

## Safety Data Sheet

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### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier

**Material Name** : Fuels, diesel, no.2 CAS 68476-34-6  
**REACH Registration No.** : 01-2119475502-40-0005

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

**Product Use** : Please refer to Ch16 and/or the annexes for the registered uses under REACH.

**Uses Advised Against** : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier. This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.

#### 1.3 Details of the Supplier of the safety data sheet

**Manufacturer/Supplier** : Shell Trading Rotterdam B.V.  
Weena 70  
3012 CM Rotterdam  
Netherlands

**Telephone** : +31 10 441 5000

**Email Contact for Safety Data Sheet** : TRsds@shell.com

#### 1.4 Emergency Telephone Number

: +44 (0)151 350 4595

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### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008 (CLP)	
Hazard classes / Hazard categories	Hazard Statement
Flammable liquids, Category 3	H226

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Aspiration hazard, Category 1	H304
Acute toxicity, Category 4; Inhalation	H332
Skin corrosion/irritation, Category 2	H315
Carcinogenicity, Category 2	H351
Specific target organ toxicity - repeated exposure, Category 2; Blood.; Liver.; Thymus.	H373
Chronic hazards to the aquatic environment, Category 2	H411

67/548/EEC or 1999/45/EC	
Hazard Characteristics	R-phrases(s)
Harmful.; Dangerous for the environment.; Carcinogenic, category 3.; Irritant.	R20; R38; R40; R51/53; R65

Classification triggering components : Contains fuels, diesel.

### 2.2 Label Elements

#### Labeling according to Regulation (EC) No 1272/2008

Symbol(s) :



Signal Words : Danger

CLP Hazard Statements : PHYSICAL HAZARDS:  
H226: Flammable liquid and vapour.

HEALTH HAZARDS:  
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 or organ systems through prolonged or repeated exposure.

ENVIRONMENTAL HAZARDS:  
H411: Toxic to aquatic life with long lasting effects.

**Safety Data Sheet****CLP Precautionary statements**

- Prevention** : P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
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 CENTER or doctor/physician.  
P331: Do NOT induce vomiting.
- Disposal:** : P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

**Labeling according to Directive 1999/45/EC / 67/548/EEC**

- EC Symbols : Xn Harmful.  
N Dangerous for the environment.



- EC Classification : Harmful. Dangerous for the environment. Carcinogenic, category 3. Irritant.
- EC Risk Phrases : R20 Harmful by inhalation.  
R38 Irritating to skin.  
R40 Limited evidence of carcinogenic effect.  
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R65 Harmful: may cause lung damage if swallowed.
- EC Safety Phrases : S2 Keep out of the reach of children.  
S24 Avoid contact with skin.  
S36/37 Wear suitable protective clothing and gloves.  
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.  
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

**2.3 Other Hazards**

- Safety Hazards** : May ignite on surfaces at temperatures above auto-ignition

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temperature. Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour concentrations are within the flammability range. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.

**Other Information** : This product is intended for use in closed systems only.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substance

**CAS No.** : 68476-34-6

#### 3.2 Mixtures

**Mixture Description** : A distillate oil having a minimum viscosity of 32,6 SUS at 37,7 oC (100 oF). Product is not a mixture according to regulation 1907/2006/EC.

#### Hazardous Components

##### Classification of components according to Regulation (EC) No 1272/2008

Chemical Name	CAS No.	EINECS	REACH Registration No.	Conc.
Fuels, diesel, no.2	68476-34-6	270-676-1	01-2119475502-40	100,00%

Chemical Name	Hazard Class & Category	Hazard Statement
Fuels, diesel, no.2	Flam. Liq., 3; Asp. Tox., 1; Acute Tox., 4; Skin Corr., 2; Carc., 2; STOT RE, 2; Aquatic Chronic, 2;	H226; H304; H332; H315; H351; H373; H411;

##### Classification of components according to 67/548/EEC

Chemical Name	CAS No.	EINECS	REACH Registration No.	Symbol(s)	R-phrase(s)	Conc.
Fuels, diesel, no.2	68476-34-6	270-676-1	01-2119475502-40	Xn, N, Xi	R20; R38; R40; R65; R51/53	100,00%

**Additional Information** : Refer to chapter 16 for full text of EC R-phrases.

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### 4. FIRST AID MEASURES

#### 4.1 Description of First Aid Measures

- Inhalation** : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
- Skin Contact** : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
- Eye Contact** : Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
- Ingestion** : If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing. Give nothing by mouth.
- 4.2 Most important symptoms and effects, both acute and delayed** : If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure.  
Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.
- 4.3 Indication of any immediate medical attention and special treatment needed** : Treat symptomatically.

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### 5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

- 5.1 Extinguishing Media** : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
- Unsuitable Extinguishing Media** : Do not use water in a jet. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
- 5.2 Special hazards** : Hazardous combustion products may include: A complex

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- arising from the substance or mixture** : mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Oxides of sulphur. Unidentified organic and inorganic compounds. Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. Flammable vapours may be present even at temperatures below the flash point.
- 5.3 Advice for firefighters** : Wear full protective clothing and self-contained breathing apparatus.
- Additional Advice** : Keep adjacent containers cool by spraying with water.

