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

1.1 Product identifier

Trade name : SBP 100/140 Product code : Q5811

Registration number EU : 01-2119473851-33-0001

Synonyms : Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics

EC-No. : 920-750-0

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

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2 H225: Highly flammable liquid and vapour.

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

ways.

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Specific target organ toxicity - single exposure, Category 3, Narcotic effects

H336: May cause drowsiness or dizziness.

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:

H225 Highly flammable liquid and vapour.

HEALTH HAZARDS:

H304 May be fatal if swallowed and enters airways.

H336 May cause drowsiness or dizziness.

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.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON

CENTER/ doctor.

P331 Do NOT induce vomiting.

P391 Collect spillage.

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)
	EC-INO.	
Hydrocarbons, C7-C9, n-	Not Assigned	<= 100
alkanes, isoalkanes, cyclics	920-750-0	

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 : Remove to fresh air. If rapid recovery does not occur,

transport to nearest medical facility for additional treatment.

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 : Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-

headedness, headache, nausea and loss of coordination.

Continued inhalation may result in unconsciousness and

death.

Skin irritation signs and symptoms may include a burning sen-

sation, redness, swelling, and/or blisters.

No specific hazards under normal use conditions.

Eye irritation signs and symptoms may include a burning sen-

sation, 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 burn-

ing 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, cor-

rosives 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 flamma-

ble.

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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

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Aliphatic dearom. solvents 100 - 140	Not As- signed	TWA	1.300 mg/m3	EU HSPA

Biological occupational exposure limits

No biological limit allocated.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C7- C9, n-alkanes, isoal- kanes, cyclics	Workers	Dermal	Long-term systemic effects	773 mg/kg
Hydrocarbons, C7- C9, n-alkanes, isoal- kanes, cyclics	Workers	Inhalation	Long-term systemic effects	2035 mg/m3
Hydrocarbons, C7- C9, n-alkanes, isoal- kanes, cyclics	Consumers	Dermal	Long-term systemic effects	699 mg/kg
Hydrocarbons, C7- C9, n-alkanes, isoal- kanes, cyclics	Consumers	Inhalation	Long-term systemic effects	608 mg/m3
Hydrocarbons, C7-	Consumers	Oral	Long-term systemic	699 mg/kg

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C9, n-alkanes, isoal-		effects	
kanes, cyclics			

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

Substance name		Environmental Compartment	Value
Hydrocarbons, C7-C9,	n-alkanes,		
isoalkanes, cyclics			
Remarks:	Substance	e is a hydrocarbon with a complex, unknown or	variable composi-
	tion. Conv	entional methods of deriving PNECs are not a	ppropriate and it is
	not possib	le to identify a single representative PNEC for	such substances.

8.2 Exposure controls

Engineering measures

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

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

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Remarks

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

Skin and body protection

Skin protection is not required under normal conditions of

For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure.

If repeated and/or prolonged skin exposure to the substance

is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.

Protective clothing approved to EU Standard EN14605.

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

Respiratory protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.

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

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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

Initial boiling point and boiling

range

Typical 107 - 137 °C

Flammability

Flammability (solid, gas) : Not applicable

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit / :

upper flammability limit

upper flammability limit

6,8 %(V)

Lower explosion limit /

Lower flammability limit

Lower flammability limit

0,9 %(V)

Flash point : Typical 1 °C

Method: IP 170

Auto-ignition temperature : 310 °C

Method: ASTM E-659

260 °C

Method: DIN 51794

Decomposition temperature

Decomposition tempera-

Data not available

ture

pH : Not applicable

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : 0,76 mm2/s (25 °C)

Method: ASTM D445

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Typical 1 mm2/s (0 °C) Method: ASTM D445

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-

octanol/water

log Pow: 4 - 5,7

Vapour pressure : Typical 3,500 Pa (20 °C)

Typical 1,500 Pa (0 °C)

Typical 12,000 Pa (50 °C)

Relative density : Data not available

Density : Typical 728 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

Evaporation rate : 6

Method: DIN 53170, di-ethyl ether=1

1,9

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 con-

ductivity is below 100 pS/m and is considered semi-

conductive if its conductivity is below 10,000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives

can greatly influence the conductivity of a liquid

Surface tension : Data not available

Molecular weight : 112 g/mol

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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.

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, C7-C9, n-alkanes, isoalkanes, cyclics:

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

Remarks: Low toxicity

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

Acute inhalation toxicity : LC50: > 20 mg/l

Remarks: Low toxicity by inhalation.

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Acute dermal toxicity : LD50 (Rat): > 2000 mg/kg

Remarks: Low toxicity

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

Skin corrosion/irritation

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Remarks : Causes mild skin irritation.

Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Remarks : Not irritating to eye.

Respiratory or skin sensitisation

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Remarks : Not a sensitiser.

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

Germ cell mutagenicity

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

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, C7-C9, n-alkanes, isoalkanes, cyclics:

Remarks : 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

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Hydrocarbons, C7-C9, n-	No carcinogenicity classification.
alkanes, isoalkanes, cyclics	

Reproductive toxicity

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Effects on fertility

Remarks: Not a developmental toxicant., 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, C7-C9, n-alkanes, isoalkanes, cyclics:

Remarks : May cause drowsiness and dizziness.

High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea.

STOT - repeated exposure

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Remarks : Central nervous system: repeated exposure affects the nerv-

ous system.

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

sidered relevant to humans

Aspiration toxicity

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

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

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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, C7-C9, n-alkanes, isoalkanes, cyclics:

Remarks : Classifications by other authorities under varying regulatory

frameworks may exist.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Toxicity to fish : Remarks: LC/EC/IC50 >1 - <=10 mg/l

Toxic

Toxicity to daphnia and other :

aquatic invertebrates

Remarks: LC/EC/IC50 >1 - <=10 mg/l

Toxic

Toxicity to algae/aquatic plants : Remarks: LL/EL/IL50 > 10 <= 100 mg/l

Harmful

Toxicity to microorganisms :

Remarks: Data not available

Toxicity to fish (Chronic tox-

icity)

Remarks: Data not available

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

Remarks: NOEC/NOEL expected to be $> 0.1 - \le 1.0 \text{ mg/l}$

12.2 Persistence and degradability

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Biodegradability : Remarks: Readily biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

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12.3 Bioaccumulative potential

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

12.4 Mobility in soil

Components:

Hydrocarbons, C7-C9, n-alkanes, isoalkanes, cyclics:

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, C7-C9, n-alkanes, isoalkanes, cyclics:

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:

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, C7-C9, n-alkanes, isoalkanes, cyclics:

Additional ecological infor: Does not have

mation

: Does not have ozone depletion potential.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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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 courses.

Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.

Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local regulations may be more stringent than regional or na-

tional requirements and must be complied with.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides tech-

nical aspects at controlling pollutions from ships.

Contaminated packaging Drain container thoroughly.

> After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture,

cut or weld uncleaned drums.

Send to drum recoverer or metal reclaimer.

Comply with any local recovery or waste disposal regulations.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : 1268 **ADR** 1268 RID 1268 **IMDG** 1268 IATA : 1268

14.2 UN proper shipping name

ADN : PETROLEUM DISTILLATES, N.O.S.

 $(NAPHTHA, vp50 \le 110 kPa)$

ADR PETROLEUM DISTILLATES, N.O.S.

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RID : PETROLEUM DISTILLATES, N.O.S.

IMDG : PETROLEUM DISTILLATES, N.O.S.

(NAPHTHA)

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 : II
Classification Code : F1
Labels : 3 (N2, F)

ADR

Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

RID

Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

Remarks : SP640CD: Special provision 640D

IMDG

Packing group : II Labels : 3

IATA

Packing group : II Labels : 3

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

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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 enriched atmospheres displaces available oxygen which 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 Authorisa-

tion under REACH.

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

: This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH),

Article 57).

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

Other regulations:

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

The national inventory is based on the CAS number 64742-49-0.

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

DSL : Listed

IECSC : Listed

ENCS : Listed

KECI : Listed

PICCS : Listed

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TSCA : Listed

TCSI : Listed

AIIC : Listed

NZIoC : Listed

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of other abbreviations

EU HSPA : OEL based on European Hydrocarbon Solvents Producers

(CEFIC-HSPA) methodology.

EU HSPA / TWA : Time-Weighted Average Concentration (TWA) (8 hrs.)

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

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Further information

Training advice : Provide adequate information, instruction and training for op-

erators.

Other information : 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 consid-

ered 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 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. 2 H225 On basis of test data.

Asp. Tox. 1 H304 Expert judgement and weight of evi-

dence determination.

STOT SE 3 H336 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 : Manufacture of substance- Industrial

Uses - Worker

Title : Distribution of substance- Industrial

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Uses - Worker

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

trial

Uses - Worker

Title : Uses in Coatings- Industrial

Uses - Worker

Title : Uses in Coatings- Professional

Uses - Worker

Title : Use in Cleaning Agents- Industrial

Uses - Worker

Title : Use in Cleaning Agents- Professional

Uses - Worker

Title : Lubricants- Industrial

Uses - Worker

Title : Lubricants- ProfessionalLow Environmental Release

Uses - Worker

Title : Lubricants- ProfessionalHigh Environmental Release

Uses - Worker

Title : Use as a fuel- Professional

Uses - Worker

Title : Use as a fuel- Industrial

Uses - Worker

Title : Use as binders and release agents- Professional

Uses - Worker

Title : Use as binders and release agents- Industrial

Uses - Worker

Title : Metal working fluids / rolling oils- Professional

Uses - Worker

Title : Metal working fluids / rolling oils- Industrial

Uses - Worker

Title : Functional Fluids- Professional

Uses - Worker

Title : Functional Fluids- Industrial

Uses - Worker

Title : Rubber production and processing- Industrial

Uses - Worker

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Title : Use in laboratories- Professional

Uses - Worker

Title : Use in laboratories- 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

- Consumer

High Environmental Release

Uses - Consumer

Title : Use as a fuel

- Consumer

Uses - Consumer

Title : Functional Fluids

- 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.

