# SAFETY DATA SHEET
According to EC No 1907/2006 as amended as at the date of this SDS

# ShellSol T

| Version | Revision Date: | SDS Number: | Date of last issue: - |
|---|---|---|---|
| 1.0 | 13.06.2025 | 800001000855 | Print Date 15.06.2025 |

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

### 1.1 Product identifier

| | | |
|---|---|---|
| Trade name | : | ShellSol T |
| Product code | : | Q7412 |
| Registration number EU | : | 01-2119472146-39-0001 |
| Synonyms | : | Hydrocarbons, C11-C12, isoalkanes, <2% aromatics |
| EC-No. | : | 918-167-1 |

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

| | | |
|---|---|---|
| Use of the Substance/Mixture | : | Industrial Solvent.<br>Please refer to section 16 and/or the annexes for the registered uses under REACH. |
| Uses advised against | : | This product must not be used in applications other than the above without first seeking the advice of the supplier.<br><br>This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier. |

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

| | | |
|---|---|---|
| Manufacturer/Supplier | : | **Shell Chemicals Europe B.V.**<br>PO Box 2334<br>3000 CH Rotterdam<br>Netherlands |
| Telephone | : | +31 (0)10 441 5137 / +31 (0)10 441 5191 |
| Telefax | : | +31 (0)20 716 8316/ +31 (0)20 713 9230 |
| Contact for Safety Data Sheet | : | sccmsds@shell.com |

### 1.4 Emergency telephone number

+44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per week)
Poison Centre Information (24 hr): 02/ 54774166

| | | |
|---|---|---|
| Other information | : | SHELLSOL is a trademark owned by Shell Trademark Management B.V. and Shell Brands Inc. and used by affiliates of Shell plc. |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

| | |
|---|---|
| Flammable liquids, Category 3 | H226: Flammable liquid and vapour. |

| | |
|---|---|
| Aspiration hazard, Category 1 | H304: May be fatal if swallowed and enters airways. |

### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :

Signal word : Danger

Hazard statements :

PHYSICAL HAZARDS:
H226 Flammable liquid and vapour.
HEALTH HAZARDS:
H304 May be fatal if swallowed and enters airways.
ENVIRONMENTAL HAZARDS:
Not classified as environmental hazard according to CLP criteria.

Supplemental Hazard Statements : EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements :

**Prevention:**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243 Take action to prevent static discharges.

**Response:**

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

**Storage:**

P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Other hazards

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

In use, may form flammable/explosive vapour-air mixture.
This material is a static accumulator.
Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.
If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

**Components**

| Chemical name | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification | Concentration (% w/w) |
|---|---|---|---|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics | Not Assigned<br>918-167-1<br>01-2119472146-39 | Flam. Liq. 3; H226<br>Asp. Tox. 1; H304<br>EUH066 | 100 |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : Not expected to be a health hazard when used under normal conditions.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

If inhaled : No treatment necessary under normal conditions of use.
If symptoms persist, obtain medical advice.

In case of 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.

In case of eye contact : Flush eye with copious quantities of water.
Remove contact lenses, if present and easy to do. Continue rinsing.

If persistent irritation occurs, obtain medical attention.

If swallowed : Call emergency number for your location / facility.
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.

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

Symptoms : Not considered to be an inhalation hazard under normal conditions of use.
Possible respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.

No specific hazards under normal use conditions.
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.
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.

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

Treatment : Call a doctor or poison control center for guidance.
Potential for chemical pneumonitis.
Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable 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.

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during fire-fighting : Clear fire area of all non-emergency personnel.
Hazardous combustion products may include:
A complex mixture of airborne solid and liquid particulates and gases (smoke).
Carbon monoxide.
Unidentified organic and inorganic compounds.
Flammable vapours may be present even at temperatures below the flash point.
The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Will float and can be reignited on surface water.

**5.3 Advice for firefighters**

Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

Specific extinguishing methods : Standard procedure for chemical fires.

Further information : Keep adjacent containers cool by spraying with water.

Flammable liquid III. Class !

## SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions :

Observe all relevant local and international regulations.
Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.
Local authorities should be advised if significant spillages cannot be contained.
6.1.1 For non emergency personnel:
Avoid contact with skin, eyes and clothing.
Isolate hazard area and deny entry to unnecessary or unprotected personnel.
Do not breathe fumes, vapour.
Do not operate electrical equipment.
6.1.2 For emergency responders:
Avoid contact with skin, eyes and clothing.
Isolate hazard area and deny entry to unnecessary or unprotected personnel.
Do not breathe fumes, vapour.
Do not operate electrical equipment.

### 6.2 Environmental precautions

Environmental precautions : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment 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.
Monitor area with combustible gas indicator.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, 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.
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

Ventilate contaminated area thoroughly.
If contamination of site occurs remediation may require specialist advice.

### 6.4 Reference to other sections

For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet., For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Technical measures : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Section 8 of this 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.
Ensure that all local regulations regarding handling and storage facilities are followed.

Advice on safe handling : Avoid inhaling vapour and/or mists.
Avoid contact with skin, eyes and clothing.
Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
Bulk storage tanks should be diked (bunded).
When using do not eat or drink.

The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Product Transfer : Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

Refer to guidance under Handling section.

Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet. Launder contaminated clothing before re-use. Do not ingest. If swallowed, then seek immediate medical assistance.

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

Requirements for storage areas and containers : Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Further information on storage stability : Storage Temperature:
Ambient.

Bulk storage tanks should be diked (bunded).
Locate tanks away from heat and other sources of ignition.
Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.
Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat.
Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment.
Electrostatic charges will be generated during pumping.
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.

The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

Packaging material : Suitable material: For containers, or container linings use mild steel, stainless steel., For container paints, use epoxy paint, zinc silicate paint.
Unsuitable material: Avoid prolonged contact with natural, butyl or nitrile rubbers.

Container Advice : Do not cut, drill, grind, weld or perform similar operations on or near containers.

**7.3 Specific end use(s)**

Specific use(s) : Please refer to section 16 and/or the annexes for the registered uses under REACH.

See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity).
IEC/TS 60079-32-1: Electrostatic hazards, guidance

## SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**

**Occupational Exposure Limits**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---|---|---|---|---|
| Isoparaffinic solvents 180 - 220 | Not Assigned | TWA | 1,050 mg/m3 | EU HSPA |

**Biological occupational exposure limits**

No biological limit allocated.

