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

1.1 Product identifier

Trade name : ShellSol TD Product code : Q7411

Registration number EU : 01-2119471991-29-0001

Other means of identification : Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics

EC-No. : 923-037-2

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

Use of the Sub- : Industrial Solvent.

stance/Mixture Please refer to section 16 and/or the annexes for the regis-

tered 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.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier : Shell Chemicals Europe B.V.

PO Box 2334 3000 CH Rotterdam

Netherlands

Contact person : Shell Chemicals South East Europe

 Telephone
 : +30 210 9895 700

 Telefax
 : +30 210 9895 744

 Contact for Safety Data
 : sccmsds@shell.com

Sheet

1.4 Emergency telephone number

+31 (0)10 231 7393

+44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per

week)

UAT for SPS2020 - New ER number

Other information : SHELLSOL is a trademark owned by Shell Trademark Man-

agement 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.

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Aspiration hazard, Category 1 H304: May be fatal if swallowed and enters air-

ways.

Long-term (chronic) aquatic hazard, Cat-H411: Toxic to aquatic life with long lasting effects.

egory 2

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:

H411 Toxic to aquatic life with long lasting effects.

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.

P273 Avoid release to the environment.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON

CENTER/ doctor.

P331 Do NOT induce vomiting.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

2.3 Other hazards

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.

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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.

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 airvapour mixtures can occur.

SECTION 3: Composition/information on ingredients

3.1 Substances

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics	Not Assigned	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

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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 con-

ditions 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 diox-

ide, 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

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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 meth-

ods

Standard procedure for chemical fires.

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

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 unpro-

tected 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 unpro-

tected 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

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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 spe-

cialist 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 stor-

age 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.

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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 cov-

ering 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.

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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 regis-

tered 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

Biological occupational exposure limits

No biological limit allocated.

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

Remarks:	No DNEL value has been established.
i Kelliaiks.	I NO DINEL VAIUE HAS DEEH ESIADHSHEU.

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

Substance name		Environmental Compartment	Value
Remarks:	tion. Conv	e is a hydrocarbon with a complex, unknown or rentional methods of deriving PNECs are not a pole to identify a single representative PNEC for	opropriate and it is

8.2 Exposure controls

Engineering measures

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex. The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

Use sealed systems as far as possible.

Adequate 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.

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Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

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. 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: butyl-

rubber Nitrile rubber gloves.

Incidental contact/Splash protection: 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 resistance 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

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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 moisturing is recommended.

izer 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 Stand-

ard, 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 appro-

priate combination of mask and filter.

If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [Type A

boiling point > 65°C (149°F)] meeting EN14387.

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

Melting point/freezing point : Data not available

Boiling point/boiling range : Typical 172 - 185 °C

Flammability

Flammability (solid, gas) : Not applicable

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Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit / upper flammability limit

: 6 %(V)

apper naminability illinit

Lower explosion limit / Lower flammability limit

0,6 %(V)

Flash point : Typical 44 °C

Method: IP 170

Auto-ignition temperature : 450 °C

Method: ASTM E-659

Decomposition temperature

Decomposition tempera-

Data not available

ture

pH : Not applicable

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : Typical 1,6 mm2/s (25 °C)

Method: ASTM D445

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-

octanol/water

log Pow: 6,2 - 7,2

Vapour pressure : Typical 40 Pa (0 °C)

Typical 160 Pa (20 °C)

Typical 1,000 Pa (50 °C)

Relative density : Data not available

Density : Typical 751 kg/m3 (15 °C)

Method: ASTM D4052

Relative vapour density : Data not available

9.2 Other information

Explosives : Not applicable

Oxidizing properties : Data not available

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Evaporation rate : 70

Method: DIN 53170, di-ethyl ether=1

0.18

Method: ASTM D 3539, nBuAc=1

Conductivity: < 100 pS/m

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 again.

ductivity is below 100 pS/m and is considered semiconductive if its conductivity is below 10,000 pS/m., Whether a

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 mN/m, 20 °C, ASTM D-971

Molecular weight : 160 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 elec-

tricity.

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.

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SECTION 11: Toxicological information

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

Information on likely routes of : Exposure may occur via inhalation, ingestion, skin absorption,

exposure skin or eye contact, and accidental ingestion.

Acute toxicity

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

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

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Remarks : Causes mild skin irritation.

Prolonged/repeated contact may cause defatting of the skin

which can lead to dermatitis.

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

Serious eye damage/eye irritation

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Remarks : Not irritating to eye.

Respiratory or skin sensitisation

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Remarks : Not a sensitiser.

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

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Germ cell mutagenicity

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Genotoxicity in vivo : Remarks: Not mutagenic.

Germ cell mutagenicity- As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

Carcinogenicity

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

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 - Assess-

ment

This product does not meet the criteria for classification in

categories 1A/1B.

Material	GHS/CLP Carcinogenicity Classification
Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics	No carcinogenicity classification.

Reproductive toxicity

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Effects on fertility

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

fertility.

Reproductive toxicity - As-

sessment

: This product does not meet the criteria for classification in

categories 1A/1B.

STOT - single exposure

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

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

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STOT - repeated exposure

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Remarks : Kidney: caused kidney effects in male rats which are not con-

sidered relevant to humans

Aspiration toxicity

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

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 consid-

ered 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 : Unless indicated otherwise, the data presented is representa-

tive of the product as a whole, rather than for individual com-

ponent(s).