**6. ACCIDENTAL RELEASE MEASURES**

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly.

- 6.1 Personal Precautions, Protective Equipment and Emergency Procedures** : Do not breathe fumes, vapour. Do not operate electrical equipment.
- 6.2 Environmental Precautions** : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
- 6.3 Methods and Material for Containment and Clean Up** : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.
- Additional Advice** : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities

**Safety Data Sheet****6.4 Reference to other sections**

should be advised if significant spillages cannot be contained. Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

- : For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet.

**7. HANDLING AND STORAGE****General Precautions**

- : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Air-dry contaminated clothing in a well-ventilated area before laundering. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Prevent spillages. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Never siphon by mouth. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse. For comprehensive advice on handling, product transfer, storage and tank cleaning refer to the product supplier.

**7.1 Precautions for Safe Handling**

- : Avoid inhaling vapour and/or mists. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Earth all equipment. Avoid prolonged or repeated contact with skin. When using do not eat or drink. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

**7.2 Conditions for safe storage, including any incompatibilities**

- : Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. The vapour is heavier than air. Beware of accumulation in pits and confined spaces.

Keep in a bunded area with a sealed (low permeability) floor, to provide containment against spillage. Prevent ingress of water.

**7.3 Specific end use(s)**

- : Please refer to Ch16 and/or the annexes for the registered uses under REACH.

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- Additional Information** : Ensure that all local regulations regarding handling and storage facilities are followed.
- Product Transfer** : Avoid splash filling. Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling. Contamination resulting from product transfer may give rise to light hydrocarbon vapour in the headspace of tanks that have previously contained gasoline. This vapour may explode if there is a source of ignition. Partly filled containers present a greater hazard than those that are full, therefore handling, transfer and sampling activities need special care.
- Recommended Materials** : For containers, or container linings use mild steel, stainless steel.
- Unsuitable Materials** : Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Compatibility should be checked with the manufacturer.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex.

#### 8.1 Control Parameters

##### Occupational Exposure Limits

None established.

Material	Source	Type	ppm	mg/m3	Notation
Fuels, diesel, no.2	ACGIH	TWA(Inhalable fraction and vapor.)		100 mg/m3	as total hydrocarbons
	ACGIH	SKIN_DES(Inhalable fraction and vapor.)			Can be absorbed through the skin.as total hydrocarbons

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Material	Source	Hazard Designation
Fuels, diesel, no.2	ACGIH	Confirmed animal carcinogen with unknown relevance to humans.

## Biological Exposure Index (BEI)

No biological limit allocated.

## Derived No Effect Levels (DNEL/DMEL) Table

Component	Exposure Route	Exposure Type (long/short)	Application Area	Value
Fuels, diesel	Inhalation	acute, systemic effects	Worker	4300 mg/m <sup>3</sup> /15 mins (aerosol)
	Dermal	long term, systemic effects	Worker	2,9 mg/kg 8h
	Inhalation	long term, systemic effects	Worker	68 mg/m <sup>3</sup> /8h (aerosol)
	Inhalation	acute, systemic effects	Consumer	2600 mg/m <sup>3</sup> /15 mins (aerosol)
	Dermal	long term, systemic effects	Consumer	1,3 mg/kg 24h
	Inhalation	long term, local effects	Consumer	20 mg/m <sup>3</sup> /24h (aerosol)

**PNEC related information** : Substance is a hydrocarbon with a complex, unknown or variable composition. Conventional methods of deriving PNECs are not appropriate and it is not possible to identify a

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single representative PNEC for such substances.

**8.2 Exposure Controls****General Information**

: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers for emergency use.

Do not ingest. If swallowed then seek immediate medical assistance.

**Occupational Exposure Controls****Personal Protective Equipment**

: Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

**Eye Protection**

: Chemical splash goggles (chemical monogoggles). Approved to EU Standard EN166.

**Hand Protection**

: Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Select gloves tested to a relevant standard (e.g. Europe EN374 for chemical resistance and EN407 for heat resistance).

**Body protection**

: Chemical resistant gloves/gauntlets, boots, and apron (where risk of splashing).

**Respiratory Protection**

: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. All respiratory protection equipment and use must be in accordance with local regulations. Select a filter suitable for organic gases and vapours [boiling point >65 °C (149 °F)]