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

| Substance name | Environmental Compartment | Value |
|---|---|---|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics | | |
| Remarks: | 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 single representative PNEC for such substances. | |

**8.2 Exposure controls**

**Engineering measures**

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

Use sealed systems as far as possible.
Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
Local exhaust ventilation is recommended.
Firewater monitors and deluge systems are recommended.
Eye washes and showers for emergency use.
Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
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:

General Information
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.
Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.

**Personal protective equipment**

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex.
The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.

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

| | | |
|---|---|---|
| Eye protection | : | If material is handled such that it could be splashed into eyes, protective eyewear is recommended.<br>Approved to EU Standard EN166. |

Hand protection

| | | |
|---|---|---|
| Remarks | : | Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Nitrile rubber gloves. Incidental contact/Splash protection: PVC, neoprene or nitrile rubber gloves For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove re- |

sistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. 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.

Skin and body protection : Skin protection is not required under normal conditions of use.
For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure.
If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.

Protective clothing approved to EU Standard EN14605.

Wear antistatic and flame-retardant clothing, if a local risk assessment deems it so.

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.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
If air-filtering respirators are suitable for conditions of use:
Select a filter suitable for the combination of organic gases and vapours and particles meeting EN14387 and EN143
[Filter type A/P for use against certain organic gases and vapours with a boiling point >65°C (149°F) and for use against particles].

Thermal hazards : Not applicable

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : Liquid.

| | | |
|---|---|---|
| Colour | : | colourless |
| Odour | : | Paraffinic |
| Odour Threshold | : | Data not available |
| Pour point | : | < -30 °C |
| Melting point/freezing point | | Data not available |
| Boiling point/boiling range | : | Typical 187 - 213 °C |
| Flammability | | |
| Flammability (solid, gas) | : | Not applicable |
| Lower explosion limit and upper explosion limit / flammability limit | | |
| Upper explosion limit / Upper flammability limit | : | 6 %(V) |
| Lower explosion limit / Lower flammability limit | : | 0,6 %(V) |
| Flash point | : | Typical 60 °C<br>Method: ASTM D-93 / PMCC |
| Auto-ignition temperature | : | 430 °C<br>Method: ASTM E-659 |
| Decomposition temperature | | |
| Decomposition temperature | : | Data not available |
| pH | : | Not applicable |
| Viscosity | | |
| Viscosity, dynamic | : | Data not available |
| Viscosity, kinematic | : | Typical 1,85 mm2/s (25 °C)<br>Method: ASTM D445 |
| Solubility(ies) | | |
| Water solubility | : | insoluble |
| Partition coefficient: n-octanol/water | : | log Pow: 6,7 - 7,2 |
| Vapour pressure | : | Typical 40 Pa (0 °C) |
| | | Typical 100 Pa (20 °C) |

| | | |
|---|---|---|
| | | Typical 600 Pa (50 °C) |
| Relative density | : | Data not available |
| Density | : | Typical 761 kg/m3 (15 °C)<br>Method: ASTM D4052 |
| Relative vapour density | : | Data not available |
| Particle characteristics | | |
| Particle size | : | Data not available |

**9.2 Other information**

| | | |
|---|---|---|
| Explosive properties | : | Not applicable |
| Oxidizing properties | : | Data not available |
| Evaporation rate | : | 110<br>Method: DIN 53170, di-ethyl ether=1<br><br>0,09<br>Method: ASTM D 3539, nBuAc=1 |
| Conductivity | : | < 100 pS/m at 20 °C<br>Method: ASTM D-4308<br>Low conductivity: < 100 pS/m<br><br>The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid |
| Surface tension | : | Typical 23,5 mN/m, 20 °C |
| Molecular weight | : | 172 g/mol |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**

The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.

**10.2 Chemical stability**

No hazardous reaction is expected when handled and stored according to provisions
Stable under normal conditions of use.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Reacts with strong oxidising agents.

**10.4 Conditions to avoid**

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

In certain circumstances product can ignite due to static electricity.

**10.5 Incompatible materials**

Materials to avoid : Strong oxidising agents.

**10.6 Hazardous decomposition products**

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, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

## SECTION 11: Toxicological information

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

Information on likely routes of exposure : Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

**Acute toxicity**

**Product:**

Acute oral toxicity : LD50 (Rat): > 5000 mg/kg
Remarks: Low toxicity

Acute inhalation toxicity : (Rat): Remarks: Low toxicity
LC50 greater than near-saturated vapour concentration.

Acute dermal toxicity : LD50 (Rabbit): > 5000 mg/kg
Remarks: Low toxicity

**Skin corrosion/irritation**

**Product:**

Remarks : Causes mild skin irritation.
Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

**Serious eye damage/eye irritation**

**Product:**

Remarks : Not irritating to eye.

**Respiratory or skin sensitisation**

**Product:**

Remarks : Not a sensitiser.
Based on available data, the classification criteria are not met.

**Germ cell mutagenicity**

**Product:**

Genotoxicity in vivo : Remarks: Not mutagenic.

Germ cell mutagenicity- Assessment : This product does not meet the criteria for classification in categories 1A/1B.

**Carcinogenicity**

**Product:**

Remarks : Tumours produced in animals are not considered relevant to humans.
Not a carcinogen.
Based on available data, the classification criteria are not met.

Carcinogenicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

| Material | GHS/CLP Carcinogenicity Classification |
|---|---|
| Hydrocarbons, C11-C12, isoalkanes, <2% aromatics | No carcinogenicity classification. |

**Reproductive toxicity**

**Product:**

Effects on fertility :
Remarks: Not a developmental toxicant., Based on available data, the classification criteria are not met., Does not impair fertility.

Reproductive toxicity - Assessment : This product does not meet the criteria for classification in categories 1A/1B.

**STOT - single exposure**

**Product:**

Remarks : Based on available data, the classification criteria are not met.

**STOT - repeated exposure**

**Product:**

Remarks : Kidney: caused kidney effects in male rats which are not considered relevant to humans

**Aspiration toxicity**

**Product:**

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

### 11.2 Information on other hazards

**Endocrine disrupting properties**

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Further information**

**Product:**

Remarks : Classifications by other authorities under varying regulatory frameworks may exist.

Remarks : Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Toxicity to fish : Remarks: Not toxic at limit of water solubility:

Toxicity to daphnia and other aquatic invertebrates : Remarks: Not toxic at limit of water solubility:

Toxicity to algae/aquatic plants : Remarks: Not toxic at limit of water solubility:

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chron- : Remarks: NOEC/NOEL > 1.0 - <=10 mg/l (based on test data)

ic toxicity)

Toxicity to microorganisms : Remarks: LC/EC/IC50 > 100 mg/l
Practically non toxic:
Based on available data, the classification criteria are not met.