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Remarks : Classifications by other authorities under varying regulatory

frameworks may exist.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

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

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

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aquatic invertebrates

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

Toxicity to microorganisms : (Pseudomonas putida): > 2

Exposure time: 5 h

Remarks: Practically non toxic: LC/EC/IC50 > 100 mg/l

Toxicity to fish (Chronic tox-

icity)

Remarks: Data not available

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

Remarks: NOEC/NOEL > 0.1 - <=1.0 mg/l

12.2 Persistence and degradability

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Biodegradability : Remarks: Inherently biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

12.3 Bioaccumulative potential

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

12.4 Mobility in soil

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

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

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Assessment : The substance does not fulfill all screening criteria for persis-

tence, bioaccumulation and toxicity and hence is not consid-

ered to be PBT or vPvB..

12.6 Endocrine disrupting properties

Product:

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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 infor-

mation

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

Components:

Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics:

Additional ecological infor-

mation

: Does not have ozone depletion potential.

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 meth-

ods 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

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.

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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.

(Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics)

ADR : PETROLEUM DISTILLATES, N.O.S.

RID : PETROLEUM DISTILLATES, N.O.S.

IMDG : PETROLEUM DISTILLATES, N.O.S.

(Hydrocarbons, C10-C12, isoalkanes, < 2% aromatics)

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 (N2, 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

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Labels : 3

IMDG

Packing group Ш Labels 3

IATA

: III Packing group Labels : 3

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous yes

Environmentally hazardous yes

IMDG

Marine pollutant yes

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).

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving

FLAMMABLE LIQUIDS

P5c

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dangerous substances.

E2 ENVIRONMENTAL HAZARDS

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.

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

NZIoC : Listed

PICCS : Listed

TSCA : Listed

TCSI : Listed

15.2 Chemical safety assessment

A Chemical Safety Assessment was performed for all substances of this product.

SECTION 16: Other information

Full text of other abbreviations

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 La-

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boratory 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 - International 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 op-

erators.

Other information The eSDS(s) received to date have been reviewed for the registered components in this mixture. The advice provided in

the body of this SDS covers all necessary Risk Management

Measures.

For Industry guidance and tools on REACH please visit the CEFIC website at http://cefic.org/Industry-support.

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

A vertical bar (|) in the left margin indicates an amendment

from the previous version.

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.

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 physicochemical properties of the substance. The risk can therefore be controlled by implementing risk management measures

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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 evi-

dence determination.

Aquatic Chronic 2 H411 Expert judgement and weight of evi-

dence determination.

Identified Uses according to the Use Descriptor System

Uses - Worker

Title : Water treatment chemicals- Professional

Uses - Worker

Title : Water treatment chemicals- Industrial

Uses - Worker

Title : Polymer processing- Professional

Uses - Worker

Title : Polymer processing- Industrial

Uses - Worker

Title : Use in laboratories- Professional

Uses - Worker

Title : Use in laboratories- Industrial

Uses - Worker

Title : Functional Fluids- Professional

Uses - Worker

Title : Functional Fluids- Industrial

Uses - Worker

Title : Use as a fuel- Professional

Uses - Worker

Title : Use as a fuel- Industrial

Uses - Worker

Title : Use in Agrochemicals uses- Professional

Uses - Worker

Title : Metal working fluids / rolling oils- Professional

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Uses - Worker

Title : Metal working fluids / rolling oils- Industrial

Uses - Worker

Title : Lubricants- ProfessionalHigh Environmental Release

Uses - Worker

Title : Lubricants- ProfessionalLow Environmental Release

Uses - Worker

Title : Lubricants- Industrial

Uses - Worker

Title : Use in Cleaning Agents- Professional

Uses - Worker

Title : Use in Cleaning Agents- Industrial

Uses - Worker

Title : Uses in Coatings- Professional

Uses - Worker

Title : Uses in Coatings- Industrial

Uses - Worker

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

trial

Uses - Worker

Title : Distribution of substance- Industrial

Uses - Worker

Title : Manufacture of substance- Industrial

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

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- 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

- Consumer

Uses - Consumer

Title : Other Consumer Uses

- 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.

RS/EN

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Exposure Scenario - Worker

30000000339	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Water treatment chemicals- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 13 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 UVC	В.	
Predominantly hydrophobic		
Amounts Used		
Fraction of EU tonnage use	d in region:	0,1
Regional use tonnage (tonn		15
Fraction of Regional tonnag		0,1
Annual site tonnage (tonnes	s/year):	1,5
Maximum daily site tonnage	e (kg/day):	4
Frequency and Duration of	of Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not	influenced by risk management	
Local freshwater dilution fac	etor:	10
Local marine water dilution		100
Other Operational Conditi	ons affecting Environmental Exposure	
Release fraction to air from	wide dispersive use (regional only):	1,0E-02
	ater from wide dispersive use:	9,9E-01
	wide dispersive use (regional only):	0
	measures at process level (source) to p	revent release
	oss sites thus conservative process re-	
lease estimates used.		
	ns and measures to reduce or limit disc	harges, air emis-
sions and releases to soil		
	posure is driven by freshwater sediment.	
<u> </u>	olved substance to or recover from onsite	
wastewater.		

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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 >= (%)	98,5
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	59,9
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 p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	98,5
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	r disposal
External treatment and disposal of waste should comply with applicable regulations.	local and/or regional
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional

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

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or in combination.

Further details on scaling and control technologies are provided in SpERC factsheet

(http://cefic.org).