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<b>Thermal Hazards</b>	: meeting EN14387. : Not applicable.
<b>Monitoring Methods</b>	: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.
<b>Environmental Exposure Controls</b>	
<b>Environmental exposure control measures</b>	: Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
<b>Consumer Exposure Controls</b>	
<b>Exposure Control Measures for Consumers</b>	: If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Appearance	: Clear amber. Liquid.
Odour	: Hydrocarbon.
Odour threshold	: Data not available
pH	: Not applicable.
Initial Boiling Point and Boiling Range	: ca. 174 - 384 °C / 345 - 723 °F
Melting / freezing point	: Data not available
Pour point	: -25 - -15 °C / -13 - 5 °F
Flash point	: > 55 °C / 131 °F
Upper / lower Flammability or Explosion limits	: 0,6 - 7,5 %(V)
Ignition temperature	: 225 - 230 °C / 437 - 446 °F
Vapour pressure	: 4 hPa
Specific gravity	: Data not available
Density	: 0,809 - 0,875 g/cm <sup>3</sup> at 15 °C / 59 °F
Bulk density	: Data not available
Water solubility	: Negligible.
Solubility in other solvents	: Data not available
n-octanol/water partition coefficient (log Pow)	: 2,66 - 6,0
Dynamic viscosity	: Data not available
Kinematic viscosity	: 1,5 - 4,5 mm <sup>2</sup> /s at 40 °C / 104 °F

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Vapour density (air=1) : Data not available  
Evaporation rate (nBuAc=1) : Data not available  
Flammability : Data not available

### 9.2 Other Information

Other Information : Data not available

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## 10. STABILITY AND REACTIVITY

**10.1 Reactivity** : Stable under normal conditions of use.

**10.2 Chemical stability** : Stable under normal conditions of use.

**10.3 Possibility of** :

**Hazardous Reactions** : Data not available

**10.4 Conditions to Avoid** : Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible** : Strong oxidising agents.

**Materials**

**10.6 Hazardous** : Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.  
**Decomposition Products**

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on Toxicological effects

**Basis for Assessment** : Information given is based on product data, a knowledge of the components and the toxicology of similar products.

**Likely Routes of Exposure** : Skin and eye contact are the primary routes of exposure although exposure may occur through inhalation or following accidental ingestion.

**Acute Oral Toxicity** : Low toxicity: LD50 > 5000 mg/kg , Rat

**Acute Dermal Toxicity** : LD50 >2000 mg/kg , Rabbit

**Acute Inhalation Toxicity** : Harmful if inhaled. LC50 > 1.0 - <= 5.0 mg/l / 4 h, Rat

**Skin corrosion/irritation** : Irritating to skin.

**Serious eye damage/irritation** : Expected to be slightly irritating.

**Respiratory Irritation** : Inhalation of vapours or mists may cause irritation to the respiratory system.

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<b>Respiratory or skin sensitisation</b>	:	Not expected to be a sensitiser.
<b>Aspiration Hazard</b>	:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
<b>Germ cell mutagenicity</b>	:	Positive in in-vitro, but negative in in-vivo mutagenicity assays.
<b>Carcinogenicity</b>	:	Limited evidence of carcinogenic effect. Repeated skin contact has resulted in irritation and skin cancer in animals.
<b>Reproductive and Developmental Toxicity</b>	:	Not expected to be a developmental toxicant. Not expected to impair fertility.
<b>Specific target organ toxicity - single exposure</b>	:	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	:	May cause damage to organs or organ systems through prolonged or repeated exposure. Blood. Thymus. Liver.

**12. ECOLOGICAL INFORMATION**

<b>Basis for Assessment</b>	:	Information given is based on a knowledge of the components and the ecotoxicology of similar products.
<b>12.1 Toxicity</b>		
<b>Acute Toxicity</b>	:	Expected to be toxic: LL/EL/IL50 1-10 mg/l LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.
<b>Fish</b>	:	Expected to be toxic: LL/EL/IL50 1-10 mg/l
<b>Aquatic crustacea</b>	:	Expected to be toxic: LL/EL/IL50 1-10 mg/l
<b>Algae/aquatic plants</b>	:	Expected to be toxic: LL/EL/IL50 1-10 mg/l
<b>Microorganisms</b>	:	Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l
<b>Chronic Toxicity</b>		
<b>Fish</b>	:	NOEC/NOEL expected to be > 0.01 - <= 0.1 mg/l (based on modeled data)
<b>Aquatic crustacea</b>	:	NOEC/NOEL expected to be > 0.1 - <= 1.0 mg/l (based on modeled data)
<b>12.2 Persistence and degradability</b>	:	Readily biodegradable. Persistent per IMO criteria. International Oil Pollution Compensation (IOPC) Fund definition: "A non-persistent oil is oil, which, at the time of shipment, consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340°C (645°F) and (b) at least 95% of which, by volume, distills at a temperature of 370°C (700°F) when tested by the ASTM Method D-86/78 or any subsequent revision thereof."
<b>12.3 Bioaccumulative Potential</b>	:	Contains constituents with the potential to bioaccumulate.

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- 12.4 Mobility** : Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. If product enters soil, one or more constituents will be mobile and may contaminate groundwater. Floats on water. Large volumes may penetrate soil and could contaminate groundwater.
- 12.5 Result of PBT and vPvB assesment** : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.
- 12.6 Other Adverse Effects** : Films formed on water may affect oxygen transfer and damage organisms.