### 12.2 Persistence and degradability

**Product:**

Biodegradability : Remarks: Inherently biodegradable.
Oxidises rapidly by photo-chemical reactions in air.

### 12.3 Bioaccumulative potential

**Product:**

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

### 12.4 Mobility in soil

**Product:**

Mobility : Remarks: Floats on water., If it enters soil, it will adsorb to soil particles and will not be mobile.

### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : 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 Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

**Product:**

Additional ecological information : Does not have ozone depletion potential.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : 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.
Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.
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.

Waste, spills or used product is dangerous waste.

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.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.
Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.
Send to drum recoverer or metal reclaimer.
Comply with any local recovery or waste disposal regulations.

## SECTION 14: Transport information

### 14.1 UN number or ID number

**ADN** : 1268

**ADR** : 1268

**RID** : 1268

**IMDG** : 1268

**IATA** : 1268

### 14.2 UN proper shipping name

**ADN** : PETROLEUM DISTILLATES, N.O.S. (NAPHTHA)

**ADR** : PETROLEUM DISTILLATES, N.O.S.

**RID** : PETROLEUM DISTILLATES, N.O.S.

**IMDG** : PETROLEUM DISTILLATES, N.O.S.

**IATA** : Petroleum distillates, n.o.s.

**14.3 Transport hazard class(es)**

**ADN** : 3

**ADR** : 3

**RID** : 3

**IMDG** : 3

**IATA** : 3

**14.4 Packing group**

**ADN**

Packing group : III
Classification Code : F1
Labels : 3 (F)

**ADR**

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

**RID**

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

**IMDG**

Packing group : III
Labels : 3

**IATA**

Packing group : III
Labels : 3

**14.5 Environmental hazards**

**ADN**

Environmentally hazardous : no

**ADR**

Environmentally hazardous : no

**RID**

Environmentally hazardous : no

**IMDG**

Marine pollutant : no

**14.6 Special precautions for user**

Remarks : Special Precautions: Refer to Section 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 Maritime transport in bulk according to IMO instruments**

MARPOL Annex 1 rules apply for bulk shipments by sea.

**Additional Information** **:** This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.

## SECTION 15: Regulatory information

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

REACH - List of substances subject to authorisation (Annex XIV) : Product is not subject to Authorisation under REACH.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Volatile organic compounds : Volatile organic compounds (VOC) content: 100 %

**Other regulations:**

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

Zákon NR SR č. 67/2010 Z. z. o podmienkach uvedenia chemických látok a chemických zmesí na trh a o zmene a doplnení niektorých zákonov (chemický zákon) v platnom znení.

Zákon NR SR č. 79/2015 Z. z. o odpadoch a o zmene a doplnení niektorých zákonov v znení zmien a doplnkov. Zákon NR SR č. 90/ 2017 Z. z., ktorým sa mení a dopĺňa zákon č. 79/2015 Z. z. o odpadoch a o zmene a doplnení niektorých zákonov v znení neskorších predpisov.
Zákon NR SR č. 364/2004 Z. z. o vodách a o zmene zákona NR SR č. 372/1990 Z. z. o priestupkoch v znení neskorších predpisov (vodný zákon).
Vyhláška MŽP SR č. 365/2015 Z. z., ktorou sa ustanovuje Katalóg odpadov, v platnom znení.
NV SR č. 355/2006, 300/2007 a 471/2011 Z. z. o ochrane zdravia zamestnancov pred rizikami súvisiacimi s expozíciou chemickým faktorom pri práci v platnom znení.
Vyhláška MV SR č. 94/2004 Z. z., ktorou sa ustanovujú technické požiadavky na protipožiarnu bezpečnosť pri výstavbe a pri užívaní stavieb.
Vyhláška MV SR č. 96/2004 Z. z., ktorou sa ustanovujú zásady protipožiarnej bezpečnosti pri manipulácii a skladovaní horľavých kvapalín, ťažkých vykurovacích olejov a rastlinných a

živočíšnych tukov a olejov.

Product is subject to Act No. 28/2015 Z. z. on prevention of major industrial accidents and on amendments to certain acts, based on Seveso III directive (2012/18/EU).

The national inventory is based on the CAS number 64741-65-7.

**The components of this product are reported in the following inventories:**

| | | |
|---|---|---|
| AIIC | : | Listed |
| DSL | : | Listed |
| IECSC | : | Listed |
| KECI | : | Listed |
| PICCS | : | Listed |
| TSCA | : | Listed |
| TCSI | : | Listed |
| NZIoC | : | Listed |
| ENCS | : | Listed |

**15.2 Chemical safety assessment**

A Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

**Full text of other abbreviations**

| | | |
|---|---|---|
| EU HSPA | : | OEL based on European Hydrocarbon Solvents Producers (CEFIC-HSPA) methodology. |
| EU HSPA / TWA | : | Time-Weighted Average Concentration (TWA) (8 hrs.) |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - Interna-

tional Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**Further information**

| | | |
|---|---|---|
| Training advice | : | Provide adequate information, instruction and training for operators. |
| Other information | : | For Industry guidance and tools on REACH please visit the CEFIC website at http://cefic.org/Industry-support.<br>The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.<br><br>A vertical bar (\|) in the left margin indicates an amendment from the previous version.<br><br>This product is classified as H304 (May be fatal if swallowed and enters airways). The risk relates to potential for aspiration. The risk arising from aspiration hazard is solely related to the physico-chemical properties of the substance. The risk can therefore be controlled by implementing risk management measures tailored to this specific hazard and included within Section 8 of the SDS. An exposure scenario is not presented.<br><br>This product is classified as R66 / EUH066 (Repeated exposure may cause skin dryness or cracking). The risk relates to the potential for repeated or prolonged dermal contact. The risk arising from contact is solely related to the physico-chemical properties of the substance. The risk can therefore be controlled by implementing risk management measures tailored to this specific hazard and included within Section 8 of the SDS. An exposure scenario is not presented. |
| Sources of key data used to compile the Safety Data Sheet | : | The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU |

IUCLID date base, EC 1272 regulation, etc).

| **Classification of the mixture:** | | **Classification procedure:** |
|---|---|---|
| Flam. Liq. 3 | H226 | On basis of test data. |
| Asp. Tox. 1 | H304 | Expert judgement and weight of evidence determination. |