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Exposure Scenario - Worker

30000000923	-
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Manufacture of substance- Industrial
Use Descriptor	Sector of Use: SU3, SU8, SU9 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

Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of	f Use
Covers daily exposures up to	o 8 hours (unless stated differently).
Other Operational Condition	ons affecting Exposure
	an 20°C above ambient temperature (unless stated differently). dard of occupational hygiene is implemented.

Contributing Scenarios F	Risk Management Measures
General exposures (closed systems)PROC1PROC2PROC	No other specific measures identified. 3
General exposures (open systems)PROC4	No other specific measures identified.
Process samplingPROC8b	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfers(open systems)PROC8b	No other specific measures identified.
Bulk transfers(closed systems)PROC8b	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

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Section 2.2	Control of Environmental Exposure	
Substance is comple	x UVCB.	
Predominantly hydro	phobic.	
Readily biodegradable	le.	
Amounts Used		
Fraction of EU tonna	ge used in region:	0,1
Regional use tonnage	e (tonnes/year):	4,5E+03
Fraction of Regional	tonnage used locally:	1
Annual site tonnage ((tonnes/year):	4,5E+03
Maximum daily site to	onnage (kg/day):	4,5E+04
Frequency and Dura	ation of Use	
Continuous release.		
Emission Days (days		100
	ors not influenced by risk management	
Local freshwater dilut		10
Local marine water d		100
	Conditions affecting Environmental Exposure	
	ir from process (initial release prior to RMM):	5,0E-02
Release fraction to w RMM):	rastewater from process (initial release prior to	3,0E-05
Release fraction to so	oil from process (initial release prior to RMM):	1,0E-04
Technical condition	is and measures at process level (source) to pro	event release
Common practices va	ary across sites thus conservative process re-	
lease estimates used		
Technical onsite co sions and releases	nditions and measures to reduce or limit dischate to soil	arges, air emis-
Risk from environme	ntal exposure is driven by freshwater sediment.	
	undissolved substance to or recover from onsite	
	undissolved substance to or recover from orisite	
Prevent discharge of wastewater.		
Prevent discharge of wastewater. No wastewater treatn	ment required.	
Prevent discharge of wastewater. No wastewater treatn Treat air emission to	ment required. provide a typical removal efficiency of (%)	90
Prevent discharge of wastewater. No wastewater treatmer treat air emission to Treat onsite wastewa	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide	90
Prevent discharge of wastewater. No wastewater treatmone Treat air emission to Treat onsite wastewathe required removal	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%)	0
Prevent discharge of wastewater. No wastewater treatmore air emission to Treat onsite wastewathe required removal If discharging to dom	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary	
Prevent discharge of wastewater. No wastewater treatmore treatmore air emission to Treat onsite wastewathe required removal If discharging to dom wastewater treatmen	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary t required.	0
Prevent discharge of wastewater. No wastewater treatmone Treat air emission to Treat onsite wastewathe required removal If discharging to dom wastewater treatmen Organisational mea	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary t required. sures to prevent/limit release from site	0
Prevent discharge of wastewater. No wastewater treatmone Treat air emission to Treat onsite wastewathe required removal If discharging to dom wastewater treatmen Organisational mea Do not apply industria	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary at required. sures to prevent/limit release from site al sludge to natural soils.	0
Prevent discharge of wastewater. No wastewater treatmone Treat air emission to Treat onsite wastewathe required removal If discharging to dom wastewater treatmen Organisational mea Do not apply industria	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary t required. sures to prevent/limit release from site	0
Prevent discharge of wastewater. No wastewater treatmontment air emission to Treat onsite wastewathe required removal If discharging to dom wastewater treatmen Organisational mea Do not apply industria Sludge should be inc	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary at required. sures to prevent/limit release from site al sludge to natural soils.	0
Prevent discharge of wastewater. No wastewater treatmontment of the wastewater treatmontment of the wastewater treatment of the wastewater tre	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary t required. sures to prevent/limit release from site al sludge to natural soils. einerated, contained or reclaimed.	0
Prevent discharge of wastewater. No wastewater treatmonth of the variety of the v	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary at required. sures to prevent/limit release from site al sludge to natural soils. einerated, contained or reclaimed. asures related to municipal sewage treatment plant are removal from wastewater via domestic sewage	0 0
Prevent discharge of wastewater. No wastewater treatmontment of the variety of variety o	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary it required. sures to prevent/limit release from site al sludge to natural soils. einerated, contained or reclaimed. esures related to municipal sewage treatment plant eremoval from wastewater via domestic sewage moval from wastewater after onsite and offsite	0 0
Prevent discharge of wastewater. No wastewater treatmontment air emission to Treat air emission to Treat onsite wastewathe required removal If discharging to dom wastewater treatmen Organisational mea Do not apply industria Sludge should be incompleted to the Estimated substance treatment (%) Total efficiency of rer (domestic treatment)	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary at required. sures to prevent/limit release from site al sludge to natural soils. einerated, contained or reclaimed. sures related to municipal sewage treatment plant e removal from wastewater via domestic sewage moval from wastewater after onsite and offsite plant) RMMs (%)	0 0 lant 96,2 96,2
Prevent discharge of wastewater. No wastewater treatmontment air emission to Treat onsite wastewathe required removal If discharging to dom wastewater treatmen Organisational mea Do not apply industria Sludge should be incompleted by the conditions and Mea Estimated substance treatment (%) Total efficiency of rer (domestic treatment) Maximum allowable signals.	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary t required. sures to prevent/limit release from site al sludge to natural soils. einerated, contained or reclaimed. asures related to municipal sewage treatment plant e removal from wastewater via domestic sewage moval from wastewater after onsite and offsite plant) RMMs (%) site tonnage (MSafe) based on release following	0 0 lant 96,2
Prevent discharge of wastewater. No wastewater treatmone Treat air emission to Treat onsite wastewathe required removal If discharging to dom wastewater treatmen Organisational mea Do not apply industria Sludge should be incompleted by the conditions and Mea Estimated substance treatment (%) Total efficiency of rer (domestic treatment) Maximum allowable stotal wastewater treatment in the conditions and mea in the conditions and mea in the conditions and mea in the conditions are treatment of the condition	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary trequired. sures to prevent/limit release from site al sludge to natural soils. einerated, contained or reclaimed. asures related to municipal sewage treatment plant eremoval from wastewater via domestic sewage moval from wastewater after onsite and offsite plant) RMMs (%) site tonnage (MSafe) based on release following tment removal (kg/d)	0 0 0 lant 96,2 96,2 4,3E+06
Prevent discharge of wastewater. No wastewater treatmontment of the variation of variation of the variation of the variation of variation of the variation of var	ment required. provide a typical removal efficiency of (%) ater (prior to receiving water discharge) to provide efficiency of >= (%) estic sewage treatment plant, no secondary t required. sures to prevent/limit release from site al sludge to natural soils. einerated, contained or reclaimed. asures related to municipal sewage treatment plant e removal from wastewater via domestic sewage moval from wastewater after onsite and offsite plant) RMMs (%) site tonnage (MSafe) based on release following	0 0 0 lant 96,2 96,2 4,3E+06

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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

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Section 4.2 - Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

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

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

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

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Exposure Scenario - Worker

Exposure Scenario - worke	I
30000000924	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Distribution of substance- Industrial
Use Descriptor	Sector of Use: SU3, SU8, SU9 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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk Management Measures
General exposures (closed systems)PROC1PROC2PROC	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Process samplingPROC3	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfers(closed systems)PROC8b	No other specific measures identified.
Bulk transfers(open systems)PROC8b	No other specific measures identified.
Drum and small package fill-ingPROC9	No other specific measures identified.
Equipment cleaning and	No other specific measures identified.

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maintenancePROC8a	
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB	•	
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		l
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne		4,2E+02
Fraction of Regional tonnage		2,0E-03
Annual site tonnage (tonnes/		0,84
Maximum daily site tonnage (42
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		20
Environmental factors not i	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):	1,0E-03
Release fraction to wastewater from process (initial release prior to RMM):		1,0E-06
Release fraction to soil from p	process (initial release prior to RMM):	1,0E-05
Technical conditions and m	neasures at process level (source) to pr	event release
Common practices vary acros	ss sites thus conservative process re-	
lease estimates used.		
	s and measures to reduce or limit disch	arges, air emis-
sions and releases to soil		
Risk from environmental expo		
	lved substance to or recover from onsite	
Wastewater.	uirod	
No wastewater treatment req		00
	a typical removal efficiency of (%) r to receiving water discharge) to provide	90
the required removal efficience	cy of >= (%)	
	wage 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.	
	elated to municipal sewage treatment p	lant
	I from wastewater via domestic sewage	96,2
treatment (%)		
	m wastewater after onsite and offsite	96,2
(domestic treatment plant) RM		
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) 6,3E+05		6,3E+05
Assumed domestic sewage treatment plant flow (m3/d)		2,0E+03

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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

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Section 4.2 -Environment

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

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

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

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

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Exposure Scenario - Worker

Exposure Scenario - Worker	
30000000925	
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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at S	TP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 10 differently).,	00% (unless stated
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk Management Measures
General exposures (closed systems)PROC1PROC2PROC	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Batch processes at elevated temperaturesOperation is carried out at elevated temperatur (> 20°C above ambient temperature).PROC3	
Process samplingPROC3	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfersPROC8b	No other specific measures identified.