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### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste Treatment Methods

- Material Disposal** : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
- Local Legislation** : EU Waste Disposal Code (EWC): 13 07 01 fuel oil and diesel. Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

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### 14. TRANSPORT INFORMATION

#### Land transport (ADR/RID):

##### ADR

- 14.1 UN number : 1202  
14.2 UN proper shipping name : GAS OIL

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14.3 Transport hazard : 3  
class(es)  
14.4 Packing group : III  
Danger label (primary risk) : 3  
14.5 Environmental : Environmentally Hazardous  
hazards  
14.6 Special precautions for user : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

**RID**

14.1 UN number : 1202  
14.2 UN proper shipping name : GAS OIL  
14.3 Transport hazard : 3  
class(es)  
14.4 Packing group : III  
Danger label (primary risk) : 3  
14.5 Environmental : Environmentally Hazardous  
hazards  
14.6 Special precautions for user : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

**Inland waterways transport (ADN):**

14.1 UN number : 1202  
14.2 UN proper shipping name : GAS OIL  
14.3 Transport hazard : 3  
class(es)  
14.4 Packing group : III  
Danger label (primary risk) : 3  
Danger label (subsidiary risk) : N2  
F  
14.5 Environmental : Environmentally Hazardous  
hazards  
14.6 Special precautions for user : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

**Sea transport (IMDG Code):**

14.1 UN number : UN 1202  
14.2 UN proper shipping name : GAS OIL

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- 14.3 Transport hazard class(es) : 3  
14.4 Packing group : III  
14.5 Marine pollutant : Yes
- 14.6 Special precautions for user : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

### Air transport (IATA):

- 14.1 UN number : 1202  
14.2 UN proper shipping name : Gas oil  
14.3 Transport hazard class(es) : 3  
14.4 Packing group : III  
14.6 Special precautions for user : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Pollution Category : Not applicable.  
Ship Type : Not applicable.  
Product Name : Not applicable.  
Special Precaution : Not applicable.

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## 15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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

#### Other regulatory Information

- 15.2 Chemical Safety Assessment : A Chemical Safety Assessment was performed for this substance.

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## 16. OTHER INFORMATION

### R-phrases

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R20	Harmful by inhalation.
R38	Irritating to skin.
R40	Limited evidence of carcinogenic effect.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

**CLP 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 or organ systems through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

**Identified Uses according to the Use Descriptor System****Uses - Worker**

Title : Manufacture of substance  
- Industrial

**Uses - Worker**

Title : Use as an intermediate  
- Industrial

**Uses - Worker**

Title : Distribution of substance  
- Industrial

**Uses - Worker**

Title : Formulation & (re)packing of substances and mixtures  
- Industrial

**Uses - Worker**

Title : Use as a fuel  
- Industrial

**Uses - Worker**

Title : Use as a fuel  
- Professional

**Uses - Consumer**

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- Title** : Use as a fuel  
- Consumer
- Recommended Restrictions on Use (Advice Against)** : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier. This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser.
- Additional Information** : This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.
- Other Information**
- Further Information** : This product is intended for use in closed systems only.
- MSDS Distribution** : The information in this document should be made available to all who may handle the product.
- MSDS Version Number** : 1.1
- MSDS Effective Date** : 01.08.2012
- MSDS Revisions** : A vertical bar (|) in the left margin indicates an amendment from the previous version.
- MSDS Regulation Disclaimer** : Regulation 1907/2006/EC  
: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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## Exposure Scenario - Worker

<b>Gas Oils (vacuum,hydrocracked and distillate fuels)</b>	
<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Manufacture of substance - Industrial
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3, SU8, SU9 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 <b>Environmental Release Categories:</b> ERC 1, ERC 4, ESVOC SpERC 1.1.v1
<b>Scope of process</b>	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
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<b>Section 2.1</b>	<b>Control of Worker Exposure</b>
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently).	
<b>Other Operational Conditions affecting Exposure</b>	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene has been implemented.	

<b>Contributing Scenarios</b>	<b>Risk Management Measures</b>
General measures applicable to all activities.	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

## Safety Data Sheet

	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.
General measures (skin irritants).	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 any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed systems).	No other specific measures identified.
General exposures (open systems).	Wear suitable gloves tested to EN374.
Process sampling.	No other specific measures identified.
Bulk closed loading and unloading.	Wear suitable gloves tested to EN374.
Bulk open loading and unloading.	Wear suitable gloves tested to EN374.
Equipment cleaning and maintenance.	Drain down system prior to equipment break-in or maintenance. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Laboratory activities.	No other specific measures identified.
Bulk product storage.	Store substance within a closed system.