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Exposure Scenario - Worker

30000000338	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Water treatment chemicals- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 13 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	s/year):	15
Fraction of Regional tonnage	used locally:	1
Annual site tonnage (tonnes/	year):	15
Maximum daily site tonnage (kg/day):	49
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		300
	nfluenced by risk management	
Local freshwater dilution factor	or:	10
Local marine water dilution factor:		100
	ns affecting Environmental Exposure	
	rocess (initial release prior to RMM):	5,0E-02
Release fraction to wastewate RMM):	er from process (initial release prior to	9,5E-01
	process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to prevent release		
	ss sites thus conservative process re-	
lease estimates used.	•	
Technical onsite conditions	and measures to reduce or limit discl	harges, air emis-
sions and releases to soil		= '
Risk from environmental expo	osure is driven by freshwater sediment.	
Onsite waste water treatment	required.	

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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 >= (%)	99,9
If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of (%)	96,6
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 p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	99,9
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	49
Assumed domestic sewage treatment plant flow (m3/d)	2.000
Conditions and Measures related to external treatment of waste for	r disposal
External treatment and disposal of waste should comply with applicable regulations.	-
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional

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.

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

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Exposure Scenario - Worker

Exposure occurred.	
30000000337	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Polymer processing- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 6, PROC 8a, PROC 8b, PROC 14, PROC 21 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 RI	SK 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 (tonne	s/year):	42
Fraction of Regional tonnage used locally:		5,0E-04
Annual site tonnage (tonnes/year):		2,1E-02
Maximum daily site tonnage (kg/day):		5,7E-02
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year): 365		365
	influenced by risk management	
Local freshwater dilution factor: 10		10
Local marine water dilution factor:		100
Other Operational Condition	ns affecting Environmental Exposure	
		9,8E-01
Release fraction to wastewater from process (initial release prior to RMM): 1,0E-02		1,0E-02
Release fraction to soil from process (initial release prior to RMM): 1,0E-02		
	neasures at process level (source) to p	revent release
	ss sites thus conservative process re-	
lease estimates used.		
Technical onsite conditions sions and releases to soil	s and measures to reduce or limit discl	narges, air emis-
Risk from environmental expe	osure is driven by freshwater.	

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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	0
wastewater treatment required.	
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 p	lant
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	5,0
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	r disposal
External treatment and disposal of waste should comply with applicable	local and/or regional
regulations.	J
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable	local and/or regional
regulations.	ŭ

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.

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

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Exposure Scenario - Worker

30000000336	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Polymer processing- Industrial
Use Descriptor	Sector of Use: SU3 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 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 fo	r 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 UVCE	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	l in region:	0,1
Regional use tonnage (tonnes/year):		7,3
Fraction of Regional tonnage used locally:		1
Annual site tonnage (tonnes/year):		7,3
Maximum daily site tonnage (kg/day):		370
Frequency and Duration of	f Use	
Continuous release.		
Emission Days (days/year):		20
	influenced by risk management	
Local freshwater dilution fact		10
Local marine water dilution f		100
	ons affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):		0,25
Release fraction to wastewater from process (initial release prior to RMM):		0
	process (initial release prior to RMM):	1,0E-05
Technical conditions and r	measures at process level (source) to p	prevent release
Common practices vary acro lease estimates used.	oss sites thus conservative process re-	
Technical onsite condition	s and measures to reduce or limit disc	harges, air emis-

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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	0
the required removal efficiency of >= (%)	
If discharging to domestic sewage treatment plant, no secondary	0
wastewater treatment required.	
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 p	lant
Not applicable as there is no release to wastewater.	
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	3,3E+04
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 fo	r 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-

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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).

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30000000335	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 10, PROC 15 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 (tonne		0,5
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/year):		2,5E-04
Maximum daily site tonnage (kg/day):		6,8E-04
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
	influenced by risk management	
Local freshwater dilution fact	or:	10
Local marine water dilution factor:		100
	ns affecting Environmental Exposure	
	vide dispersive use (regional only):	5,0E-01
Release fraction to wastewat		5,0E-01
	wide dispersive use (regional only):	0
	neasures at process level (source) to p	revent release
Common practices vary across sites thus conservative process re-		
lease estimates used.		
Technical onsite conditions sions and releases to soil	s and measures to reduce or limit disc	harges, air emis-
Risk from environmental expe	osure is driven by freshwater.	
No wastewater treatment req		
	a typical removal efficiency of (%)	0
Treat onsite wastewater (prio	r to receiving water discharge) to provide	0

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the required removal efficiency of >= (%)		
If discharging to domestic sewage treatment plant, no secondary	0	
wastewater treatment required.		
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 p	lant	
Estimated substance removal from wastewater via domestic sewage	96,2	
treatment (%)		
Total efficiency of removal from wastewater after onsite and offsite	96,2	
(domestic treatment plant) RMMs (%)		
Maximum allowable site tonnage (MSafe) based on release following	6,1E-02	
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 fo	r 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.

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30000000334	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 10, PROC 15 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	
A I I'd an all ladama ad an	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 UVC	В.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage use	d in region:	0,1
Regional use tonnage (tonn	es/year):	0,5
Fraction of Regional tonnag	e used locally:	1
Annual site tonnage (tonnes	s/year):	0,5
Maximum daily site tonnage	(kg/day):	25
Frequency and Duration of	f Use	
Continuous release.		
Emission Days (days/year):		20
	influenced by risk management	
Local freshwater dilution fac		10
Local marine water dilution factor:		100
	ons affecting Environmental Exposure	
	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
	measures at process level (source) to p	prevent release
	oss sites thus conservative process re-	
lease estimates used.		
sions and releases to soil	ns and measures to reduce or limit disc	harges, air emis-
Risk from environmental exp	posure is driven by freshwater sediment.	
If discharging to domestic so wastewater treatment require	ewage treatment plant, no onsite	
	e a typical removal efficiency of (%)	0

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Treat onsite wastewater (prior to receiving water discharge) to provide	87,8
the required removal efficiency of >= (%)	
If discharging to domestic sewage treatment plant, no secondary	0
wastewater treatment required.	
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 p	lant
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	,
Maximum allowable site tonnage (MSafe) based on release following	80
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	r disposal
External treatment and disposal of waste should comply with applicable	
regulations.	
g	
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

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(http://cefic.org).