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	T
Mixing operations (open systems)PROC5	No other specific measures identified.
ManualTransfer from/pouring from containersNon-dedicated facilityPROC8a	No other specific measures identified.
Drum/batch transfersDedicated facilityPROC8b	No other specific measures identified.
Production or preparation or articles by tabletting, compression, extrusion or pelletisationPROC14	No other specific measures identified.
Drum and small package fill-ingPROC9	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2 Control of Environmental Exposure		
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonnes	s/year):	120
Fraction of Regional tonnage	used locally:	1
Annual site tonnage (tonnes/y		120
Maximum daily site tonnage (kg/day):	1,2E+03
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		100
	nfluenced by risk management	
Local freshwater dilution factor		10
Local marine water dilution factor:		100
	ns affecting Environmental Exposure	_
	rocess (after typical onsite RMMs con-	2,5E-02
	sions Directive requirements):	
	er from process (initial release prior to	2,0E-05
RMM):	(1.11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	4.05.04
	process (initial release prior to RMM):	1,0E-04
	neasures at process level (source) to pr	revent release
	ss sites thus conservative process re-	
lease estimates used.		
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil		
	osure is driven by freshwater sediment.	
	lved substance to or recover from onsite	
wastewater.		
No wastewater treatment requ	uired.	
Treat air emission to provide	a typical removal efficiency of (%)	0

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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+06	
total wastewater treatment removal (kg/d)		
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03	
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		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise		

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

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

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.

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

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Exposure Scenario - Worker

3000000926	
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	

Section 2.1	Control of Worker Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP		
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,		
Frequency and Duration of Use			
Covers daily exposures up to 8 hours (unless stated differently).			
Other Operational Conditions affecting Exposure			
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.			

Contributing Scenarios	Risk Management Measures
General exposures (closed systems)PROC1	No other specific measures identified.
General exposures (closed systems) with sample collectionUse in contained systemsPROC2	No other specific measures identified.
Film formation - force drying, stoving and other technologies.(closed systems)Operation is carried out at elevated temperature (> 20°C above ambient temperature).PROC2	No other specific measures identified.

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Mixing operations (closed	No other specific measures identified.
systems)Use in contained	
batch processesPROC3	
Film formation - air dry-	No other specific measures identified.
ingPROC4	No other execitio management identified
Preparation of material for applicationMixing opera-	No other specific measures identified.
tions (open sys-	
tems)PROC5	
Spraying (automat-	No other specific measures identified.
ic/robotic)PROC7	·
ManualSprayingPROC7	No other specific measures identified.
Material transfersNon-	No other specific measures identified.
dedicated facilityPROC8a	
Material transfersDedicated	No other specific measures identified.
facilityPROC8b	No other procific recovered identified
Roller, spreader, flow applicationPROC10	No other specific measures identified.
Dipping, immersion and	No other specific measures identified.
pouringPROC13	The other specific measures identified.
Laboratory activi-	No other specific measures identified.
tiesPROC15	, , , , , , , , , , , , , , , , , , ,
Material trans-	No other specific measures identified.
fersDrum/batch transfer-	
sTransfer from/pouring from	
containersPROC9	
Production or preparation	No specific measures identified.
or articles by tabletting,	
compression, extrusion or	
pelletisationPROC14	No other enecific measures identified
Equipment cleaning and maintenancePROC8a	No other specific measures identified.
Storage.PROC1	Store substance within a closed system.
	Sister Substantial William a diocoda dyblomi.

Section 2.2	Control of Environmental Exposure		
Substance is complex UVCB.			
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used	Amounts Used		
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonnes/year):		300	
Fraction of Regional tonnage used locally: 1		1	
Annual site tonnage (tonnes/year):		300	
Maximum daily site tonnage (kg/day): 1,5		1,5E+04	
Frequency and Duration of Use			
Continuous release.			
Emission Days (days/year):		20	
Environmental factors not influenced by risk management			
Local freshwater dilution factor	or:	10	

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Local marine water dilution factor:	100
	100
Other Operational Conditions affecting Environmental Exposure	0.05.04
Release fraction to air from process (initial release prior to RMM):	9,8E-01
Release fraction to wastewater from process (initial release prior to	7,0E-05
RMM):	
Release fraction to soil from process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to pro	event release
Common practices vary across sites thus conservative process re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit discharge	arges, air emis-
sions and releases to soil	T
Risk from environmental exposure is driven by freshwater sediment.	
Prevent discharge of undissolved substance to or recover from onsite wastewater.	
If discharging to domestic sewage treatment plant, no secondary	
wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	90
Treat onsite wastewater (prior to receiving water discharge) to provide	8,4
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	3,7E+05
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
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		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.		

Section 3.2 - Environment

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

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SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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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30000000928	
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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
	an 20°C above ambient temperature (unless stated differently). lard of occupational hygiene is implemented.	

Contributing Scenarios	Risk	k Management Measures	
General exposures (closed sy tems)PROC1	/S-	No other specific measures identified.	
Filling/ preparation of equipme from drums or containers.Use contained systemsPROC2		No other specific measures identified.	
General exposures (closed sy tems)Use in contained systemsPROC2	/S-	No other specific measures identified.	
Preparation of material for ap cationUse in contained batch processesPROC3	pli-	No other specific measures identified.	
Film formation - air dryingPR0	DC4	No other specific measures identified.	

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Preparation of material for applicationPROC5	No other specific measures identified.
Material transfersDrum/batch transfersNon-dedicated facilityPROC8a	No other specific measures identified.
Material transfersDrum/batch transfersDedicated facilityPROC8b	No other specific measures identified.
Roller, spreader, flow applicationPROC10	No other specific measures identified.
ManualSprayingIndoorPROC11	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
ManualSprayingOutdoorPROC11	Ensure operation is undertaken outdoors.
Dipping, immersion and pouringPROC13	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Hand application - fingerpaints, pastels, adhesivesPROC19	No other specific measures identified.
Storage.PROC1	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure	e
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne	s/year):	260
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/	/ear):	0,13
Maximum daily site tonnage (kg/day):		0,36
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 Condition	ns affecting Environmental Exposur	e
Release fraction to air from wide dispersive use (regional only):		9,8E-01
Release fraction to wastewater from wide dispersive use:		1,0E-02
Release fraction to soil from wide dispersive use (regional only):		1,0E-02
Technical conditions and m	leasures at process level (source) to	prevent release
Common practices vary across sites thus conservative process re-		
lease estimates used.		
	s and measures to reduce or limit dis	scharges, air emis-
sions and releases to soil		
Risk from environmental expo		
No wastewater treatment req	uired.	

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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	2,4E+03
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
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	

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not	expected to exceed the DN(M)EL when the Risk Management

Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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	
30000000937	
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 RISK MANAGEMENT
SECTION 2	OPERATIONAL CONDITIONS AND KISK MANAGEMENT
	MEASURES

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at S	STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 10 differently).,	00% (unless stated
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk	Management Measures	
Bulk transfersPROC8a		No other specific measures identified.	
Automated process with (sem closed systems.Use in contait systemsPROC2		No other specific measures identified.	
Automated process with (sem closed systems.Drum/batch to fersUse in contained batch processesPROC3	rans-	No other specific measures identified.	
Application of cleaning productionsed systemsPROC2	cts in	No other specific measures identified.	
Filling/ preparation of equipm from drums or containers.PROC8b	ent	No other specific measures identified.	

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Use in contained batch process- esPROC4	No other specific measures identified.
Degreasing small objects in cleaning stationPROC13	No other specific measures identified.
Cleaning with low-pressure washersPROC10	No other specific measures identified.
Cleaning with high pressure washersPROC7	No other specific measures identified.
ManualSurfacesCleaningPROC10	No other specific measures identified.
Storage.PROC1	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure		
Substance is complex UVCB.			
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonne	s/year):	38	
Fraction of Regional tonnage	used locally:	1	
Annual site tonnage (tonnes/	year):	38	
Maximum daily site tonnage (kg/day):	1,9E+03	
Frequency and Duration of	Use		
Continuous release.			
Emission Days (days/year):		20	
Environmental factors not i	nfluenced by risk management		
Local freshwater dilution factor	or:	10	
Local marine water dilution fa	ctor:	100	
Other Operational Conditio	ns affecting Environmental Exposure		
Release fraction to air from p	rocess (initial release prior to RMM):	1,0	
Release fraction to wastewate	er from process (initial release prior to	3,0E-07	
RMM):			
Release fraction to soil from process (initial release prior to RMM):		0	
	neasures at process level (source) to pr	event 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	arges, air emis-	
Risk from environmental expo			
	lved 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.			
	prevent/limit release from site		
	Do not apply industrial sludge to natural soils.		
Sludge should be incinerated, contained or reclaimed.			