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
Substance is complex UVCB.	
Predominantly hydrophobic.	
<b>Amounts Used</b>	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	2,8E+07
Fraction of Regional tonnage used locally:	0,021
Annual site tonnage (tonnes/year):	6,0E+05

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Maximum daily site tonnage (kg/day):	2,0E+06
<b>Frequency and Duration of Use</b>	
Continuous release.	
Emission Days (days/year):	300
<b>Environmental factors not influenced by risk management</b>	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
<b>Other Operational Conditions affecting Environmental Exposure</b>	
Release fraction to air from process (initial release prior to RMM):	1,0E-02
Release fraction to wastewater from process (initial release prior to RMM):	3,0E-05
Release fraction to soil from process (initial release prior to RMM):	1,0E-04
<b>Technical conditions and measures at process level (source) to prevent release</b>	
Common practices vary across sites thus conservative process release estimates used.	
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>	
Risk from environmental exposure is driven by freshwater sediment.	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
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 of >= (%)	90,3
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
<b>Organisational measures to prevent/limit release from site</b>	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
<b>Conditions and Measures related to municipal sewage treatment plant</b>	
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 (MSafe) based on release following total wastewater treatment removal (kg/d)	3,3E+06
Assumed domestic sewage treatment plant flow (m <sup>3</sup> /d)	10.000
<b>Conditions and Measures related to external treatment of waste for disposal</b>	
During manufacturing no waste of the substance is generated.	
<b>Conditions and measures related to external recovery of waste</b>	

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During manufacturing no waste of the substance is generated.

<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>
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The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

<b>Section 3.2 - Environment</b>
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The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
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<b>Section 4.1 - Health</b>
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Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.  
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.  
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
Risk Management Measures are based on qualitative risk characterisation.

<b>Section 4.2 -Environment</b>
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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.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org>).

## Safety Data Sheet

## Exposure Scenario - Worker

Gas Oils(vacuum,hydrocracked and distillate fuels)	
<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Use as an intermediate - Industrial
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3, SU8, SU9 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 <b>Environmental Release Categories:</b> ERC 6A, ESVOC SpERC 6.1a.v1
<b>Scope of process</b>	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
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<b>Section 2.1</b>	<b>Control of Worker Exposure</b>
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently).	
<b>Other Operational Conditions affecting Exposure</b>	
Operation is carried out at elevated temperature (> 20°C above ambient temperature). Assumes a good basic standard of occupational hygiene has been implemented.	

<b>Contributing Scenarios</b>	<b>Risk Management Measures</b>
General measures applicable to all activities.	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

## Safety Data Sheet

	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.
General measures (skin irritants).	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 any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed systems).	No other specific measures identified.
General exposures (open systems).	Wear suitable gloves tested to EN374.
Process sampling.	No other specific measures identified.
Bulk closed loading and unloading.	Wear suitable gloves tested to EN374.
Bulk open loading and unloading.	Wear suitable gloves tested to EN374.
Equipment cleaning and maintenance.	Drain down system prior to equipment break-in or maintenance. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Laboratory activities.	No other specific measures identified.
Bulk product storage.	Store substance within a closed system.

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
Substance is complex UVCB.	
Predominantly hydrophobic.	
<b>Amounts Used</b>	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	3,5E+05
Fraction of Regional tonnage used locally:	0,043
Annual site tonnage (tonnes/year):	1,5E+04

## Safety Data Sheet

Maximum daily site tonnage (kg/day):	5,0E+04
<b>Frequency and Duration of Use</b>	
Continuous release.	
Emission Days (days/year):	300
<b>Environmental factors not influenced by risk management</b>	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
<b>Other Operational Conditions affecting Environmental Exposure</b>	
Release fraction to air from process (initial release prior to RMM):	1,0E-03
Release fraction to wastewater from process (initial release prior to RMM):	3,0E-05
Release fraction to soil from process (initial release prior to RMM):	1,0E-03
<b>Technical conditions and measures at process level (source) to prevent release</b>	
Common practices vary across sites thus conservative process release estimates used.	
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>	
Risk from environmental exposure is driven by freshwater sediment.	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	80
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	51,7
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
<b>Organisational measures to prevent/limit release from site</b>	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
<b>Conditions and Measures related to municipal sewage treatment plant</b>	
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 (MSafe) based on release following total wastewater treatment removal (kg/d)	4,1E+05
Assumed domestic sewage treatment plant flow (m3/d)	2.000
<b>Conditions and Measures related to external treatment of waste for disposal</b>	
This substance is consumed during use and no waste of substance is generated.	

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<b>Conditions and measures related to external recovery of waste</b>
This substance is consumed during use and no waste of substance is generated.

<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 - Environment</b>	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
<p>Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.</p> <p>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</p> <p>Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.</p> <p>Risk Management Measures are based on qualitative risk characterisation.</p>	

<b>Section 4.2 -Environment</b>	
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.	
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.	
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.	
Further details on scaling and control technologies are provided in SpERC factsheet ( <a href="http://cefic.org">http://cefic.org</a> ).	

## Safety Data Sheet

## Exposure Scenario - Worker

<b>Gas Oils(vacuum,hydrocracked and distillate fuels)</b>	
<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Distribution of substance - Industrial
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15 <b>Environmental Release Categories:</b> ERC 1, ERC 2, ERC 3, ERC 4, ERC 5, ERC 6A, ERC 6B, ERC 6C, ERC 6D, ERC 7, ESVOC SpERC 1.1b.v1
<b>Scope of process</b>	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 distribution and associated laboratory activities.

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
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<b>Section 2.1</b>	<b>Control of Worker Exposure</b>
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently).	
<b>Other Operational Conditions affecting Exposure</b>	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene has been implemented.	