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Exposure occitatio - Worker	
30000000333	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Functional Fluids- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 9, PROC 20 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 (tonne		20
Fraction of Regional tonnage used locally:		5,0E-04
Annual site tonnage (tonnes/	, ,	0,01
Maximum daily site tonnage (0,027
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year): 365		365
	nfluenced by risk management	
Local freshwater dilution factor		10
Local marine water dilution fa		100
	ns affecting Environmental Exposure	
	ride 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
	neasures at process level (source) to	prevent release
	ss sites thus conservative process re-	
lease estimates used.		-1
Technical onsite conditions sions and releases to soil	s and measures to reduce or limit disc	cnarges, air emis-
Risk from environmental expo	osure is driven by freshwater.	
No wastewater treatment req		

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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 0	
wastewater treatment required.	
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 p	lant
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	2,4
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	r 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 pre	sented 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.

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Exposure occitatio - Worker	
30000000332	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Functional Fluids- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9 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 RI	SK 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 (tonne	s/year):	20
Fraction of Regional tonnage used locally:		0,5
Annual site tonnage (tonnes/year):		10
Maximum daily site tonnage (kg/day):		500
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year): 20		20
	nfluenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution fa		100
	ns affecting Environmental Exposure	
	rocess (initial release prior to RMM):	5,0E-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
	neasures at process level (source) to p	revent release
	ss sites thus conservative process re-	
lease estimates used.		
Technical onsite conditions sions and releases to soil	s and measures to reduce or limit disch	narges, air emis-
Risk from environmental expe	osure is driven by freshwater.	

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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 p	lant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2	
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2	
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	4,4E+04	
Assumed domestic sewage treatment plant flow (m3/d)	2.000	
Conditions and Measures related to external treatment of waste for	r 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 pre	sented 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-

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gies, either alone or in combination.

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

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Exposure occinano - Worker	
30000000331	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 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 UVCE	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	d in region:	0,1
Regional use tonnage (tonna		100
Fraction of Regional tonnage	e used locally:	5,0E-04
Annual site tonnage (tonnes/year):		0,05
Maximum daily site tonnage (kg/day):		0,14
Frequency and Duration o	f Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not	influenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution f		100
	ons affecting Environmental Exposure	
	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
	measures at process level (source) to p	revent release
	oss sites thus conservative process re-	
lease estimates used.		<u> </u>
	s and measures to reduce or limit discl	narges, air emis-
sions and releases to soil	anne in debras ha farahanatan	
	oosure is driven by freshwater.	
No wastewater treatment re-	quirea.	

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Treat air emission to provide a typical removal efficiency of (%) Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%) If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. 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 (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.		
the required removal efficiency of >= (%) If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. 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 (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.	Treat air emission to provide a typical removal efficiency of (%)	0
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. 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 streatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.	Treat onsite wastewater (prior to receiving water discharge) to provide	0
Wastewater treatment required. 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 freatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.	the required removal efficiency of >= (%)	
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 (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.	If discharging to domestic sewage treatment plant, no secondary	0
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 96,2 treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following 12 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 Combustion emissions limited by required exhaust emission controls. Waste combustion emissions considered in regional exposure assessment.	wastewater treatment required.	
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 (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.	Organisational measures to prevent/limit release from site	
Conditions and Measures related to municipal sewage treatment plant Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.	Do not apply industrial sludge to natural soils.	
Conditions and Measures related to municipal sewage treatment plant Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.		
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.	Sludge should be incinerated, contained or reclaimed.	
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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.		
treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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 municipal sewage treatment p	lant
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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	Estimated substance removal from wastewater via domestic sewage	96,2
(domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) 12 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	\ /	
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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	Total efficiency of removal from wastewater after onsite and offsite	96,2
total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) 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	(domestic treatment plant) RMMs (%)	
Assumed domestic sewage treatment plant flow (m3/d) 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		12
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	total wastewater treatment removal (kg/d)	
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	Assumed domestic sewage treatment plant flow (m3/d)	2.000
Waste combustion emissions considered in regional exposure assessment. Conditions and measures related to external recovery of waste	Conditions and Measures related to external treatment of waste for	r disposal
Conditions and measures related to external recovery of waste	Combustion emissions limited by required exhaust emission controls.	
Conditions and measures related to external recovery of waste		
	Waste combustion emissions considered in regional exposure assessm	ient.
This substance is consumed during use and no waste of substance is generated.	Conditions and measures related to external recovery of waste	
	This substance is consumed during use and no waste of substance is g	enerated.

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
No exposure assessment pre	sented 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.

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Exposure Scenario - Worker	
30000000330	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 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 RI	SK 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 (tonne	s/year):	100
Fraction of Regional tonnage	used locally:	1
Annual site tonnage (tonnes/		100
Maximum daily site tonnage (kg/day):		5,000
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year): 20		20
	nfluenced by risk management	
Local freshwater dilution factor: 10		10
Local marine water dilution factor: 100		100
	ns affecting Environmental Exposure	
	rocess (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		
	ss sites thus conservative process re-	
lease estimates used.		
sions and releases to soil	s and measures to reduce or limit disch	narges, air emis-
Risk from environmental expo	osure is driven by freshwater sediment.	