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Conditions and Measures related to municipal sewage treatment plant		
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)	1,3E+07	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03	
Conditions and Measures related to external treatment of waste for disposal		

enditions 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
Castian 2.4 Haalth	

Section 3.1 - Health

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

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	
30000000938	
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 RISK MANAGEMENT
	MEASURES

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk M	lanagement Measures	
Filling/ preparation of equipment	nt l	No other specific measures identified.	
from drums or contain-			
ers.Dedicated facilityPROC8b			
Filling/ preparation of equipment	nt l	No other specific measures identified.	
from drums or containers.Non-			
dedicated facilityPROC8a			
Automated process with (semi)		No other specific measures identified.	
closed systems. Use in contained	ed		
systemsPROC2			
Automated process with (semi)		No other specific measures identified.	
closed systems.Drum/batch tra	ıns-		
fersUse in contained sys-			
temsPROC3			
Semi Automated process. (e.g.		No other specific measures identified.	
Semi automatic application of f	loor		

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care and maintenance prod- ucts)PROC4	
ManualSurfacesCleaningDipping, immersion and pouringPROC13	No other specific measures identified.
Cleaning with low-pressure washersRolling, Brushingno sprayingPROC10	No other specific measures identified.
Cleaning with high pressure washersSprayingIndoorPROC11	Provide enhanced general ventilation by mechanical means. , or: Limit the substance content in the product to 25 %.
Cleaning with high pressure washersSprayingOutdoorPROC11	Ensure operation is undertaken outdoors. , or: Limit the substance content in the product to 25 %.
ManualSurfacesCleaningPROC10	No other specific measures identified.
Ad hoc manual application via trigger sprays, dipping, etc.Rolling, BrushingPROC10	No other specific measures identified.
Application of cleaning products in closed systemsPROC4	No other specific measures identified.
Cleaning of medical devicesPROC4	No other specific measures identified.
Storage.PROC1	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure	•	
Substance is complex UVCB.			
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonne	s/year):	31	
Fraction of Regional tonnage	used locally:	5,0E-04	
Annual site tonnage (tonnes/	year):	1,6E-02	
Maximum daily site tonnage (kg/day):	4,3E-02	
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 factor:		100	
	ns affecting Environmental Exposure	e _	
	ide dispersive use (regional only):	2,0E-02	
Release fraction to wastewater from wide dispersive use:		1,0E-06	
Release fraction to soil from wide dispersive use (regional only):		0	
Technical conditions and measures at process level (source) to prevent release			
	ss sites thus conservative process re-		
lease estimates used.			

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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)	6,6E+02	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03	
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			
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise			
indicated.			

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	Section 4.1 - Health		
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.			

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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		
30000000939		
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

Section 2.1	Control of Worker Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP		
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,		
Frequency and Duration of Use			
Covers daily exposures up to 8 hours (unless stated differently).			
Other Operational Conditions affecting Exposure			
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.			

Contributing Scenarios F	Risk Management Measures
General exposures (closed systems)PROC1PROC2PROC	No other specific measures identified. 3
General exposures (open systems)PROC4	No other specific measures identified.
Bulk transfersPROC8b	No other specific measures identified.
Filling/ preparation of equipmentrom drums or containers.Non-dedicated facilityPROC8a	t No other specific measures identified.
Filling/ preparation of equipment from drums or containers. Dedicated facility PROC8b	t No other specific measures identified.
Initial factory fill of equip- mentPROC9	No other specific measures identified.
Operation and lubrication of	No other specific measures identified.

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high energy open equip- mentPROC17PROC18	
ManualRolling, Brush- ingPROC10	No other specific measures identified.
Treatment by dipping and pour-ingPROC13	No other specific measures identified.
SprayingPROC7	No other specific measures identified.
Maintenance (of larger plant items) and machine set up-PROC8b	No other specific measures identified.
Maintenance (of larger plant items) and machine set upOperation is carried out at elevated temperature (> 20°C above ambient temperature).PROC8b	No other specific measures identified.
Maintenance of small itemsPROC8a	No other specific measures identified.
Remanufacture of reject articlesPROC9	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure			
Substance is complex UVCB.				
Predominantly hydrophobic.				
Readily biodegradable.				
Amounts Used				
Fraction of EU tonnage used	in region:	0,1		
Regional use tonnage (tonne	s/year):	24		
Fraction of Regional tonnage		1		
Annual site tonnage (tonnes/		24		
Maximum daily site tonnage		1,2E+03		
Frequency and Duration of	Use			
Continuous release.				
Emission Days (days/year):		20		
	nfluenced by risk management			
Local freshwater dilution factor:		10		
Local marine water dilution factor:		100		
	Other Operational Conditions affecting Environmental Exposure			
	rocess (initial release prior to RMM):	1,0E-02		
Release fraction to wastewater from process (initial release prior to RMM):		3,0E-06		
Release fraction to soil from process (initial release prior to RMM):		1,0E-03		
	neasures at process level (source) to p	revent release		
Common practices vary across sites thus conservative process re-				
lease estimates used.				
Technical onsite conditions and measures to reduce or limit discharges, air emis-				
sions and releases to soil		 		
Risk from environmental exposure is driven by freshwater sediment.				
Prevent discharge of undisso	lved substance to or recover from onsite			

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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	8,5E+06		
total wastewater treatment removal (kg/d)			
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03		
Conditions and Measures related to external treatment of waste fo	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

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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	
30000000940	
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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk	Management Measures
General exposures (closed sy tems)PROC1PROC2PROC3	/S-	No other specific measures identified.
Operation of equipment conta engine oils and similar.PROC		No other specific measures identified.
General exposures (open sys tems)PROC4	-	No other specific measures identified.
Bulk transfersPROC8b		No other specific measures identified.
Filling/ preparation of equipment from drums or containers.Dedicated facilityPROC8b		No other specific measures identified.
Filling/ preparation of equipments from drums or containers.Nor dedicated facilityPROC8a		No other specific measures identified.
Operation and lubrication of h	igh	No other specific measures identified.

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energy open equipmentIn- doorPROC17PROC18	
Operation and lubrication of high energy open equipmentOut-doorPROC17	No other specific measures identified.
Maintenance (of larger plant items) and machine set upPROC8b	No other specific measures identified.
Maintenance (of larger plant items) and machine set upOperation is carried out at elevated temperature (> 20°C above ambient temperature).Dedicated facilityPROC8b	No other specific measures identified.
Maintenance of small itemsOperation is carried out at elevated temperature (> 20°C above ambient temperature).Non-dedicated facilityPROC8a	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Engine lubricant servicePROC9	No other specific measures identified.
ManualRolling, BrushingPROC10	No other specific measures identified.
SprayingPROC11	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Treatment by dipping and pour-ingPROC13	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2	Control of Environmental Exposur	re e	
Substance is complex UVCB.			
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonnes	s/year):	12	
Fraction of Regional tonnage used locally: 5,0E-04		5,0E-04	
Annual site tonnage (tonnes/year): 5,9E-03		5,9E-03	
Maximum daily site tonnage (kg/day): 1,6E-02		1,6E-02	
Frequency and Duration of	Use		
Continuous release.			
Emission Days (days/year):		365	
Environmental factors not influenced by risk management			
Local freshwater dilution factor	or:	10	
Local marine water dilution factor: 100			
Other Operational Conditions affecting Environmental Exposure			
	ide dispersive use (regional only):	1,0E-02	
Release fraction to wastewater from wide dispersive use: 1,0E-02		1,0E-02	
Release fraction to soil from wide dispersive use (regional only): 1,0E-02			
Technical conditions and measures at process level (source) to prevent release			

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Common practices vary across sites thus conservative process re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit discharge and releases to sail	arges, air emis-
sions and releases to soil	<u> </u>
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)	2,3E+02
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
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 regiona
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			
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise			
indicated.			

Section 3.2 - Environment

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

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

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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 - worke	
30000000941	
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 21 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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk	Management Measures
General exposures (closed sy tems)PROC1PROC2PROC3	/S-	No other specific measures identified.
Operation of equipment conta engine oils and similar.PROC		No other specific measures identified.
General exposures (open systems)PROC4	-	No other specific measures identified.
Bulk transfersPROC8b		No other specific measures identified.
Filling/ preparation of equipment from drums or containers.Dedicated facilityPROC8b		No other specific measures identified.
Filling/ preparation of equipment from drums or containers.Nor dedicated facilityPROC8a		No other specific measures identified.
Operation and lubrication of h	igh	No other specific measures identified.