<b>Contributing Scenarios</b>	<b>Risk Management Measures</b>
General measures applicable to all activities.	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

## Safety Data Sheet

	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.
General measures (skin irritants).	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 any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed systems).	No other specific measures identified.
General exposures (open systems).	Wear suitable gloves tested to EN374.
Process sampling.	No other specific measures identified.
Laboratory activities.	No other specific measures identified.
Bulk closed loading and unloading.	Wear suitable gloves tested to EN374.
Bulk open loading and unloading.	Wear suitable gloves tested to EN374.
Drum and small package filling.	Wear suitable gloves tested to EN374.
Equipment cleaning and maintenance.	Drain down system prior to equipment break-in or maintenance. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage.	Store substance within a closed system.

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
Substance is complex UVCB.	
Predominantly hydrophobic.	
<b>Amounts Used</b>	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	2,8E+07

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Fraction of Regional tonnage used locally:	0,002
Annual site tonnage (tonnes/year):	5,6E+04
Maximum daily site tonnage (kg/day):	1,9E+05
<b>Frequency and Duration of Use</b>	
Continuous release.	
Emission Days (days/year):	300
<b>Environmental factors not influenced by risk management</b>	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
<b>Other Operational Conditions affecting Environmental Exposure</b>	
Release fraction to air from process (initial release prior to RMM):	1,0E-03
Release fraction to wastewater from process (initial release prior to RMM):	1,0E-06
Release fraction to soil from process (initial release prior to RMM):	1,0E-05
<b>Technical conditions and measures at process level (source) to prevent release</b>	
Common practices vary across sites thus conservative process release estimates used.	
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>	
Risk from environmental exposure is driven by freshwater sediment.	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
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 of >= (%)	9,6
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
<b>Organisational measures to prevent/limit release from site</b>	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
<b>Conditions and Measures related to municipal sewage treatment plant</b>	
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 (MSafe) based on release following total wastewater treatment removal (kg/d)	2,9E+06
Assumed domestic sewage treatment plant flow (m <sup>3</sup> /d)	2.000

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<b>Conditions and Measures related to external treatment of waste for disposal</b>
External treatment and disposal of waste should comply with applicable local and/or regional regulations.
<b>Conditions and measures related to external recovery of waste</b>
External recovery and recycling of waste should comply with applicable local and/or regional regulations.

<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 - Environment</b>	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
<p>Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.</p> <p>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</p> <p>Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.</p>	

<b>Section 4.2 -Environment</b>	
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.	
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.	
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.	
Further details on scaling and control technologies are provided in SpERC factsheet ( <a href="http://cefic.org">http://cefic.org</a> ).	

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## Exposure Scenario - Worker

<b>Gas Oils(vacuum,hydrocracked and distillate fuels)</b>	
<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Formulation & (re)packing of substances and mixtures - Industrial
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3, SU 10 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 15 <b>Environmental Release Categories:</b> ERC 2, ESVOC SpERC 2.2.v1
<b>Scope of process</b>	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
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<b>Section 2.1</b>	<b>Control of Worker Exposure</b>
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently).	
<b>Other Operational Conditions affecting Exposure</b>	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene has been implemented.	

<b>Contributing Scenarios</b>	<b>Risk Management Measures</b>
General measures applicable to all activities.	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.

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	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.
General measures (skin irritants).	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 any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
General exposures (closed systems).	No other specific measures identified.
General exposures (open systems).	Wear suitable gloves tested to EN374.
Process sampling.	No other specific measures identified.
Drum/batch transfers.	Use drum pumps or carefully pour from container. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Bulk transfers.	Handle substance within a closed system. Wear suitable gloves tested to EN374.
Mixing operations (open systems).	Provide extract ventilation to points where emissions occur. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Production or preparation or articles by tableting, compression, extrusion or pelletisation.	Wear suitable gloves tested to EN374.
Drum/batch transfers.	Wear suitable gloves tested to EN374.
Laboratory activities.	No other specific measures identified.
Equipment cleaning and maintenance.	Drain down system prior to equipment break-in or maintenance.

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	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage.	Store substance within a closed system.

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
Substance is complex UVCB.	
Predominantly hydrophobic.	
<b>Amounts Used</b>	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	2,8E+07
Fraction of Regional tonnage used locally:	0,0011
Annual site tonnage (tonnes/year):	3,0E+04
Maximum daily site tonnage (kg/day):	1,0E+05
<b>Frequency and Duration of Use</b>	
Continuous release.	
Emission Days (days/year):	300
<b>Environmental factors not influenced by risk management</b>	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
<b>Other Operational Conditions affecting Environmental Exposure</b>	
Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements):	1,0E-02
Release fraction to wastewater from process (initial release prior to RMM):	2,0E-05
Release fraction to soil from process (initial release prior to RMM):	1,0E-04
<b>Technical conditions and measures at process level (source) to prevent release</b>	
Common practices vary across sites thus conservative process release estimates used.	
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>	
Risk from environmental exposure is driven by freshwater sediment.	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
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 of >= (%)	60,0
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Prevent discharge of undissolved substance to or recover from onsite	

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wastewater.	
<b>Organisational measures to prevent/limit release from site</b>	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
<b>Conditions and Measures related to municipal sewage treatment plant</b>	
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 (MSafe) based on release following total wastewater treatment removal (kg/d)	6,8E+05
Assumed domestic sewage treatment plant flow (m3/d)	2.000
<b>Conditions and Measures related to external treatment of waste for disposal</b>	
External treatment and disposal of waste should comply with applicable local and/or regional regulations.	
<b>Conditions and measures related to external recovery of waste</b>	
External recovery and recycling of waste should comply with applicable local and/or regional regulations.	