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No 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 >= (%)	0	
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.		
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 p	lant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2	
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2	
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1,6E+05	
Assumed domestic sewage treatment plant flow (m3/d)	2.000	
Conditions and Measures related to external treatment of waste fo	r 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 g	enerated.	

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

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or in combination.

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Exposure decriario - Worker	
30000000329	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Agrochemicals uses- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 4, PROC 8a, PROC 8b, PROC 11, PROC 13 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 UVCE		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	d in region:	0,1
Regional use tonnage (tonne		50
Fraction of Regional tonnage	e used locally:	2,0E-03
Annual site tonnage (tonnes/year):		0,1
Maximum daily site tonnage (kg/day):		0,27
Frequency and Duration of	f Use	
Continuous release.		
Emission Days (days/year): 365		365
Environmental factors not	influenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution factor:		100
	ons affecting Environmental Exposure	,
	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
	measures at process level (source) to p	revent release
	oss sites thus conservative process re-	
lease estimates used.		
	s and measures to reduce or limit discl	narges, air emis-
sions and releases to soil	and the driver by freeby stor	1
	oosure is driven by freshwater.	
No wastewater treatment red	quirea.	

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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	0
wastewater treatment required.	
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 p	lant
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	,
Maximum allowable site tonnage (MSafe) based on release following	22
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	r disposal
External treatment and disposal of waste should comply with applicable	
regulations.	roodi dilajor rogional
Togulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable	local and/or regional
regulations.	iodai aria/or regional
Togulations.	

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.

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Exposure ocenario - Worker	
30000000328	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Metal working fluids / rolling oils- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 17 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 UVCI	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage use	d in region:	0,1
Regional use tonnage (tonn	es/year):	3,8
Fraction of Regional tonnag	e used locally:	5,0E-04
Annual site tonnage (tonnes		1,9E-03
Maximum daily site tonnage		5,3E-03
Frequency and Duration o	f Use	
Continuous release.		
Emission Days (days/year):		365
	influenced by risk management	
Local freshwater dilution fac	tor:	10
Local marine water dilution		100
	ons affecting Environmental Exposure	
Release fraction to air from wide dispersive use (regional only):		1,5E-01
Release fraction to wastewater from wide dispersive use:		5,0E-02
	wide dispersive use (regional only):	5,0E-02
	measures at process level (source) to	prevent release
	oss sites thus conservative process re-	
lease estimates used.	ns and measures to reduce or limit dis	

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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 p	lant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2	
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2	
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	0,47	
Assumed domestic sewage treatment plant flow (m3/d)	2.000	
Conditions and Measures related to external treatment of waste for	r 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-

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gies, either alone or in combination.

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

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Exposure Scenario - Worker			
30000000327			
SECTION 1	EXPOSURE SCENARIO TITLE		
Title	Metal working fluids / rolling oils- Industrial		
Use Descriptor	Sector of Use: SU3 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 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 (tonne	•	15
Fraction of Regional tonnage		1
Annual site tonnage (tonnes/		15
Maximum daily site tonnage (kg/day):		7,7E+02
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		20
	influenced by risk management	
Local freshwater dilution fact		10
Local marine water dilution fa		100
	ns affecting Environmental Exposure	10.05.00
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
	process (initial release prior to RMM):	0
	neasures at process level (source) to p	revent release
Common practices vary acro lease estimates used.	ss sites thus conservative process re-	

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Technical onsite conditions and measures to reduce or limit disch	arges, 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	1
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2
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 fo	r disposal
External treatment and disposal of waste should comply with applicable 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		

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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.

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30000000326	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Lubricants- ProfessionalHigh Environmental Release
Use Descriptor	Sector of Use: SU22 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 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 engines and similar articles, reworking on reject 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 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 (tonne	s/year):	3,7
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/		1,8E-03
Maximum daily site tonnage	(kg/day):	5,0E-03
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
	influenced by risk management	T-
Local freshwater dilution fact	···	10
Local marine water dilution fa		100
	ns affecting Environmental Exposure	
Release fraction to air from wide dispersive use (regional only):		1,5E-01
Release fraction to wastewater from wide dispersive use:		5,0E-02
Release fraction to soil from wide dispersive use (regional only):		5,0E-02
	neasures at process level (source) to	prevent release
	ss sites thus conservative process re-	
lease estimates used.		
	s and measures to reduce or limit disc	cnarges, air emis-
sions and releases to soil		

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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 p	lant	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2	
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2	
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	0,45	
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.

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

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30000000325	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Lubricants- ProfessionalLow Environmental Release
Use Descriptor	Sector of Use: SU22 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 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 engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presented fo	r 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 (tonne	s/year):	3,7
Fraction of Regional tonnage used locally:		5,0E-04
Annual site tonnage (tonnes/	year):	1,8E-03
Maximum daily site tonnage (kg/day):		5,0E-03
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not	influenced by risk management	
Local freshwater dilution fact	or:	10
Local marine water dilution fa		100
	ns 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
	neasures at process level (source) to p	prevent release
	ss sites thus conservative process re-	
lease estimates used.		
	s and measures to reduce or limit disc	charges, air emis-
sions and releases to soil		

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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	0
wastewater treatment required.	
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 p	
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	0,45
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	
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.