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energy open equipmentln- doorPROC17PROC18	
Operation and lubrication of high	No other specific measures identified.
energy open equipmentOut-	TWO Other specific measures identified.
doorPROC17	
Maintenance (of larger plant items) and machine set upPROC8b	No other specific measures identified.
Maintenance (of larger plant items)	No other specific measures identified.
and machine set upOperation is	
carried out at elevated tempera-	
ture (> 20°C above ambient tem-	
perature).Dedicated facili- tyPROC8b	
Maintenance of small itemsOpera-	Provide a good standard of general ventilation (not less
tion is carried out at elevated tem-	than 3 to 5 air changes per hour).
perature (> 20°C above ambient	
temperature).Non-dedicated facili-	
tyPROC8a	
Engine lubricant servicePROC9	No other specific measures identified.
ManualRolling, BrushingPROC10	No other specific measures identified.
Wandan Coming, Brashingi 10010	TWO Other specific measures identified.
SprayingPROC11	Provide a good standard of general ventilation (not less
	than 3 to 5 air changes per hour).
Treatment by dipping and pour-ingPROC13	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2	Control of Environmental Exposu	ıre
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonnes	s/year):	12
Fraction of Regional tonnage		5,0E-04
Annual site tonnage (tonnes/)	/ear):	5,9E-03
Maximum daily site tonnage (kg/day):		1,6E-02
Frequency and Duration of Use		
Continuous release.		
Emission Days (days/year):		365
Environmental factors not influenced by risk management		
Local freshwater dilution factor	or:	10
Local marine water dilution factor:		100
Other Operational Conditions affecting Environmental Exposure		
Release fraction to air from wide dispersive use (regional only):		4,0E-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		
Technical conditions and measures at process level (source) to prevent release		

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Common practices vary across sites thus conservative process re-	
lease estimates used.	organ air amia
Technical onsite conditions and measures to reduce or limit discharge and releases to sail	arges, air emis-
sions and releases to soil	1
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)	170
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
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 local and/or regional regulations.	

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise		

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

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

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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 oceriano - Worker	
30000000963	
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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated	
stance in Mixture/Article	differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk Management Measures
Bulk transfersDedicated facili- tyPROC8b	No other specific measures identified.
Drum/batch transfersDedicate facilityPROC8b	No other specific measures identified.
Refueling.Dedicated facility	No other specific measures identified.
General exposures (closed systems)Use in contained systemsPROC1PROC2PROC3	No specific measures identified.
Use as a fuel(closed systems)PROC16	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	No other specific measures identified.
Storage.PROC1	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure

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Substance is complex UVCB.	
Predominantly hydrophobic.	
Readily biodegradable.	
Amounts Used	Τ
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/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):	1,4E-02
Frequency and Duration of Use	<u> </u>
Continuous release.	
Emission Days (days/year):	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from wide dispersive use (regional only):	1,0E-03
Release fraction to wastewater from wide dispersive use:	1,0E-05
Release fraction to soil from wide dispersive use (regional only):	1,0E-05
Technical conditions and measures at process level (source) to pr	event release
Common practices vary across sites thus conservative process re-	
lease estimates used.	
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.	
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	210
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
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.	nent.
3 1	
Conditions and measures related to external recovery of waste This substance is consumed during use and no waste of substance is of	

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Section 3.1 - Health

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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 - Wo	or Rei
30000000957	
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 RISK MANAGEMENT
	MEASURES

Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated
stance in Mixture/Article	differently).,
Frequency and Duration of	f Use
Covers daily exposures up to	o 8 hours (unless stated differently).
Other Operational Condition	ons affecting Exposure
Assumes use at not more that	an 20°C above ambient temperature (unless stated differently).
Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	Risk Management Measures
Bulk transfersDedicated facili- tyPROC8b	No other specific measures identified.
Drum/batch transfersDedicate facilityPROC8b	No other specific measures identified.
General exposures (closed systems)PROC1PROC2PRO	No other specific measures identified.
Use as a fuel(closed systems)PROC16	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		

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Amounts Used	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	10
Fraction of Regional tonnage used locally:	1
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
Environmental factors not influenced by risk management	-
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	5,0E-02
Release fraction to wastewater from process (initial release prior to	1,0E-05
RMM):	1,02 00
Release fraction to soil from process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to pro	event release
Common practices vary across sites thus conservative process re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit discha-	arges, air emis-
sions and releases to soil	1
Risk from environmental exposure is driven by freshwater sediment.	
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	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 treatment (%)	96,2
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	2,6E+06
total wastewater treatment removal (kg/d)	,
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste for	
Combustion emissions limited by required exhaust emission controls.	•
Waste combustion emissions considered in regional exposure assessm	ent.
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of substance is g	enerated.
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SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	

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The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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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CARROLL SCENARIO - WOLK	<u>. </u>
30000000950	
	<u></u>
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as binders and release agents- Professional
Use Descriptor	Sector of Use: SU22
	Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 6, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC
	14
	Environmental Release Categories: ERC8a, ERC8d,
	ESVOC SpERC 8.10b.v1
Scope of process	Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT
	MEASURES

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at S	TP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 10 differently).,	00% (unless stated
Frequency and Duration of	Use	
Covers daily exposures up to	8 hours (unless stated differently).	
Other Operational Conditio	ns affecting Exposure	
	an 20°C above ambient temperature (unles ard of occupational hygiene is implemented	

Contributing Scenarios	Risk Management Measures
Bulk transfersUse in contained	
systemsPROC1PROC2PROC	3
Drum/batch transfer-	No other specific measures identified.
sPROC8aPROC8b	
Mixing operations (closed sys-	No other specific measures identified.
tems)PROC3	
Mixing operations (open sys-	No other specific measures identified.
tems)PROC4	
Mold formingPROC14	No other specific measures identified.
Casting operations(open sys-	Provide a good standard of general ventilation (not less than
tems)Operation is carried out a	at 3 to 5 air changes per hour).
elevated temperature (> 20°C	
above ambient tempera-	
ture).PROC6	
SprayingMachinePROC11	Provide a good standard of general ventilation (not less than

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	3 to 5 air changes per hour).
SprayingManualPROC11	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
ManualRolling, Brush- ingPROC10	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2 Control of Environmental Exposure	e
Substance is complex UVCB.	
Predominantly hydrophobic.	
Readily biodegradable.	
Amounts Used	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	0,6
Fraction of Regional tonnage used locally:	5,0E-04
Annual site tonnage (tonnes/year):	3,0E-04
Maximum daily site tonnage (kg/day):	8,2E-04
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	365
Environmental factors not influenced by risk management	·
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposur	е
Release fraction to air from wide dispersive use (regional only):	9,5E-01
Release fraction to wastewater from wide dispersive use:	2,5E-02
Release fraction to soil from wide dispersive use (regional only):	2,5E-02
Technical conditions and measures at process level (source) to	prevent release
Common practices vary across sites thus conservative process re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit dissions and releases to soil	scharges, air emis-
Risk from environmental exposure is driven by freshwater.	
No wastewater treatment required. Treat air emission to provide a typical removal efficiency of (%)	
Treat all emission to provide a typical removal efficiency of (%) Treat onsite wastewater (prior to receiving water discharge) to provi	de 0
the required removal efficiency of >= (%)	de 0
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 treatmen	nt plant
Estimated substance removal from wastewater via domestic sewage	
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	96,2
(domestic treatment plant) RMMs (%)	

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Maximum allowable site tonnage (MSafe) based on release following	12
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d) 2,0E+03	

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	
The ECETOC TRA tool has be indicated.	peen used to estimate workplace exposures unless otherwise

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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	
30000000946	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as binders and release agents- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 6, PROC 7, PROC 8b, PROC 10, PROC 13, PROC 14 Environmental Release Categories: ERC4, ESVOC SpERC 4.10a.v1
Scope of process	Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), and handling of waste.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT
	MEASURES

Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated
stance in Mixture/Article	differently).,
Frequency and Duration of	Use
Covers daily exposures up to	o 8 hours (unless stated differently).
Other Operational Condition	ons affecting Exposure
Assumes use at not more that	an 20°C above ambient temperature (unless stated differently).
Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	Risk Management Measures
Bulk transfersUse in contained systemsPROC1PROC2PROC	
Drum/batch transfersPROC8b	No other specific measures identified.
Mixing operations (closed systems)PROC3	No other specific measures identified.
Mixing operations (open systems)PROC4	No other specific measures identified.
Mold formingPROC14	No other specific measures identified.
Casting operations(open systems)Operation is carried out elevated temperature (> 20°C above ambient temperature).PROC6	
SprayingMachinePROC7	No other specific measures identified.

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SprayingManualPROC7	No other specific measures identified.
ManualRolling, Brush- ingPROC10	No other specific measures identified.
Dipping, immersion and pouringPROC13	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2 Control of Environmental Exposure				
Substance is complex UVCB.	•			
Predominantly hydrophobic.				
Readily biodegradable.				
Amounts Used				
Fraction of EU tonnage used in region:		0,1		
Regional use tonnage (tonnes/year):		35		
Fraction of Regional tonnage used locally:		1		
Annual site tonnage (tonnes/year):		35		
Maximum daily site tonnage (kg/day):		1,7E+03		
Frequency and Duration of	Use			
Continuous release.				
Emission Days (days/year):	20			
Environmental factors not influenced by risk management				
Local freshwater dilution factor		10		
Local marine water dilution fa	100			
	ns affecting Environmental Exposure			
	ocess (initial release prior to RMM):	1,0		
Release fraction to wastewater from process (initial release prior to		3,0E-07		
RMM):				
Release fraction to soil from p	0			
	easures at process level (source) to pro-	event release		
	ss sites thus conservative process re-			
lease estimates used.	and an arrange for the large Park Park			
sions and releases to soil	and measures to reduce or limit discha	arges, air emis-		
Risk from environmental expo	osure is driven by soil.			
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 (%)		80		
Treat onsite wastewater (prior to receiving water discharge) to provide		0		
the required removal efficiency of >= (%)				
If discharging to domestic sev	0			
wastewater treatment require				
	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				
	from wastewater via domestic sewage	96,2		
treatment (%)				

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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	1,9E+07	
total wastewater treatment removal (kg/d)		
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03	
Conditions and Massures related to external treatment of waste for disposal		

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		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise		
indicated.		