<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 - Environment</b>	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
<p>Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.</p> <p>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</p> <p>Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk Management Measures are based on qualitative risk characterisation.</p>	

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<b>Section 4.2 -Environment</b>
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.
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.
Further details on scaling and control technologies are provided in SpERC factsheet ( <a href="http://cefic.org">http://cefic.org</a> ).

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## Exposure Scenario - Worker

<b>Gas Oils(vacuum,hydrocracked and distillate fuels)</b>	
<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Use as a fuel - Industrial
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 <b>Environmental Release Categories:</b> ERC 7, ESVOC SpERC 7.12a.v1
<b>Scope of process</b>	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
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<b>Section 2.1</b>	<b>Control of Worker Exposure</b>
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently).	
<b>Other Operational Conditions affecting Exposure</b>	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene has been implemented.	

<b>Contributing Scenarios</b>	<b>Risk Management Measures</b>
General measures applicable to all activities.	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

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	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.
General measures (skin irritants).	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 any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
Bulk transfers.	Wear suitable gloves tested to EN374.
Drum/batch transfers.	Wear suitable gloves tested to EN374.
Use as a fuel(closed systems).	No other specific measures identified.
Equipment cleaning and maintenance.	Drain down system prior to equipment break-in or maintenance. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage.	Handle substance within a closed system.

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
Substance is complex UVCB.	
Predominantly hydrophobic.	
<b>Amounts Used</b>	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	4,5E+06
Fraction of Regional tonnage used locally:	0,34
Annual site tonnage (tonnes/year):	1,5E+06
Maximum daily site tonnage (kg/day):	5,0E+06
<b>Frequency and Duration of Use</b>	
Continuous release.	
Emission Days (days/year):	300
<b>Environmental factors not influenced by risk management</b>	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
<b>Other Operational Conditions affecting Environmental Exposure</b>	

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Release fraction to air from process (initial release prior to RMM):	5,0E-03
Release fraction to wastewater from process (initial release prior to RMM):	1,0E-05
Release fraction to soil from process (initial release prior to RMM):	0
<b>Technical conditions and measures at process level (source) to prevent release</b>	
Common practices vary across sites thus conservative process release estimates used.	
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>	
Risk from environmental exposure is driven by freshwater sediment.	
Onsite waste water treatment required.	
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 of >= (%)	97,7
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	60,4
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
<b>Organisational measures to prevent/limit release from site</b>	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
<b>Conditions and Measures related to municipal sewage treatment plant</b>	
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 (MSafe) based on release following total wastewater treatment removal (kg/d)	5,5E+06
Assumed domestic sewage treatment plant flow (m3/d)	2.000
<b>Conditions and Measures related to external treatment of waste for disposal</b>	
Combustion emissions limited by required exhaust emission controls. Waste combustion emissions considered in regional exposure assessment.	
<b>Conditions and measures related to external recovery of waste</b>	
External recovery and recycling of waste should comply with applicable local and/or regional regulations.	

<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

**Safety Data Sheet****Section 3.2 - Environment**

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

**SECTION 4****GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO****Section 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.  
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.  
Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
Risk Management Measures are based on qualitative risk characterisation.

**Section 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.

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.

Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org>).

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## Exposure Scenario - Worker

<b>Gas Oils(vacuum,hydrocracked and distillate fuels)</b>	
<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Use as a fuel - Professional
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 <b>Environmental Release Categories:</b> ERC 9A, ERC 9B, ESVOC SpERC 9.12b.v1
<b>Scope of process</b>	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
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<b>Section 2.1</b>	<b>Control of Worker Exposure</b>
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of substance in product.	Covers use of substance/product up to 100% (unless stated differently).
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently).	
<b>Other Operational Conditions affecting Exposure</b>	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene has been implemented.	

<b>Contributing Scenarios</b>	<b>Risk Management Measures</b>
General measures applicable to all activities.	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

## Safety Data Sheet

	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.
General measures (skin irritants).	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 any skin contamination immediately. Provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop.
Bulk transfers.	Wear suitable gloves tested to EN374.
Drum/batch transfers.	Wear suitable gloves tested to EN374.
Refueling.	Wear suitable gloves tested to EN374.
Use as a fuel(closed systems).	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or: Ensure operation is undertaken outdoors.
Equipment cleaning and maintenance.	Drain down system prior to equipment break-in or maintenance. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Storage.	Store substance within a closed system.