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

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30000000324	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Lubricants- Industrial
Use Descriptor	Sector of Use: SU3 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 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 (tonne	s/year):	7,3
Fraction of Regional tonnage	used locally:	1
Annual site tonnage (tonnes/		7,3
Maximum daily site tonnage (kg/day):		3,7E+02
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		20
Environmental factors not	influenced by risk management	
Local freshwater dilution fact	or:	10
Local marine water dilution fa		100
	ns 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-06
	process (initial release prior to RMM):	1,0E-03
	neasures at process level (source) to p	revent release
Common practices vary acro lease estimates used.	ss sites thus conservative process re-	
Technical onsite conditions	s and measures to reduce or limit disc	harges, air emis-

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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	0
the required removal efficiency of >= (%)	
If discharging to domestic sewage treatment plant, no secondary	0
wastewater treatment required.	
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 p	lant
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	3,2E+04
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 fo	
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 pre	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

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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.

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Exposure Scenario - Worker

30000000323	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13 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 F MEASURES	RISK MANAGEMENT
Additional Information	No exposure assessment presented for	or 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 UVCE	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used		0,1
Regional use tonnage (tonne		7
Fraction of Regional tonnage		5,0E-04
Annual site tonnage (tonnes/	/year):	3,5E-03
Maximum daily site tonnage (kg/day):		9,6E-03
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
	influenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution fa		100
	ons 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
	neasures at process level (source) to	prevent release
	ss sites thus conservative process re-	
lease estimates used.		
Technical onsite condition sions and releases to soil	s and measures to reduce or limit disc	charges, air emis-

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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	0
wastewater treatment required.	
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 p	lant
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	0,86
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	r 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.

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

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Exposure Scenario - Worker

30000000322	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13 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 R MEASURES	ISK MANAGEMENT
Additional Information	No exposure assessment presented for	r 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 UVCE	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	I in region:	0,1
Regional use tonnage (tonne	es/year):	7,5
Fraction of Regional tonnage	e used locally:	1
Annual site tonnage (tonnes		7,5
Maximum daily site tonnage (kg/day):		380
Frequency and Duration of	f Use	
Continuous release.		
Emission Days (days/year):		20
	influenced by risk management	
Local freshwater dilution fact		10
Local marine water dilution fa		100
	ons 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
	process (initial release prior to RMM):	0
	measures at process level (source) to p	prevent release
Common practices vary acrollease estimates used.	ess sites thus conservative process re-	

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Technical onsite conditions and measures to reduce or limit discharge sions and releases to soil	arges, air emis-
Risk from environmental exposure is driven by freshwater.	
Prevent discharge of undissolved substance to or recover from onsite	
wastewater.	
No wastewater treatment required.	70.0
Treat air emission to provide a typical removal efficiency of (%)	70,0
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 p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	3,4E+04
Assumed domestic sewage treatment plant flow (m3/d)	2.000
Conditions and Measures related to external treatment of waste for	r disposal
External treatment and disposal of waste should comply with applicable regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
No exposure assessment pre	sented 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	

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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.

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Exposure Scenario - Worker

30000000321	
30000000321	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Uses in Coatings- Professional
Use Descriptor	Sector of Use: SU22 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 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 (tonne	s/year):	2,4E+02
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/year):		0,12
Maximum daily site tonnage (ge (kg/day): 0,33	
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
	nfluenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution fa		100
	ns 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
	neasures at process level (source) to p	prevent release
	ss sites thus conservative process re-	
lease estimates used.		

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Technical onsite conditions and measures to reduce or limit dischasions and releases to soil		
Risk from environmental exposure is driven by freshwater.		
No wastewater treatment required.	<u> </u>	
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 p	lant	
Estimated substance removal from wastewater via domestic sewage	96,2	
treatment (%)		
Total efficiency of removal from wastewater after onsite and offsite	96,2	
(domestic treatment plant) RMMs (%)		
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	25	
Assumed domestic sewage treatment plant flow (m3/d)	2.000	
Conditions and Measures related to external treatment of waste for	r disposal	
External treatment and disposal of waste should comply with applicable	local and/or regional	
regulations.	Č	
Conditions and measures related to external recovery of waste		
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional	

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.

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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.

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Exposure Scenario - Worker

Exposure occurro - Worker	
30000000320	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Uses in Coatings- Industrial
Use Descriptor	Sector of Use: SU3 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 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 (tonne	s/year):	60
Fraction of Regional tonnage	used locally:	1
Annual site tonnage (tonnes/		60
Maximum daily site tonnage		3,000
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		20
	influenced by risk management	
Local freshwater dilution fact		10
Local marine water dilution fa		100
	ns 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		2,0E-05
RMM):	0.001.1	
	process (initial release prior to RMM):	0
	neasures at process level (source) to p	prevent release
	ss sites thus conservative process re-	
lease estimates used.		

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Technical onsite conditions and measures to reduce or limit discharges and releases to soil	arges, air emis-
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 (%)	90,0
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	ı
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	8,0E+04
Assumed domestic sewage treatment plant flow (m3/d)	2.000
Conditions and Measures related to external treatment of waste for	r disposal
External treatment and disposal of waste should comply with applicable regulations.	local and/or regional
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
No exposure assessment pre	sented 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	

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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.

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Exposure Scenario - Worker

Exposure ocerano - Worker	
30000000319	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Formulation & (re)packing of substances and mixtures- Industrial
Use Descriptor	Sector of Use: SU3, SU10 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 15 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 UVCE	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	d in region:	0,1
Regional use tonnage (tonne		17
Fraction of Regional tonnage	•	1
Annual site tonnage (tonnes		17
Maximum daily site tonnage (kg/day):		1,7E+03
Frequency and Duration of	f Use	
Continuous release.		
Emission Days (days/year):		10
	influenced by risk management	.
Local freshwater dilution fac		10
Local marine water dilution f		100
	ons affecting Environmental Exposure	T
	process (after typical onsite RMMs consisions Directive requirements):	1,0E-02
Release fraction to wastewa RMM):	ter from process (initial release prior to	5,0E-06
Release fraction to soil from	process (initial release prior to RMM):	1,0E-04
	measures at process level (source) to p	prevent release
	oss sites thus conservative process re-	

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The standard and the same Polymon and the same standard and the same Polymon P	
Technical onsite conditions and measures to reduce or limit dischasions and releases to soil	arges, air emis-
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 p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2
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	r disposal
External treatment and disposal of waste should comply with applicable regulations.	local and/or regional
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
No exposure assessment pre	sented 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 pre	sented for human health.

