
Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	6.7e6
Fraction of Regional tonnage used locally	0.0005
Annual site tonnage (tonnes/year)	3.3e3
Maximum daily site tonnage (kg/day)	9.2e3
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Release fraction to air from wide dispersive use (regional use only) [OOC7]	1.0e-4
Release fraction to wastewater wide dispersive use [OOC8]	0.00001
Release fraction to soil from wide dispersive use (regional use only) [OOC9]	0.00001
Technical conditions and measures at process level (source) to prevent release	
Common practices vary across sites thus conservative process release estimates used [TCS1].	
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion) [TCR1j]. No wastewater treatment required [TCR6].	
Treat air emission to provide a typical removal efficiency of (%)	N/A
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency ≥(%)	0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of ≥(%)	0
Organisation measures to prevent/limit release from site	
Prevent discharge of undissolved substance to or recover from wastewater [OMS1]. Do not apply industrial sludge to natural soils [OMS2]. Sludge should be incinerated, contained or reclaimed [OMS3].	
Conditions and measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.1
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d)	1.4e5
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls [ETW1]. Combustion emissions considered in regional exposure assessment [ETW2].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations [ERW1].	
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated. G21.	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23. Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. G32. Available hazard data do not support the need for a DNEL to be established for other health effects. G36. Risk Management Measures are based on qualitative risk characterisation. G37.	
4.2. Environment	

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures [DSU1]. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination [DSU2]. Required removal efficiency for air can be achieved using onsite technologies, either alone or in combination [DSU3]. Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].

Annex to the extended Safety Data Sheet (eSDS)

Use of Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411as a Fuel – Consumer

Exposure Scenario

Section 1 Exposure Scenario Title Gas Oils (vacuum, hydrocracked & distillate fuels) H304 / non-H304, H315, H332, H351, H373, H411		
Title		
Use as a Fuel		
Use Descriptor		
Sector(s) of Use		21
Product Categories		13
Environmental Release Categories		9a, 9b
Specific Environmental Release Category		ESVOC SpERC 9.12c.v1
Processes, tasks, activities covered		
Covers consumer uses in fuels.		
Assessment Method		
See Section 3.		
Section 2 Operational conditions and risk management measures		
Section 2.1 Control of consumer exposure		
Product characteristics		
Physical form of product		liquid
Vapour pressure (kPa)		Liquid, vapour pressure > 10 Pa OC15
Concentration of substance in product		Unless otherwise stated, cover concentrations up to 100% [ConsOC1]
Frequency and duration of use/exposure		Unless otherwise stated, covers use amounts up to 37500g [ConsOC2]; covers skin contact area up to 420cm2 [ConsOC5]
Other Operational Conditions affecting exposure		Unless otherwise stated, covers use frequency up to 0.143 times per day [ConsOC4]; covers exposure up to 2 hours per event [ConsOC14]
Product Category		**Specific Risk Management Measures and Operating Conditions**
PC13:Fuels- Liquid – subcategories added: Automotive Refuelling	OC	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 52 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 210.00 cm2 [ConsOC5]; for each use event, covers use amounts up to 37500g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m3[ConsOC11]; for each use event, covers exposure up to 0.05hr/event[ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated [ConsRMM15]
PC13:Fuels-Liquid - Subcategories added: Garden Equipment - Use	OC	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use [ConsOC4]; for each use event, covers use amounts up to 750g [ConsOC2]; covers outdoor use [ConsOC12]; covers use in room size of 100m^3 [ConsOC11]; for each use event, covers exposure up to 2.00hr/event [ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated [ConsRMM15]
PC13:Fuels- Liquid (subcategories added):	OC	Unless otherwise stated, covers concentrations up to 100% [ConsOC1]; covers use up to 26 days/year[ConsOC3]; covers use up to 1 time/on day of use[ConsOC4]; covers skin contact area up to 420.00 cm^2 [ConsOC5]; for each use event, covers use amounts up to 750g [ConsOC2]; Covers use in a one car garage (34m^3) under typical ventilation [ConsOC10]; covers use in room size of 34m^3 [ConsOC11]; for each use event, covers exposure up to 0.03hr/event [ConsOC14];
	RMM	No specific RMMs developed beyond those OCs stated [ConsRMM15]
Section 2.2 Control of environmental exposure		
Product characteristics		
Substance is complex UVCB [PrC3]. Predominantly hydrophobic [PrC4a].		

Amounts used	
Fraction of EU tonnage used in region	0.1
Regional use tonnage (tonnes/year)	1.6e7
Fraction of Regional tonnage used locally	0.0005
Annual site tonnage (tonnes/year)	8.2e3
Maximum daily site tonnage (kg/day)	2.3e4
Frequency and duration of use	
Continuous release [FD2].	
Emission days (days/year)	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor	10
Local marine water dilution factor	100
Other given operational conditions affecting environmental exposure	
Risk from environmental exposure is driven by humans via indirect exposure (primarily ingestion) [TCR1j].	
Release fraction to air from wide dispersive use (regional only) [OOC7]	1.0e-4
Release fraction to wastewater from wide dispersive use [OOC8]	0.00001
Release fraction to soil from wide dispersive use (regional only) [OOC9]	0.00001
Conditions and measures related to municipal sewage treatment plant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94.1
Maximum allowable site tonnage (M_{Safe}) based on release following total wastewater treatment removal (kg/d)	3.5e5
Assumed domestic sewage treatment plant flow (m^3/d)	2000
Conditions and measures related to external treatment of waste for disposal	
Combustion emissions limited by required exhaust emission controls [ETW1]. Combustion emissions considered in regional exposure assessment [ETW2].	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations [ERW1].	
Section 3 Exposure Estimation	
3.1. Health	
The ECETOC TRA tool has been used to estimate consumer exposures, consistent with the content of ECETOC Report #107 and the Chapter R15 of the IR&CSA TGD. Where exposure determinants differ to these sources, then they are indicated.	
3.2. Environment	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model [EE2].	
Section 4 Guidance to check compliance with the Exposure Scenario	
4.1. Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. G22. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. G23.	
4.2. Environment	
Further details on scaling and control technologies are provided in SpERC factsheet (http://cefic.org/en/reach-for-industries-libraries.html) [DSU4].	