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

**Uses - Worker**
Title : Manufacture of substance
- Industrial

**Uses - Worker**
Title : Distribution of substance
- Industrial

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

**Uses - Worker**
Title : Uses in Coatings
- Industrial

**Uses - Worker**
Title : Uses in Coatings
- Professional

**Uses - Worker**
Title : Use in Cleaning Agents
- Industrial

**Uses - Worker**
Title : Use in Cleaning Agents
- Professional

**Uses - Worker**
Title : Lubricants
- Industrial

**Uses - Worker**
Title : Lubricants
- Professional
Low Environmental Release

**Uses - Worker**
Title : Lubricants
- Professional
High Environmental Release

**Uses - Worker**
Title : Metal working fluids / rolling oils
- Industrial

**Uses - Worker**
Title : Metal working fluids / rolling oils
- Professional

**Uses - Worker**
Title : Use in Agrochemicals uses
- Professional

**Uses - Worker**
Title : Use as a fuel
- Industrial

**Uses - Worker**
Title : Use as a fuel
- Professional

**Uses - Worker**
Title : Functional Fluids
- Industrial

**Uses - Worker**
Title : Functional Fluids
- Professional

**Uses - Worker**
Title : Use in laboratories
- Industrial

**Uses - Worker**
Title : Use in laboratories
- Professional

**Uses - Worker**
Title : Polymer processing
- Industrial

**Uses - Worker**
Title : Polymer processing
- Professional

**Uses - Worker**
Title : Water treatment chemicals
- Industrial

**Uses - Worker**
Title : Water treatment chemicals
- Professional

**Identified Uses according to the Use Descriptor System**
**Uses - Consumer**
Title : Uses in Coatings
- Consumer

**Uses - Consumer**
Title : Use in Cleaning Agents
- Consumer

**Uses - Consumer**
Title : Lubricants
- Consumer
Low Environmental Release

**Uses - Consumer**
Title : Lubricants
- Consumer
High Environmental Release

**Uses - Consumer**
Title : Use in Agrochemicals uses
- Consumer

**Uses - Consumer**
Title : Use as a fuel
- Consumer

**Uses - Consumer**

| | | |
|---|---|---|
| Title | : | Functional Fluids<br>- Consumer |

**Uses - Consumer**

| | | |
|---|---|---|
| Title | : | Other Consumer Uses<br>- Consumer |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SK / EN

**Exposure Scenario - Worker**

| **300000000578** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Manufacture of substance- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15<br>**Environmental Release Categories**: ERC1, ERC4, ESVOC SpERC 1.1.v1 |
| **Scope of process** | 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. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 3,9E+03 |
| Fraction of Regional tonnage used locally: | 1 |
| Annual site tonnage (tonnes/year): | 3,9E+03 |
| Maximum daily site tonnage (kg/day): | 3,9E+04 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 100 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| 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-05 |
| Release fraction to soil from process (initial release prior to RMM): | 1,0E-04 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emis-** | |

| | |
|---|---|
| **sions and releases to soil** | |
| Risk from environmental exposure is driven by freshwater sediment. | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 8,6E+05 |
| Assumed domestic sewage treatment plant flow (m3/d) | 10.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| During manufacturing no waste of the substance is generated. | |
| **Conditions and measures related to external recovery of waste** | |
| During manufacturing no waste of the substance is generated. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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 technolo- |

| |
|---|
| gies, 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). |

**Exposure Scenario - Worker**

| **300000000580** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Distribution of substance- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15<br>**Environmental Release Categories**: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC 6C, ERC 6D, ERC7, ESVOC SpERC 1.1b.v1 |
| **Scope of process** | 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. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 660 |
| Fraction of Regional tonnage used locally: | 2,0E-03 |
| Annual site tonnage (tonnes/year): | 1,3 |
| Maximum daily site tonnage (kg/day): | 66 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| 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-07 |
| Release fraction to soil from process (initial release prior to RMM): | 1,0E-05 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emis-** | |

| **sions and releases to soil** | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| No wastewater treatment required. | |
| 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 3,2E+03 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000582** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Formulation & (re)packing of substances and mixtures- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 15<br>**Environmental Release Categories**: ERC2, ESVOC SpERC 2.2.v1 |
| **Scope of process** | Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 160 |
| Fraction of Regional tonnage used locally: | 1 |
| Annual site tonnage (tonnes/year): | 1,6E+02 |
| Maximum daily site tonnage (kg/day): | 1,6E+03 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 100 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements): | 5,0E-04 |
| Release fraction to wastewater from process (initial release prior to RMM): | 5,0E-06 |
| Release fraction to soil from process (initial release prior to RMM): | 1,0E-04 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |

| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 6,6E+04 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000583** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Uses in Coatings- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 13, PROC 14, PROC 15<br>**Environmental Release Categories**: ERC4, ESVOC SpERC 4.3a.v1 |
| **Scope of process** | Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 300 |
| Fraction of Regional tonnage used locally: | 1 |
| Annual site tonnage (tonnes/year): | 300 |
| Maximum daily site tonnage (kg/day): | 1,5E+04 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from process (initial release prior to RMM): | 9,8E-01 |
| 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): | 0 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |

| **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. | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| If discharging to domestic sewage treatment plant, no onsite 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 >= (%) | 71,9 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 8,6E+04 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000585** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Uses in Coatings- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13, PROC 15, PROC 19<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.3b.v1 |
| **Scope of process** | Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** | |
|---|---|---|
| **Additional Information** | No exposure assessment presented for human health. | |
| **Section 2.1** | **Control of Worker Exposure** | |
| **Product Characteristics** | | |
| **Contributing Scenarios** | **Risk Management Measures** | |
| **Section 2.2** | **Control of Environmental Exposure** | |
| Substance is complex UVCB. | | |
| Predominantly hydrophobic. | | |
| **Amounts Used** | | |
| Fraction of EU tonnage used in region: | | 0,1 |
| Regional use tonnage (tonnes/year): | | 300 |
| Fraction of Regional tonnage used locally: | | 5,0E-04 |
| Annual site tonnage (tonnes/year): | | 0,15 |
| Maximum daily site tonnage (kg/day): | | 0,41 |
| **Frequency and Duration of Use** | | |
| Continuous release. | | |
| Emission Days (days/year): | | 365 |
| **Environmental factors not influenced by risk management** | | |
| Local freshwater dilution factor: | | 10 |
| Local marine water dilution factor: | | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | | |
| Release fraction to air from wide dispersive use (regional only): | | 9,8E-01 |
| Release fraction to wastewater from wide dispersive use: | | 1,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | | 1,0E-02 |
| **Technical conditions and measures at process level (source) to prevent release** | | |
| Common practices vary across sites thus conservative process release estimates used. | | |

| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 18 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000586** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use in Cleaning Agents- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13<br>**Environmental Release Categories**: ERC4, ESVOC SpERC 4.4a.v1 |
| **Scope of process** | Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 2,4E+02 |
| Fraction of Regional tonnage used locally: | 4,2E-01 |
| Annual site tonnage (tonnes/year): | 1,0E+02 |
| Maximum daily site tonnage (kg/day): | 5,0E+03 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from process (initial release prior to RMM): | 1,0 |
| Release fraction to wastewater from process (initial release prior to RMM): | 1,0E-07 |
| 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. | |

| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| No wastewater treatment required. | |
| Treat air emission to provide a typical removal efficiency of (%) | 70 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 2,4E+05 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000587** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use in Cleaning Agents- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13, PROC 15, PROC 19<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.4b.v1 |
| **Scope of process** | Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand). |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 220 |
| Fraction of Regional tonnage used locally: | 5,0E+04 |
| Annual site tonnage (tonnes/year): | 1,1E-01 |
| Maximum daily site tonnage (kg/day): | 3,0E-01 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 2,0E-02 |
| Release fraction to wastewater from wide dispersive use: | 1,0E-06 |
| Release fraction to soil from wide dispersive use (regional only): | 0 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emis-** | |

| | |
|---|---|
| **sions and releases to soil** | |
| Risk from environmental exposure is driven by freshwater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 15 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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 technolo- |

| |
|---|
| gies, 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). |

**Exposure Scenario - Worker**

| **300000000588** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Lubricants- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 13, PROC 17, PROC 18<br>**Environmental Release Categories**: ERC4, ERC7, ESVOC SpERC 4.6a.v1 |
| **Scope of process** | Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 46 |
| Fraction of Regional tonnage used locally: | 1 |
| Annual site tonnage (tonnes/year): | 46 |
| Maximum daily site tonnage (kg/day): | 2,3E+03 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from process (initial release prior to RMM): | 3,0E-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-03 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emis-** | |

| **sions and releases to soil** | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| No wastewater treatment required. | |
| Treat air emission to provide a typical removal efficiency of (%) | 70 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 1,1E+05 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000589** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Lubricants- ProfessionalLow Environmental Release |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 17, PROC 18, PROC 20<br>**Environmental Release Categories**: ERC9a, ERC9b, ESVOC SpERC 9.6b.v1 |
| **Scope of process** | Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 23 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 1,2E-02 |
| Maximum daily site tonnage (kg/day): | 3,2E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 1,0E-02 |
| Release fraction to wastewater from wide dispersive use: | 1,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 1,0E-02 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |

| | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 1,5 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000590** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Lubricants- ProfessionalHigh Environmental Release |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 17, PROC 18, PROC 20<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.6c.v1 |
| **Scope of process** | Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 23 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 1,2E-02 |
| Maximum daily site tonnage (kg/day): | 3,2E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 1,5E-02 |
| Release fraction to wastewater from wide dispersive use: | 5,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 5,0E-02 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |

| | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 1,5 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000591** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Metal working fluids / rolling oils- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 13, PROC 17<br>**Environmental Release Categories**: ERC4, ESVOC SpERC 4.7a.v1 |
| **Scope of process** | Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 43 |
| Fraction of Regional tonnage used locally: | 1 |
| Annual site tonnage (tonnes/year): | 43 |
| Maximum daily site tonnage (kg/day): | 2,1E+03 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from process (initial release prior to RMM): | 2,0E-02 |
| 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): | 0 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |

| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| No wastewater treatment required. | |
| Treat air emission to provide a typical removal efficiency of (%) | 70 |
| Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 9,9E+04 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000595** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Metal working fluids / rolling oils- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 17<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.7c.v1 |
| **Scope of process** | Covers the use in formulated MWFs including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/ reject articles, and disposal of waste oils. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** | |
|---|---|---|
| **Additional Information** | No exposure assessment presented for human health. | |
| **Section 2.1** | **Control of Worker Exposure** | |
| **Product Characteristics** | | |
| **Contributing Scenarios** | **Risk Management Measures** | |
| **Section 2.2** | **Control of Environmental Exposure** | |
| Substance is complex UVCB. | | |
| Predominantly hydrophobic. | | |
| **Amounts Used** | | |
| Fraction of EU tonnage used in region: | | 0,1 |
| Regional use tonnage (tonnes/year): | | 11 |
| Fraction of Regional tonnage used locally: | | 5,0E-04 |
| Annual site tonnage (tonnes/year): | | 5,3E-03 |
| Maximum daily site tonnage (kg/day): | | 1,5E-02 |
| **Frequency and Duration of Use** | | |
| Continuous release. | | |
| Emission Days (days/year): | | 365 |
| **Environmental factors not influenced by risk management** | | |
| Local freshwater dilution factor: | | 10 |
| Local marine water dilution factor: | | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | | |
| Release fraction to air from wide dispersive use (regional only): | | 1,5E-02 |
| Release fraction to wastewater from wide dispersive use: | | 5,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | | 5,0E-02 |
| **Technical conditions and measures at process level (source) to prevent release** | | |
| Common practices vary across sites thus conservative process release estimates used. | | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | | |

| | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 7,0E-01 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000597** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use in Agrochemicals uses- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 4, PROC 8a, PROC 8b, PROC 11, PROC 13<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.11a.v1 |
| **Scope of process** | Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** | |
|---|---|---|
| **Additional Information** | No exposure assessment presented for human health. | |
| **Section 2.1** | **Control of Worker Exposure** | |
| **Product Characteristics** | | |
| **Contributing Scenarios** | **Risk Management Measures** | |
| **Section 2.2** | **Control of Environmental Exposure** | |
| Substance is complex UVCB. | | |
| Predominantly hydrophobic. | | |
| **Amounts Used** | | |
| Fraction of EU tonnage used in region: | | 0,1 |
| Regional use tonnage (tonnes/year): | | 10 |
| Fraction of Regional tonnage used locally: | | 2,0E-03 |
| Annual site tonnage (tonnes/year): | | 2,0E-02 |
| Maximum daily site tonnage (kg/day): | | 5,5E-02 |
| **Frequency and Duration of Use** | | |
| Continuous release. | | |
| Emission Days (days/year): | | 365 |
| **Environmental factors not influenced by risk management** | | |
| Local freshwater dilution factor: | | 10 |
| Local marine water dilution factor: | | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | | |
| Release fraction to air from wide dispersive use (regional only): | | 9,0E-01 |
| Release fraction to wastewater from wide dispersive use: | | 1,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | | 9,0E-02 |
| **Technical conditions and measures at process level (source) to prevent release** | | |
| Common practices vary across sites thus conservative process release estimates used. | | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | | |
| Risk from environmental exposure is driven by freshwater. | | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 2,7 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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).