Section 4.2 - Environment	
Guidance is based on assumed operating conditions which may not be applicable to all	

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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.

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Exposure Scenario - Worker

30000000318	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Distribution of substance- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15 Environmental Release Categories: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC 6C,, 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 (tonne	s/year):	140
Fraction of Regional tonnage	used locally:	2,0E-03
Annual site tonnage (tonnes/	year):	2,8E-01
Maximum daily site tonnage	(kg/day):	1,4E+01
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		20
Environmental factors not	influenced by risk management	
Local freshwater dilution fact	or:	10
Local marine water dilution factor:		100
	ns affecting Environmental Exposure	
	rocess (initial release prior to RMM):	1,0E-03
Release fraction to wastewat	er from process (initial release prior to	1,0E-07
RMM):		
	process (initial release prior to RMM):	1,0E-05
	neasures at process level (source) to p	prevent release
	ss sites thus conservative process re-	
lease estimates used.		
Technical onsite condition	s and measures to reduce or limit disc	harges, air emis-

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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 (%)	90
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	0
wastewater treatment required.	
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 p	lant
Estimated substance removal from wastewater via domestic sewage	96,2
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	1,3E+03
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	-
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 pre	sented 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 pre	sented 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-

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gies, either alone or in combination.

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

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Exposure Scenario - Worker

30000000317	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Manufacture of substance- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 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 UVCE	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	l in region:	0,1
Regional use tonnage (tonne	es/year):	900
Fraction of Regional tonnage used locally:		1
Annual site tonnage (tonnes/year):		900
Maximum daily site tonnage (kg/day):		4,5E+04
Frequency and Duration of	f Use	
Continuous release.		
Emission Days (days/year):		20
	influenced by risk management	
Local freshwater dilution fact		10
Local marine water dilution f		100
	ons affecting Environmental Exposure	
	process (initial release prior to RMM):	1,0E-02
Release fraction to wastewa RMM):	ter from process (initial release prior to	1,0E-05
	process (initial release prior to RMM):	1,0E-04
Technical conditions and r	measures at process level (source) to p	prevent release
Common practices vary acro lease estimates used.	oss sites thus conservative process re-	
Technical onsite condition	s and measures to reduce or limit disc	harges, air emis-

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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.	
If discharging to domestic sewage treatment plant, no secondary	
wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	90,0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	32,3
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	0
Organisational measures to prevent/limit release from site	1
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	96,2
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	8,0E+05
Assumed domestic sewage treatment plant flow (m3/d)	10.000
Conditions and Measures related to external treatment of waste fo	r 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 pre	sented 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 pre	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.

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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.

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30000001027	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Uses in Coatings - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC1, PC4, PC8 (excipient only), PC9a, PC9b, PC9c, PC15, PC18, PC23, PC24, PC31, PC34 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 Concurrent Francours
Section 2.1	Control of Consumer Exposure
Product Characteristics	Control of Consumer Exposure

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 (tonne	s/year):	10
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/	year):	5,0E-03
Maximum daily site tonnage ((kg/day):	0,014
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not i	influenced by risk management	
Local freshwater dilution factor	or:	10
Local marine water dilution fa	ictor:	100
Other Operational Conditio	ns affecting Environmental Exposure	
Release fraction to air from w	ride dispersive use (regional only):	9,85E-01
Release fraction to wastewat	er from wide dispersive use:	1,0E-02
Release fraction to soil from	wide dispersive use (regional only):	5,0E-03
Conditions and Measures r	elated to municipal sewage treatment	plant
Risk from environmental expo	osure is driven by freshwater.	
Estimated substance remova	I from wastewater via domestic sewage	96,2
treatment (%)		

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Maximum allowable site tonnage (MSafe) based on release following	1,2
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 pre	sented for human health.

Section 3.2 - Environment

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

SECTION 4	CTION 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

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LAPOSUITE SCENARIO - CONSUMEN	
30000001028	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC3, PC4, PC8 (excipient only), PC9a, PC24, PC35, PC38 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 Concurrent Typesoure
Section 2.1	Control of Consumer Exposure
Product Characteristics	Control of Consumer Exposure

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 (tonne	s/year):	0,5
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/	year):	2,5E-04
Maximum daily site tonnage (kg/day):		6,8E-04
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not i	nfluenced by risk management	
Local freshwater dilution factor	or:	10
Local marine water dilution fa		100
Other Operational Conditio	ns affecting Environmental Exposure	
Release fraction to air from w	ide dispersive use (regional only):	9,5E-01
Release fraction to wastewat	er from wide dispersive use:	2,5E-02
Release fraction to soil from	wide dispersive use (regional only):	2,5E-02
Conditions and Measures r	elated to municipal sewage treatment	plant
Risk from environmental expo	osure is driven by freshwater.	
Estimated substance remova	I from wastewater via domestic sewage	96,2
treatment (%)		

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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