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
Substance is complex UVCB.	
Predominantly hydrophobic.	
<b>Amounts Used</b>	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	6,7E+06
Fraction of Regional tonnage used locally:	0,0005
Annual site tonnage (tonnes/year):	3,3E+03
Maximum daily site tonnage (kg/day):	9,2E+03
<b>Frequency and Duration of Use</b>	
Continuous release.	

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Emission Days (days/year):	365
<b>Environmental factors not influenced by risk management</b>	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
<b>Other Operational Conditions affecting Environmental Exposure</b>	
Release fraction to air from process (initial release prior to RMM):	1,0E-04
Release fraction to wastewater from process (initial release prior to RMM):	1,0E-05
Release fraction to soil from process (initial release prior to RMM):	1,0E-05
<b>Technical conditions and measures at process level (source) to prevent release</b>	
Common practices vary across sites thus conservative process release estimates used.	
<b>Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil</b>	
Risk from environmental exposure is driven by freshwater sediment.	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	8,3
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	0
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
<b>Organisational measures to prevent/limit release from site</b>	
Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.	
<b>Conditions and Measures related to municipal sewage treatment plant</b>	
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 (MSafe) based on release following total wastewater treatment removal (kg/d)	1,4E+05
Assumed domestic sewage treatment plant flow (m3/d)	2.000
<b>Conditions and Measures related to external treatment of waste for disposal</b>	
Combustion emissions limited by required exhaust emission controls. Waste combustion emissions considered in regional exposure assessment.	
<b>Conditions and measures related to external recovery of waste</b>	
External recovery and recycling of waste should comply with applicable local and/or regional regulations.	

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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 - Environment</b>	
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
<p>Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.</p> <p>Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.</p> <p>Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.</p> <p>Risk Management Measures are based on qualitative risk characterisation.</p>	

<b>Section 4.2 -Environment</b>	
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.	
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.	
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.	
Further details on scaling and control technologies are provided in SpERC factsheet ( <a href="http://cefic.org">http://cefic.org</a> ).	

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## Exposure Scenario - Consumer

Gas Oils(vacuum,hydrocracked and distillate fuels)	
<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Use as a fuel - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC13 <b>Environmental Release Categories:</b> ERC 9A, ERC 9B, ESVOC SpERC 9.12c.v1
<b>Scope of process</b>	Covers consumer uses in liquid fuels.

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
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<b>Section 2.1</b>	<b>Control of Consumer Exposure</b>
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
Concentration of substance in product.	Unless otherwise stated:
	Covers concentrations up to 100 %
<b>Amounts Used</b>	
Unless otherwise stated:	
for each use event, covers amount up to (g):	37.500
covers skin contact area (cm <sup>2</sup> ):	420
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
covers use up to (times/day of use):	0,143
Covers use up to (hours/event):	2

<b>Product Categories</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
Fuels. Liquid: Automotive Refuelling.	Covers concentration up to (%): 100 %
	Covers use up to (days/year): 52 day/year
	Covers use up to 1 times/day of use

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	covers skin contact area up to 210 cm <sup>2</sup>
	For each use event, covers amount up to 37.500 g.
	Covers outdoor use.
	Covers use in room size of 100 m <sup>3</sup>
	Covers exposure up to 0,05 hours/event
Fuels. Liquid, Garden Equipment - Use.	Covers concentrations up to 100 %
	covers use up to 26 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 750 g.
	Covers outdoor use.
	Covers use in room size of 100 m <sup>3</sup>
	Covers exposure up to 2,00 hours/event
Fuels. Liquid: Garden Equipment - Refuelling.	Covers concentrations up to 100 %
	covers use up to 26 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 420 cm <sup>2</sup>
	For each use event, covers amount up to 750 g.
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0,03 hours/event

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
Substance is complex UVCB.	
Predominantly hydrophobic.	
<b>Amounts Used</b>	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	1,6E+07
Fraction of Regional tonnage used locally:	0,0005
Annual site tonnage (tonnes/year):	8,2E+03
Maximum daily site tonnage (kg/day):	2,3E+04
<b>Frequency and Duration of Use</b>	
Continuous release.	
Emission Days (days/year):	365
<b>Environmental factors not influenced by risk management</b>	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
<b>Other Operational Conditions affecting Environmental Exposure</b>	
Release fraction to air from wide dispersive use (regional only):	1,0E-04
Release fraction to wastewater from wide dispersive use:	1,0E-05
Release fraction to soil from wide dispersive use (regional only):	1,0E-05

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<b>Conditions and Measures related to municipal sewage treatment plant</b>	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94,1
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	3,5E+05
Assumed domestic sewage treatment plant flow (m3/d)	2.000
<b>Conditions and Measures related to external treatment of waste for disposal</b>	
Combustion emissions limited by required exhaust emission controls. Waste combustion emissions considered in regional exposure assessment.	
<b>Conditions and measures related to external recovery of waste</b>	
External recovery and recycling of waste should comply with applicable local and/or regional regulations.	

<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.	

<b>Section 3.2 - Environment</b>
The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

<b>Section 4.2 -Environment</b>
Further details on scaling and control technologies are provided in SpERC factsheet ( <a href="http://cefic.org">http://cefic.org</a> ).