**Exposure Scenario - Worker**

| **300000000600** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use as a fuel- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16<br>**Environmental Release Categories**: ERC7, ESVOC SpERC 7.12a.v1 |
| **Scope of process** | Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 2,0E+02 |
| Fraction of Regional tonnage used locally: | 1 |
| Annual site tonnage (tonnes/year): | 2,0E+02 |
| Maximum daily site tonnage (kg/day): | 1,0E+04 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| 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 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **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. | |

| | |
|---|---|
| If discharging to domestic sewage treatment plant, no onsite wastewater 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 >= (%) | 15,6 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 1,7E+05 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| Combustion emissions limited by required exhaust emission controls. | |
| Waste combustion emissions considered in regional exposure assessment. | |
| **Conditions and measures related to external recovery of waste** | |
| This substance is consumed during use and no waste of substance is generated. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000602** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use as a fuel- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16<br>**Environmental Release Categories**: ERC9a, ERC9b, ESVOC SpERC 9.12b.v1 |
| **Scope of process** | Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 200 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 1,0E-01 |
| Maximum daily site tonnage (kg/day): | 2,7E-01 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| 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 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
| Risk from environmental exposure is driven by freshwater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 13 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| Combustion emissions limited by required exhaust emission controls. | |
| Waste combustion emissions considered in regional exposure assessment. | |
| **Conditions and measures related to external recovery of waste** | |
| This substance is consumed during use and no waste of substance is generated. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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).

**Exposure Scenario - Worker**

| **300000000604** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Functional Fluids- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 4, PROC 8a, PROC 8b, PROC 9<br>**Environmental Release Categories**: ERC7, ESVOC SpERC 7.13a.v1 |
| **Scope of process** | Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 70 |
| Fraction of Regional tonnage used locally: | 0,14 |
| Annual site tonnage (tonnes/year): | 10 |
| Maximum daily site tonnage (kg/day): | 5,0E+02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| 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-03 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
| Risk from environmental exposure is driven by freshwater. | |

| | |
|---|---|
| Prevent discharge of undissolved substance to or recover from onsite wastewater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 2,4E+04 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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 technolo- |

| |
|---|
| gies, 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). |

**Exposure Scenario - Worker**

| **300000000605** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Functional Fluids- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 9, PROC 20<br>**Environmental Release Categories**: ERC9a, ERC9b, ESVOC SpERC 9.13b.v1 |
| **Scope of process** | Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 70 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 3,5E-02 |
| Maximum daily site tonnage (kg/day): | 9,6E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 5,0E-02 |
| Release fraction to wastewater from wide dispersive use: | 2,5E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 2,5E-02 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
| Risk from environmental exposure is driven by freshwater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 4,4 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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).

**Exposure Scenario - Worker**

| **300000000606** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use in laboratories- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 10, PROC 15<br>**Environmental Release Categories**: ERC2, ERC4 |
| **Scope of process** | Use of the substance within laboratory settings, including material transfers and equipment cleaning. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 1 |
| Fraction of Regional tonnage used locally: | 1 |
| Annual site tonnage (tonnes/year): | 1 |
| Maximum daily site tonnage (kg/day): | 50 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from process (initial release prior to RMM): | 2,5E-02 |
| Release fraction to wastewater from process (initial release prior to RMM): | 2,0E-02 |
| Release fraction to soil from process (initial release prior to RMM): | 1,0E-04 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **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. | |
| If discharging to domestic sewage treatment plant, no onsite 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 >= (%) | 91,6 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 86 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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. |

**Exposure Scenario - Worker**

| **300000000608** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use in laboratories- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 10, PROC 15<br>**Environmental Release Categories**: ERC8a, ESVOC SpERC 8.17.v1 |
| **Scope of process** | Use of small quantities within laboratory settings, including material transfers and equipment cleaning. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** | |
|---|---|---|
| **Additional Information** | No exposure assessment presented for human health. | |
| **Section 2.1** | **Control of Worker Exposure** | |
| **Product Characteristics** | | |
| **Contributing Scenarios** | **Risk Management Measures** | |
| **Section 2.2** | **Control of Environmental Exposure** | |
| Substance is complex UVCB. | | |
| Predominantly hydrophobic. | | |
| **Amounts Used** | | |
| Fraction of EU tonnage used in region: | | 0,1 |
| Regional use tonnage (tonnes/year): | | 1 |
| Fraction of Regional tonnage used locally: | | 5,0E-04 |
| Annual site tonnage (tonnes/year): | | 5,0E-04 |
| Maximum daily site tonnage (kg/day): | | 1,4E-03 |
| **Frequency and Duration of Use** | | |
| Continuous release. | | |
| Emission Days (days/year): | | 365 |
| **Environmental factors not influenced by risk management** | | |
| Local freshwater dilution factor: | | 10 |
| Local marine water dilution factor: | | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | | |
| Release fraction to air from wide dispersive use (regional only): | | 5,0E-01 |
| Release fraction to wastewater from wide dispersive use: | | 5,0E-01 |
| Release fraction to soil from wide dispersive use (regional only): | | 0 |
| **Technical conditions and measures at process level (source) to prevent release** | | |
| Common practices vary across sites thus conservative process release estimates used. | | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | | |
| Risk from environmental exposure is driven by freshwater. | | |
| No wastewater treatment required. | | |
| Treat air emission to provide a typical removal efficiency of (%) | | 0 |
| Treat onsite wastewater (prior to receiving water discharge) to provide | | 0 |

| | |
|---|---|
| the required removal efficiency of >= (%) | |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 6,6E-02 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000609** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Polymer processing- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 6, PROC 8a, PROC 8b, PROC 9, PROC 13, PROC 14, PROC 21<br>**Environmental Release Categories**: ERC4, ESVOC SpERC 4.21a.v1 |
| **Scope of process** | Processing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 51 |
| Fraction of Regional tonnage used locally: | 1 |
| Annual site tonnage (tonnes/year): | 51 |
| Maximum daily site tonnage (kg/day): | 2,6E+03 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 20 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from process (initial release prior to RMM): | 0,1 |
| Release fraction to wastewater from process (initial release prior to RMM): | 0 |
| Release fraction to soil from process (initial release prior to RMM): | 1,0E-05 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emis-** | |

| **sions and releases to soil** | |
|---|---|
| Risk from environmental exposure is driven by freshwater. | |
| 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 1,3E+05 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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). |