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
Continu 4.4 Hankle	

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

30000000943	
30000000343	
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
SECTION 2	OPERATIONAL CONDITIONS AND KISK MANAGEMENT
	MEASURES

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at S	TP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 10 differently).,	00% (unless stated
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk Managen	nent Measures
General exposures (closed sy tems)PROC1PROC2PROC3	/S-	No other specific measures identified.
Bulk transfersPROC8b		No other specific measures identified.
Filling/ preparation of equipm or contain- ers.PROC5PROC8aPROC8b		No other specific measures identified.
Process samplingPROC8b		No other specific measures identified.
Metal machining operationsP	ROC17	No other specific measures identified.
ManualRolling, BrushingPRO	C10	No other specific measures identified.
SprayingPROC11		Provide a good standard of general ventilation

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	(not less than 3 to 5 air changes per hour).
Treatment by dipping and pouringPROC13	No other specific measures identified.
Equipment cleaning and maintenanceNon-dedicated facilityPROC8a	No other specific measures identified.
Equipment cleaning and maintenanceDedicated facilityPROC8b	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2 Co	ontrol of Environmental Exposure	1
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used in r	eaion.	0,1
Regional use tonnage (tonnes/ye		3,7
Fraction of Regional tonnage use	,	5,0E-04
Annual site tonnage (tonnes/year		1,9E-03
Maximum daily site tonnage (kg/		5,1E-03
Frequency and Duration of Use		0,1L 00
Continuous release.	<u>, </u>	
Emission Days (days/year):		365
Environmental factors not influ	ienced by risk management	300
Local freshwater dilution factor:	deliced by risk management	10
Local marine water dilution factor	r:	100
	affecting Environmental Exposure	100
Release fraction to air from wide		4,0E-01
		5,0E-02
Release fraction to wastewater from wide dispersive use: Release fraction to soil from wide dispersive use (regional only):		5,0E-02
	sures at process level (source) to pro	
		event release
Common practices vary across sites thus conservative process release estimates used.		
	d measures to reduce or limit discha	arges air emis-
sions and releases to soil	id incusures to reduce of mine discin	arges, an emis-
Risk from environmental exposur	re is driven by freshwater.	
No wastewater treatment require		
Treat air emission to provide a ty		0
Treat onsite wastewater (prior to	receiving water discharge) to provide	0
the required removal efficiency o		
If discharging to domestic sewag	e treatment plant, no secondary	0
wastewater treatment required.		
Organisational measures to pr		
Do not apply industrial sludge to		
Sludge should be incinerated, co	ntained or reclaimed.	
Conditions and Measures relat	ed to municipal sewage treatment p	lant
Estimated substance removal fro	m wastewater via domestic sewage	96,2
treatment (%)	voctowator after analta and affaits	06.0
i otal efficiency of removal from t	wastewater after onsite and offsite	96,2

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(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	69
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste for disposal	

s and Measures related to external treatment of waste for disposa

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		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.		

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

Exposure Scenario - Wor	NCI
30000000942	
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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk N	Management Measures
General exposures (closed sy tems)PROC1PROC2PROC3	/S-	No other specific measures identified.
General exposures (open sys tems)PROC4	-	No other specific measures identified.
Bulk transfersPROC8b		No other specific measures identified.
Filling/ preparation of equipment from drums or containers.PROC5PROC8bPROC9	ent	No other specific measures identified.
Process samplingPROC8b		No other specific measures identified.
Metal machining operationsPROC17		No other specific measures identified.

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Treatment by dipping and pouringPROC13	No other specific measures identified.
SprayingPROC7	No other specific measures identified.
ManualRolling, BrushingPROC10	No other specific measures identified.
Automated metal roll- ing/formingUse in contained sys- temsOperation is carried out at elevated temperature (> 20°C above ambient tempera- ture).PROC2	No other specific measures identified.
Semi-automated metal roll- ing/formingOperation is carried out at elevated temperature (> 20°C above ambient tempera- ture).PROC17	No other specific measures identified.
Semi-automated metal roll- ing/formingPROC4	No other specific measures identified.
Equipment cleaning and maintenanceDedicated facilityPROC8b	No other specific measures identified.
Equipment cleaning and maintenanceNon-dedicated facilityPROC8a	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne	s/year):	15
Fraction of Regional tonnage	used locally:	1
Annual site tonnage (tonnes/	year):	15
Maximum daily site tonnage ((kg/day):	740
Frequency and Duration of Use		
Continuous release.		
Emission Days (days/year):		20
Environmental factors not i		
Local freshwater dilution factor: 10		
Local marine water dilution factor:		100
Other Operational Condition	ns affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):		2,0E-02
Release fraction to wastewater from process (initial release prior to		3,0E-06
RMM):		
Release fraction to soil from process (initial release prior to RMM):		0
	neasures at process level (source) to p	prevent release
Common practices vary across sites thus conservative process re-		
lease estimates used.		

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Technical onsite conditions and measures to reduce or limit discharge and the second state of the second s	arges, air emis-
sions and releases to soil	1
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 (%)	70
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	0
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	0
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment 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)	8,5E+06
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
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 local and/or regional regulations.	

SECTION 3	EXPOSURE ESTIMATION	
	124. 000142 2011111/41014	
Section 3.1 - Health		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise		
indicated.		

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	
Measures/Operational Condi Where other Risk Manageme	expected to exceed the DN(M)EL when the Risk Management tions outlined in Section 2 are implemented. ent Measures/Operational Conditions are adopted, then users managed to at least equivalent levels.

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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

Exposure oceriano - Worker	
30000000966	
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.

OPERATIONAL CONDITIONS AND RISK MANAGEMENT
OPERATIONAL CONDITIONS AND RISK MANAGEMENT
MEAGUEEG
MEASURES

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated	
stance in Mixture/Article	differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios R	isk Management Measures
Drum/batch transfersPROC8a	No other specific measures identified.
Transfer from/pouring from containersPROC9	No other specific measures identified.
Filling/ preparation of equipment from drums or containers.PROC9	No other specific measures identified.
General exposures (closed systems)PROC1PROC2PROC3	No other specific measures identified.
Operation of equipment containing engine oils and similar.PROC20	No other specific measures identified.
Operation of equipment containing engine oils and similar. Operation is carried out at elevated temperature (> 20°C above ambient tempera-	No other specific measures identified.

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ture).PROC20	
Remanufacture of reject articlesPROC9	No other specific measures identified.
Equipment maintenance- PROC8a	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure		
Substance is complex UVCB			
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonne		4,0	
Fraction of Regional tonnage		5,0E-04	
Annual site tonnage (tonnes/		2,0E-03	
Maximum daily site tonnage (5,5E-03	
Frequency and Duration of		<u> </u>	
Continuous release.			
Emission Days (days/year):		365	
	nfluenced by risk management	•	
Local freshwater dilution factor		10	
Local marine water dilution fa	ctor:	100	
Other Operational Conditio	ns affecting Environmental Exposure		
Release fraction to air from w	ride 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	
Technical conditions and m	neasures at process level (source) to pr	event release	
Common practices vary acros	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	arges, air emis-	
Risk from environmental expo	osure is driven by freshwater.		
No wastewater treatment req			
	a typical removal efficiency of (%)	0	
Treat onsite wastewater (prior to receiving water discharge) to provide		0	
the required removal efficience			
	wage treatment plant, no secondary	0	
wastewater treatment require	d.		
Organisational measures to	prevent/limit release from site		
Do not apply industrial sludge			
Sludge should be incinerated	, contained or reclaimed.		
Conditions and Measures r	elated to municipal sewage treatment p	lant	
Estimated substance remova	I from wastewater via domestic sewage	96,2	
treatment (%)			
	m wastewater after onsite and offsite	96,2	
(domestic treatment plant) RI			
Maximum allowable site tonnage (MSafe) based on release following		78	
total wastewater treatment removal (kg/d)			

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Assumed domestic sewage treatment plant flow (m3/d) 2,0E+03

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

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

30000000965	
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 RISK MANAGEMENT
	MEASURES

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP	
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated	
stance in Mixture/Article	differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently).		
Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk Management Measures
Bulk transfers(closed systems)PROC1PROC2	No other specific measures identified.
Drum/batch transfer- sPROC8b	No other specific measures identified.
Filling of arti- cles/equipment(closed sys- tems)PROC9	No other specific measures identified.
Filling/ preparation of equipment from drums or containers.PROC8a	No other specific measures identified.
General exposures (closed systems)PROC2	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Remanufacture of reject articlesPROC9	No other specific measures identified.
Equipment maintenance-	No other specific measures identified.