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30000001029		
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Lubricants - Consumer Low Environmental Release	
Use Descriptor	Sector of Use: SU21 Product Categories: PC1, PC24, PC31 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 (tonne	s/year):	2,5	
Fraction of Regional tonnage	used locally:	5,0E-04	
Annual site tonnage (tonnes/	/ear):	1,3E-03	
Maximum daily site tonnage (3,4E-03	
Frequency and Duration of	Use		
Continuous release.			
Emission Days (days/year):		365	
Environmental factors not influenced by risk management			
Local freshwater dilution factor	or:	10	
Local marine water dilution fa		100	
Other Operational Conditions affecting Environmental Exposure			
	ide dispersive use (regional only):	5,0E-02	
Release fraction to wastewate	er from wide dispersive use:	1,0E-02	
Release fraction to soil from v	vide dispersive use (regional only):	1,0E-02	
Conditions and Measures related to municipal sewage treatment pl		olant	
Risk from environmental expo			
Estimated substance remova treatment (%)	from wastewater via domestic sewage	96,2	
` '	age (MSafe) based on release following	0,31	

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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 pre	sented 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.

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Exposure occinano - consumer		
30000001030		
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Lubricants - Consumer High Environmental Release	
Use Descriptor	Sector of Use: SU21	
_	Product Categories: PC1, PC24, PC31	
	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 mainte-	
	nance and disposal of waste oil.	
	Trained and diopodar of traded off.	

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 (tonne	s/year):	2,5	
Fraction of Regional tonnage	used locally:	5,0E-04	
Annual site tonnage (tonnes/	/ear):	1,3E-03	
Maximum daily site tonnage (3,4E-03	
Frequency and Duration of Use			
Continuous release.			
Emission Days (days/year):		365	
Environmental factors not influenced by risk management			
Local freshwater dilution factor	or:	10	
Local marine water dilution fa		100	
Other Operational Conditions affecting Environmental Exposure			
	ide dispersive use (regional only):	1,5E-01	
Release fraction to wastewate	er from wide dispersive use:	5,0E-02	
Release fraction to soil from v	vide dispersive use (regional only):	5,0E-02	
Conditions and Measures related to municipal sewage treatment p		olant	
Risk from environmental expo	osure is driven by freshwater.		
Estimated substance remova treatment (%)	I from wastewater via domestic sewage	96,2	
, ,	age (MSafe) based on release following	0,31	

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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.

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30000001031	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Agrochemicals uses - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: , PC27 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 Concurrent Typesoure
Section 2.1	Control of Consumer Exposure
Product Characteristics	Control of Consumer Exposure

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 (tonne	s/year):	50
Fraction of Regional tonnage	used locally:	2,0E-03
Annual site tonnage (tonnes/	year):	0,1
Maximum daily site tonnage (kg/day):	0,27
Frequency and Duration of	Use	·
Continuous release.		
Emission Days (days/year):		365
Environmental factors not i	nfluenced 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 w	ride dispersive use (regional only):	9,0E-01
Release fraction to wastewater from wide dispersive use:		1,0E-02 9,0E-02
	Release fraction to soil from wide dispersive use (regional only):	
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		96,2
treatment (%)		
Maximum allowable site tonnage (MSafe) based on release following		22
total wastewater treatment removal (kg/d)		
Assumed domestic sewage treatment plant flow (m3/d)		2.000

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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

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30000001032	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC13 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 (tonne	s/year):	100
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/	/ear):	0,05
Maximum daily site tonnage (kg/day):	0,14
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
	nfluenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution fa	Local marine water dilution factor:	
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 re	elated to municipal sewage treatment p	olant
Risk from environmental exposure is driven by freshwater.		
Estimated substance removal from wastewater via domestic sewage		96,2
treatment (%)		
Maximum allowable site tonnage (MSafe) based on release following		12
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		

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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.

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Exposure doction deficiency	
30000001033	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Functional Fluids - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC16, PC17 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	

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):		0,01
Maximum daily site tonnage (kg/day):		0,027
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not i	influenced by risk management	
Local freshwater dilution factor	or:	10
Local marine water dilution factor:		100
	ns affecting Environmental Exposure	
	vide dispersive use (regional only):	5,0E-02
Release fraction to wastewate	er from wide dispersive use:	2,5E-02
Release fraction to soil from wide dispersive use (regional only):		2,5E-02
Conditions and Measures r	elated to municipal sewage treatment p	olant
Risk from environmental expo	osure is driven by freshwater.	
Estimated substance remova	I from wastewater via domestic sewage	96,2
treatment (%)		
Maximum allowable site tonnage (MSafe) based on release following		2,4
total wastewater treatment re	, , ,	
Assumed domestic sewage to	reatment plant flow (m3/d)	2.000

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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

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30000001034	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Other Consumer Uses - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC28, PC39 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 Concurrent Typesoure
Section 2.1	Control of Consumer Exposure
Product Characteristics	Control of Consumer Exposure

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):		5
Fraction of Regional tonnage used locally:		5,0E-04
Annual site tonnage (tonnes/year):		2,5E-03
Maximum daily site tonnage (kg/day):		6,8E-03
Frequency and Duration of Use		
Continuous release.		
Emission Days (days/year):		365
Environmental factors not influenced by risk management		
Local freshwater dilution factor	or:	10
Local marine water dilution factor:		100
	ns affecting Environmental Exposure	
	ide dispersive use (regional only):	9,5E-01
Release fraction to wastewate	er from wide dispersive use:	2,5E-02
Release fraction to soil from v	vide dispersive use (regional only):	2,5E-02
Conditions and Measures related to municipal sewage treatment plant		plant
Risk from environmental expo		
Estimated substance remova	I from wastewater via domestic sewage	96,2
treatment (%)		

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Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	0,61
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