**Exposure Scenario - Worker**

| **300000000610** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Polymer processing- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 2, PROC 6, PROC 8a, PROC 8b, PROC 14, PROC 21<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.21b.v1 |
| **Scope of process** | Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 1,5E-02 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 7,5E-06 |
| Maximum daily site tonnage (kg/day): | 2,1E-05 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 9,8E-01 |
| Release fraction to wastewater from wide dispersive use: | 1,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 1,0E-02 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
| Risk from environmental exposure is driven by freshwater. | |
| No 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 >= (%) | 0 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 1,0E-03 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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).

**Exposure Scenario - Worker**

| **300000000611** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Water treatment chemicals- Industrial |
| **Use Descriptor** | **Sector of Use**: SU 3<br>**Process Categories**: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 13<br>**Environmental Release Categories**: ERC3, ERC4, ESVOC SpERC 3.22a.v1 |
| **Scope of process** | Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** | |
|---|---|---|
| **Additional Information** | No exposure assessment presented for human health. | |
| **Section 2.1** | **Control of Worker Exposure** | |
| **Product Characteristics** | | |
| **Contributing Scenarios** | **Risk Management Measures** | |
| **Section 2.2** | **Control of Environmental Exposure** | |
| Substance is complex UVCB. | | |
| Predominantly hydrophobic. | | |
| **Amounts Used** | | |
| Fraction of EU tonnage used in region: | | 0,1 |
| Regional use tonnage (tonnes/year): | | 43 |
| Fraction of Regional tonnage used locally: | | 0,71 |
| Annual site tonnage (tonnes/year): | | 30 |
| Maximum daily site tonnage (kg/day): | | 1,0E+02 |
| **Frequency and Duration of Use** | | |
| Continuous release. | | |
| Emission Days (days/year): | | 300 |
| **Environmental factors not influenced by risk management** | | |
| Local freshwater dilution factor: | | 10 |
| Local marine water dilution factor: | | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | | |
| Release fraction to air from process (initial release prior to RMM): | | 5,0E-02 |
| Release fraction to wastewater from process (initial release prior to RMM): | | 0,95 |
| 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. | | |
| **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. | | |
| Onsite waste water 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 >= (%) | 99,8 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 96,4 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 99,8 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 100 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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).

**Exposure Scenario - Worker**

| **300000000612** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Water treatment chemicals- Professional |
| **Use Descriptor** | **Sector of Use**: SU 22<br>**Process Categories**: PROC 1, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 13<br>**Environmental Release Categories**: ERC8f, ESVOC SpERC 8.22b.v1 |
| **Scope of process** | Covers the use of the substance for the treatment of water in open and closed systems. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Worker Exposure** |
| **Product Characteristics** | |
| **Contributing Scenarios** | **Risk Management Measures** |
| **Section 2.2** | **Control of Environmental Exposure** |
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 43 |
| Fraction of Regional tonnage used locally: | 3,5E-02 |
| Annual site tonnage (tonnes/year): | 1,5 |
| Maximum daily site tonnage (kg/day): | 4 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 1,0E-02 |
| Release fraction to wastewater from wide dispersive use: | 0,99 |
| Release fraction to soil from wide dispersive use (regional only): | 0 |
| **Technical conditions and measures at process level (source) to prevent release** | |
| Common practices vary across sites thus conservative process release estimates used. | |
| **Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil** | |
| Risk from environmental exposure is driven by soil. | |
| Onsite waste water 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 >= (%) | 97,9 |
| If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. | 57,0 |
| **Organisational measures to prevent/limit release from site** | |
| Do not apply industrial sludge to natural soils. | |
| Sludge should be incinerated, contained or reclaimed. | |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) | 97,9 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 4 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |
| External treatment and disposal of waste should comply with applicable local and/or regional regulations. | |
| **Conditions and measures related to external recovery of waste** | |
| External recovery and recycling of waste should comply with applicable local and/or regional regulations. | |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

| **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).

**Exposure Scenario - Consumer**

| **300000001071** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Uses in Coatings - Consumer |
| **Use Descriptor** | **Sector of Use**: SU 21<br>**Product Categories**: PC1, PC4, PC8 (excipient only), PC9a, PC9b, PC9c, PC15, PC18, PC23, PC24, PC31, PC34<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.3c.v1 |
| **Scope of process** | Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Consumer Exposure** |
| **Product Characteristics** | |
| **Product Categories** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |

| **Section 2.2** | **Control of Environmental Exposure** |
|---|---|
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 60 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 3,0E-02 |
| Maximum daily site tonnage (kg/day): | 8,2E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 9,85E-01 |
| Release fraction to wastewater from wide dispersive use: | 1,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 5,0E-03 |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Risk from environmental exposure is driven by freshwater. | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |

| | |
|---|---|
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 4,0 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |

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

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

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

**Exposure Scenario - Consumer**

| **300000001073** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use in Cleaning Agents - Consumer |
| **Use Descriptor** | **Sector of Use**: SU 21<br>**Product Categories**: PC3, PC4, PC8 (excipient only), PC9a, PC24, PC35,<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.4c.v1 |
| **Scope of process** | Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Consumer Exposure** |
| **Product Characteristics** | |
| **Product Categories** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |

| **Section 2.2** | **Control of Environmental Exposure** |
|---|---|
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 30 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 1,5E-02 |
| Maximum daily site tonnage (kg/day): | 4,1E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 9,5E-01 |
| Release fraction to wastewater from wide dispersive use: | 2,5E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 2,5E-02 |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Risk from environmental exposure is driven by freshwater. | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |

| | |
|---|---|
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 2,0 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |

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

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

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

**Exposure Scenario - Consumer**

| **300000001075** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Lubricants - Consumer Low Environmental Release |
| **Use Descriptor** | **Sector of Use**: SU 21<br>**Product Categories**: PC1, PC24, PC31<br>**Environmental Release Categories**: ERC9a, ERC9b, ESVOC SpERC 9.6d.v1 |
| **Scope of process** | Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Consumer Exposure** |
| **Product Characteristics** | |
| **Product Categories** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |

| **Section 2.2** | **Control of Environmental Exposure** |
|---|---|
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 20 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 1,0E-02 |
| Maximum daily site tonnage (kg/day): | 2,7E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 1,0E-02 |
| Release fraction to wastewater from wide dispersive use: | 1,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 1,0E-02 |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Risk from environmental exposure is driven by freshwater. | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following | 1,3 |

| | |
|---|---|
| total wastewater treatment removal (kg/d) | |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |

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

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

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

**Exposure Scenario - Consumer**

| **300000001076** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Lubricants - Consumer High Environmental Release |
| **Use Descriptor** | **Sector of Use**: SU 21<br>**Product Categories**: PC1, PC24, PC31<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.6e.v1 |
| **Scope of process** | Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Consumer Exposure** |
| **Product Characteristics** | |
| **Product Categories** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |

| **Section 2.2** | **Control of Environmental Exposure** |
|---|---|
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 20 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 1,0E-02 |
| Maximum daily site tonnage (kg/day): | 2,7E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 1,5E-02 |
| Release fraction to wastewater from wide dispersive use: | 5,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 5,0E-02 |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Risk from environmental exposure is driven by freshwater. | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following | 1,3 |

| | |
|---|---|
| total wastewater treatment removal (kg/d) | |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |

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

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

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

**Exposure Scenario - Consumer**

| **300000001077** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use in Agrochemicals uses - Consumer |
| **Use Descriptor** | **Sector of Use**: SU 21<br>**Product Categories**: , PC27<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.11b.v1 |
| **Scope of process** | Covers the consumer use in agrochemicals in liquid and solid forms. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Consumer Exposure** |
| **Product Characteristics** | |
| **Product Categories** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |

| **Section 2.2** | **Control of Environmental Exposure** |
|---|---|
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 10 |
| Fraction of Regional tonnage used locally: | 2,0E-03 |
| Annual site tonnage (tonnes/year): | 2,0E-02 |
| Maximum daily site tonnage (kg/day): | 5,5E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 9,0E-01 |
| Release fraction to wastewater from wide dispersive use: | 1,0E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 9,0E-02 |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Risk from environmental exposure is driven by freshwater. | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 2,7 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |

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

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

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

**Exposure Scenario - Consumer**

| **300000001079** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Use as a fuel - Consumer |
| **Use Descriptor** | **Sector of Use**: SU 21<br>**Product Categories**: PC13<br>**Environmental Release Categories**: ERC9a, ERC9b, ESVOC SpERC 9.12c.v1 |
| **Scope of process** | Covers consumer uses in liquid fuels. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Consumer Exposure** |
| **Product Characteristics** | |
| **Product Categories** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |

| **Section 2.2** | **Control of Environmental Exposure** |
|---|---|
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 280 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 0,14 |
| Maximum daily site tonnage (kg/day): | 0,38 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| 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 |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Risk from environmental exposure is driven by freshwater. | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 19 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |
| **Conditions and Measures related to external treatment of waste for disposal** | |

| |
|---|
| Combustion emissions limited by required exhaust emission controls. |
| Waste combustion emissions considered in regional exposure assessment. |
| **Conditions and measures related to external recovery of waste** |
| This substance is consumed during use and no waste of substance is generated. |

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

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

**Exposure Scenario - Consumer**

| **300000001080** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Functional Fluids - Consumer |
| **Use Descriptor** | **Sector of Use**: SU 21<br>**Product Categories**: PC16, PC17<br>**Environmental Release Categories**: ERC9a, ERC9b, ESVOC SpERC 9.13c.v1 |
| **Scope of process** | Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Consumer Exposure** |
| **Product Characteristics** | |
| **Product Categories** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |

| **Section 2.2** | **Control of Environmental Exposure** |
|---|---|
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 70 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 3,5E-02 |
| Maximum daily site tonnage (kg/day): | 9,6E-02 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 5,0E-02 |
| Release fraction to wastewater from wide dispersive use: | 2,5E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 2,5E-02 |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Risk from environmental exposure is driven by freshwater. | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 4,4 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |

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

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

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

**Exposure Scenario - Consumer**

| **300000001081** | |
|---|---|
| **SECTION 1** | **EXPOSURE SCENARIO TITLE** |
| **Title** | Other Consumer Uses - Consumer |
| **Use Descriptor** | **Sector of Use**: SU 21<br>**Product Categories**: PC28, PC39<br>**Environmental Release Categories**: ERC8a, ERC8d, ESVOC SpERC 8.16.v1 |
| **Scope of process** | Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation. |

| **SECTION 2** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |
|---|---|
| **Additional Information** | No exposure assessment presented for human health. |
| **Section 2.1** | **Control of Consumer Exposure** |
| **Product Characteristics** | |
| **Product Categories** | **OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES** |

| **Section 2.2** | **Control of Environmental Exposure** |
|---|---|
| Substance is complex UVCB. | |
| Predominantly hydrophobic. | |
| **Amounts Used** | |
| Fraction of EU tonnage used in region: | 0,1 |
| Regional use tonnage (tonnes/year): | 0,4 |
| Fraction of Regional tonnage used locally: | 5,0E-04 |
| Annual site tonnage (tonnes/year): | 2,0E-04 |
| Maximum daily site tonnage (kg/day): | 5,5E-04 |
| **Frequency and Duration of Use** | |
| Continuous release. | |
| Emission Days (days/year): | 365 |
| **Environmental factors not influenced by risk management** | |
| Local freshwater dilution factor: | 10 |
| Local marine water dilution factor: | 100 |
| **Other Operational Conditions affecting Environmental Exposure** | |
| Release fraction to air from wide dispersive use (regional only): | 9,5E-01 |
| Release fraction to wastewater from wide dispersive use: | 2,5E-02 |
| Release fraction to soil from wide dispersive use (regional only): | 2,5E-02 |
| **Conditions and Measures related to municipal sewage treatment plant** | |
| Risk from environmental exposure is driven by freshwater. | |
| Estimated substance removal from wastewater via domestic sewage treatment (%) | 95,1 |

| | |
|---|---|
| Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) | 2,7E-02 |
| Assumed domestic sewage treatment plant flow (m3/d) | 2.000 |

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

| **SECTION 3** | **EXPOSURE ESTIMATION** |
|---|---|
| **Section 3.1 - Health** | |
| No exposure assessment presented for human health. | |

| **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** | |
| No exposure assessment presented for human health. | |

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