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PROC8a

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Storage.PROC1PROC2	Store substance within a closed system.	
Section 2.2	Control of Environmental Exposure	
Substance is complex UVCE		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		I.
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne		5,0
Fraction of Regional tonnage	•	1
Annual site tonnage (tonnes		5,0
Maximum daily site tonnage		250
Frequency and Duration of		•
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	1
	process (initial release prior to RMM):	1,0E-02
Release fraction to wastewar	ter from process (initial release prior to	3,0E-06
RMM):	nuncias (initial release nuice to DMANA).	4.05.00
	process (initial release prior to RMM):	1,0E-03
	neasures at process level (source) to process sites thus conservative process re-	event release
lease estimates used.	ss sites thus conservative process re-	
	s and measures to reduce or limit disch	arges, air emis-
sions and releases to soil		
	osure is driven by freshwater.	
Prevent discharge of undisso	olved substance to or recover from onsite	
wastewater.		
No wastewater treatment red		
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.		
	o prevent/limit release from site	
Do not apply industrial sludg		
Sludge should be incinerated	d, contained or reclaimed.	
	related to municipal sewage treatment p	
		96,2
treatment (%)		
Total efficiency of removal from wastewater after onsite and offsite		96,2
(domestic treatment plant) R		<u> </u>
Maximum allowable site tonr total wastewater treatment re	nage (MSafe) based on release following	2,7E+06
Assumed domestic sewage to		2,0E+03
		,

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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

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

3000000974	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Rubber production and processing- Industrial
Use Descriptor	Sector of Use: SU3, SU10, SU11 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 6, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 13, PROC 14, PROC 15, PROC 21 Environmental Release Categories: ERC1, ERC4,, ESVOC SpERC 4.19.v1
Scope of process	Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT
	MEASURES

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at S	TP
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated	
stance in Mixture/Article	differently).,	,
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk Management Measures
Material transfersUse in con-	No other specific measures identified.
tained sys-	
temsPROC1PROC2	
Material transfersDedicated	No other specific measures identified.
facilityPROC8bPROC9	
Bulk weighingUse in con-	No other specific measures identified.
tained sys-	
temsPROC1PROC2	
Small scale weighingPROC9	No other specific measures identified.
Additive premixingUse in	No specific measures identified.
contained systemsPROC3	
Additive premixingMixing	No other specific measures identified.
operations (open sys-	
tems)PROC4PROC5	
Calendering (including Ban-	No other specific measures identified.

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burys)Operation is carried out at elevated temperature (> 20°C above ambient temper- ature).PROC6	
Pressing uncured rubber blanksPROC14	No other specific measures identified.
Tyre build upPROC7	No other specific measures identified.
VulcanisationOperation is carried out at elevated temperature (> 20°C above ambient temperature).MachinePROC6	No other specific measures identified.
VulcanisationOperation is carried out at elevated temperature (> 20°C above ambient temperature).ManualPROC6	No other specific measures identified.
Cooling cured articlesOperation is carried out at elevated temperature (> 20°C above ambient temperature).PROC6	No other specific measures identified.
Production of articles by dipping and pouringPROC13	No other specific measures identified.
Finishing operationsPROC21	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Equipment maintenance- PROC8a	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne	s/year):	5,0
Fraction of Regional tonnage	used locally:	1
Annual site tonnage (tonnes/year): 5,0		5,0
Maximum daily site tonnage (kg/day): 250		250
Frequency and Duration of Use		
Continuous release.		
Emission Days (days/year):		20
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		

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Release fraction to air from process (initial release prior to RMM):	1,0E-02
Release fraction to wastewater from process (initial release prior to RMM):	3,0E-05
,	1.05.04
Release fraction to soil from process (initial release prior to RMM):	1,0E-04
Technical conditions and measures at process level (source) to process	event release
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit disch	arnes air emis.
sions and releases to soil	arges, air cims-
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 (%)	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	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 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)	8,5E+05
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste for	
External treatment and disposal of waste should comply with applicable	
regulations.	riodal aria, 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		
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.		

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

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EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

30000000973	0000000973	
OFOTION 4	EVEN CUE CONTROL TITLE	
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

Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP
Concentration of the Sub-	Covers use of substance/product up to 100% (unless stated
stance in Mixture/Article	differently).,
Frequency and Duration of Use	
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	Risk Management Measures
Laboratory activitiesPROC15	No other specific measures identified.
CleaningPROC10	No other specific measures identified.

Section 2.2	Control of Environmental Exp	oosure
Substance is complex UVCE	3.	
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used	l in region:	0,1
Regional use tonnage (tonne	es/year):	0,8
Fraction of Regional tonnage	e used locally:	5,0E-04
Annual site tonnage (tonnes/	/year):	4,0E-04
Maximum daily site tonnage	(kg/day):	1,1E-03
Frequency and Duration of Use		
Continuous release.		· ·
Emission Days (days/year):		365

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Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from wide dispersive use (regional only):	5,0E-01
Release fraction to wastewater from wide dispersive use:	5,0E-01
Release fraction to soil from wide dispersive use (regional only):	0
Technical conditions and measures at process level (source) to pro	event release
Common practices vary across sites thus conservative process re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit discha-	arges, air emis-
sions and releases to soil	
Risk from environmental exposure is driven by freshwater.	
No wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide	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	13
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
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		
	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwi	

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

Section 3.2 - Environment

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

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SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

Exposure oceriano - Worker		
30000000970		
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
	MEASURES

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at S	STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.		

Contributing Scenarios	Risk Management Measures
Laboratory activitiesPROC15	No other specific measures identified.
CleaningPROC10	No other specific measures identified.

Section 2.2 Control of Environmental Exposure		xposure
Substance is complex UVC	B.	
Predominantly hydrophobic		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage use	d in region:	0,1
Regional use tonnage (tonnes/year):		0,6
Fraction of Regional tonnage used locally:		1
Annual site tonnage (tonne	s/year):	0,6
Maximum daily site tonnage (kg/day):		30
Frequency and Duration of	of Use	
Continuous release.		
Emission Days (days/year): 20		20
Environmental factors not influenced by risk management		

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	_	
Local freshwater dilution factor:	10	
Local marine water dilution factor:	100	
Other Operational Conditions affecting Environmental Exposure		
Release fraction to air from process (initial release prior to RMM):	2,5E-02	
Release fraction to wastewater from process (initial release prior to RMM):	2,0E-02	
Release fraction to soil from process (initial release prior to RMM):	1,0E-04	
Technical conditions and measures at process level (source) to pro	event release	
Common practices vary across sites thus conservative process release estimates used.		
Technical onsite conditions and measures to reduce or limit discha	arges, air emis-	
sions and releases to soil		
Risk from environmental exposure is driven by freshwater sediment.		
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	I .	
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)	1,3E+03	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03	
Conditions and Measures related to external treatment of waste for 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 local and/or regional regulations.		

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The ECETOC TRA tool has be indicated.	een used to estimate workplace exposures unless otherwise

Section 3.2 - Environment

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

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SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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 - Consumer

30000001157	
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

Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 100 %	
Amounts Used		
Unless stated otherwise.		
for each use event, covers amount up to (g):		13.800
covers skin contact area (cm2):		857,5
Frequency and Duration o	f Use	
Unless stated otherwise.		
Covers use up to (days/year):		365
covers use up to (times/day of use):		1
Covers use up to (hours/event):		8
Other Operational Condition	ons affecting Exposure	
Unless stated otherwise.		
Covers use at ambient temp	peratures.	
Covers use in room size of 2	20m3	

Covers use under typical household ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Adhesives, sealants Glues, hobby use.	Covers concentrations up to 30 %
	covers use up to 365 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2

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	For each use event severe amount up to 0 a
	For each use event, covers amount up to 9 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 4 hours/event
Adhesives, sealants Glues	Covers concentrations up to 30 %
DIY-use (carpet glue, tile	
glue, wood parquet glue).	
	covers use up to 1 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 110,00 cm2
	For each use event, covers amount up to 6.390 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 6,00 hours/event
Adhesives, sealants Glue from spray.	Covers concentrations up to 30 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 85,05 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 4,00 hours/event
Adhesives, sealants Sealants.	Covers concentrations up to 30 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 75 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event
Anti-Freeze and de-icing products Washing car window.	Covers concentrations up to 1 %
uow.	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 0,5 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Luon.
	Covers use in room size of 34 m3
	Covers exposure up to 0.02 hours/event
Anti Eranza and do joing	Covers exposure up to 0,02 hours/event
Anti-Freeze and de-icing products Pouring into radiator.	
products Pouring into radia-	Covers exposure up to 0,02 hours/event
products Pouring into radia-	Covers exposure up to 0,02 hours/event Covers concentrations up to 10 %
products Pouring into radia-	Covers exposure up to 0,02 hours/event Covers concentrations up to 10 % covers use up to 365 day/year Covers use up to 1 times/day of use
products Pouring into radia-	Covers exposure up to 0,02 hours/event Covers concentrations up to 10 % covers use up to 365 day/year Covers use up to 1 times/day of use covers skin contact area up to (cm2): 428,00 cm2
products Pouring into radia-	Covers exposure up to 0,02 hours/event Covers concentrations up to 10 % covers use up to 365 day/year Covers use up to 1 times/day of use

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	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Anti-Freeze and de-icing products Lock de-icer.	Covers concentrations up to 50 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 214,40 cm2
	For each use event, covers amount up to 4 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,25 hours/event
Biocidal products (e.g. Dis- infectants, pest control) (excipient only). Laundry and dish washing products.	Covers concentrations up to 5 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 15 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,50 hours/event
Biocidal products (e.g. Dis- infectants, pest control) (excipient only). Cleaners, liquids (all purpose clean- ers, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	Covers concentrations up to 5 %
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 27 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event
Biocidal products (e.g. Dis- infectants, pest control) (excipient only). Cleaners, trigger sprays (all purpose cleaners,sanitary products, glass cleaners).	Covers concentrations up to 15 %
• • • • • • • • • • • • • • • • • • • •	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,00 cm2
<u> </u>	For each use event, covers amount up to 35 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
	Dovors exposure up to 0,17 Hours/event

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Coatings and paints, thin-	Covers concentrations up to 1,5 %
ners, paint removers Wa-	
terborne latex wall paint.	
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 2.760 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Coatings and paints, thin- ners, paint removers Sol- vent rich, high solid, water borne paint.	Covers concentrations up to 27,5 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Coatings and paints, thinners, paint removers Aerosol spray can.	Covers concentrations up to 50 %
	covers use up to 2 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,33 hours/event
Coatings and paints, thin- ners, paint removers Re- movers (paint-, glue-, wall paper-, sealant-remover).	Covers concentrations up to 50 %
	covers use up to 3 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 491 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,00 hours/event
Fillers, Putties Fillers and putty.	Covers concentrations up to 2 %
·	covers use up to 12 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 85 g
	Covers use under typical household ventilation.
_	Covers use in room size of 20 m3
	Covers exposure up to 4,00 hours/event

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Fillers, Putties Plasters and floor equalizers.	Covers concentrations up to 2 %
•	covers use up to 12 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 13.800 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,00 hours/event
Fillers, Putties Modelling	Covers concentrations up to 1 %
clay.	,
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 254,40 cm2
	For each use event, assumes swallowed amount of 1 g
Finger paints	Covers concentrations up to 50 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 254,40 cm2
	For each use event, assumes swallowed amount of 1,35 g
Non-metal-surface treat-	Covers concentrations up to 1,5 %
ment products Waterborne latex wall paint.	
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 2.760 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Non-metal-surface treat- ment products Solvent rich, high solid, water borne paint.	Covers concentrations up to 27,5 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Non-metal-surface treat- ment products Aerosol spray can.	Covers concentrations up to 50 %
•	covers use up to 2 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	Covers exposure up to 0,33 hours/event

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Non-metal-surface treat-	Covers concentrations up to 50 %
ment products Removers	
(paint-, glue-, wall paper-,	
sealant-remover).	and the contract of the contra
	covers use up to 3 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 491 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,00 hours/event
Ink and toners	Covers concentrations up to 10 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 71,40 cm2
	For each use event, covers amount up to 40 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Leather tanning, dye, finish-	Covers concentrations up to 50 %
ing, impregnation and care	·
products Polishes, wax /	
cream (floor, furniture,	
shoes).	
	covers use up to 29 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 56 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,23 hours/event
Leather tanning, dye, finish-	Covers concentrations up to 50 %
ing, impregnation and care	Covers concentrations up to 60 %
products Polishes, spray	
(furniture, shoes).	
(1411114115)	covers use up to 8 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 56 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
Lubricante graces re	Covers exposure up to 0,33 hours/event
Lubricants, greases, re-	Covers concentrations up to 100 %
lease products Liquids.	covers use up to A dov/veer
	covers use up to 4 day/year
	covers use up to 1 times/day of use
	covers use up to 1 times/day of use covers skin contact area up to (cm2): 468,00 cm2
	covers use up to 1 times/day of use covers skin contact area up to (cm2): 468,00 cm2 For each use event, covers amount up to 2.200 g
	covers use up to 1 times/day of use covers skin contact area up to (cm2): 468,00 cm2 For each use event, covers amount up to 2.200 g Covers use in a one car garage (34 m3) under typical ventila-
	covers use up to 1 times/day of use covers skin contact area up to (cm2): 468,00 cm2 For each use event, covers amount up to 2.200 g

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	Covers exposure up to 0,17 hours/event
Lubricants, greases, release products Pastes.	Covers concentrations up to 20 %
	covers use up to 10 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 34 g
	Covers exposure up to 4 hours/event
Lubricants, greases, release products Sprays.	Covers concentrations up to 50 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Polishes and wax blends Polishes, wax / cream (floor, furniture, shoes).	Covers concentrations up to 50 %
	covers use up to 29 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 142 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,23 hours/event
Polishes and wax blends Polishes, spray (furniture, shoes).	Covers concentrations up to 50 %
·	covers use up to 8 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 35 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event
Textile dyes, finishing and impregnating products; including bleaches and other processing aids	Covers concentrations up to 10 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 115 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		

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	T
Predominantly hydrophobic.	
Readily biodegradable.	
Amounts Used	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	40
Fraction of Regional tonnage used locally:	5,0E-04
Annual site tonnage (tonnes/year):	2,0E-02
Maximum daily site tonnage (kg/day):	5,5E-02
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from wide dispersive use (regional only):	9,9E-01
Release fraction to wastewater from wide dispersive use:	1,0E-02
Release fraction to soil from wide dispersive use (regional only): 5,0E-03	
Conditions and Measures related to municipal sewage treatment p	olant
Risk from environmental exposure is driven by freshwater.	
Estimated substance removal from wastewater via domestic sewage treatment (%)	96,2
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	6,5E+02
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste fo	r disposal
External treatment and disposal of waste should comply with applicable al regulations.	-
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable	local and/or regional

SECTION 3 EXPOSURE ESTIMATION		
Section 3.1 - Health		
The ECETOC TRA tool has b	peen used to estimate consumer exposures unless otherwise	

indicated.

Section 3.2 - Environment

regulations.

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management	
Measures/Operational Conditions outlined in Section 2 are implemented.	
Where other Risk Management Measures/Operational Conditions are adopted, then users	

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should ensure that risks are managed to at least equivalent levels.

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 Scenario - Consumer

30000001159	
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

Section 2.1	Control of Consumer Exposure	
Product Characteristics	•	
Physical form of product	Liquid, vapour pressure > 10 kPa at STF	•
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 100 %	
Amounts Used		
Unless stated otherwise.		
for each use event, covers amount up to (g):		13.800
covers skin contact area (cm2):		857,5
Frequency and Duration o	f Use	
Unless stated otherwise.		
Covers use up to (days/year):		365
covers use up to (times/day of use):		1
Covers use up to (hours/event):		8
Other Operational Condition	ons affecting Exposure	
Unless stated otherwise.		
Covers use at ambient temp	eratures.	
Covers use in room size of 2	20m3	

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Air care products Air care, instant action (aerosol sprays).	Covers concentrations up to 50 %
	covers use up to 365 day/year
	covers use up to 4 times/day of use

Covers use under typical household ventilation.

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	For each use event, covers amount up to 0,1 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,25 hours/event
Air care products Air care, instant action (aerosol	Covers concentrations up to 50 %
sprays). pesticides (excipi-	
ent only).	
	covers use up to 365 day/year
	Covers use up to 4 times/day of use
	For each use event, covers amount up to 0,5 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,25 hours/event
Air care products Air care, continuous action (solid and liquid).	Covers concentrations up to 10 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,70 cm2
	For each use event, covers amount up to 0,48 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 8,00 hours/event
Air care products Air care,	Covers concentrations up to 50 %
continuous action (solid and liquid). pesticides (excipient only).	
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,70 cm2
	For each use event, covers amount up to 0,48 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 8,00 hours/event
Anti-Freeze and de-icing	Covers concentrations up to 1 %
products Washing car win-	Covers concentrations up to 1 70
dow.	covers use up to 365 day/year
	covers use up to 365 day/year Covers use up to 1 times/day of use
	Covers use up to 1 times/day of use
	Covers use up to 1 times/day of use For each use event, covers amount up to 0,5 g
	Covers use up to 1 times/day of use
	Covers use up to 1 times/day of use For each use event, covers amount up to 0,5 g Covers use in a one car garage (34 m3) under typical ventila-
	Covers use up to 1 times/day of use For each use event, covers amount up to 0,5 g Covers use in a one car garage (34 m3) under typical ventilation. Covers use in room size of 34 m3
	Covers use up to 1 times/day of use For each use event, covers amount up to 0,5 g Covers use in a one car garage (34 m3) under typical ventilation.
Anti-Freeze and de-icing products Pouring into radia-	Covers use up to 1 times/day of use For each use event, covers amount up to 0,5 g Covers use in a one car garage (34 m3) under typical ventilation. Covers use in room size of 34 m3 Covers exposure up to 0,02 hours/event Covers concentrations up to 10 %
Anti-Freeze and de-icing products Pouring into radia-	Covers use up to 1 times/day of use For each use event, covers amount up to 0,5 g Covers use in a one car garage (34 m3) under typical ventilation. Covers use in room size of 34 m3 Covers exposure up to 0,02 hours/event

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	For each use event severe amount up to 2,000 g
	For each use event, covers amount up to 2.000 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Anti-Freeze and de-icing products Lock de-icer.	Covers concentrations up to 50 %
products Lock de-icer.	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 214,40 cm2
	For each use event, covers amount up to 4 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	Covers exposure up to 0,25 hours/event
Biocidal products (e.g. Dis-	Covers concentrations up to 5 %
infectants, pest control)	Covere consentations up to 6 70
(excipient only). Laundry	
and dish washing products.	
and anon made in g production	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 15 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
Biocidal products (e.g. Dis-	Covers exposure up to 0,50 hours/event Covers concentrations up to 5 %
infectants, pest control)	Covers concentrations up to 5 %
(excipient only). Cleaners,	
liquids (all purpose clean-	
ers, sanitary products, floor	
cleaners, glass cleaners,	
carpet cleaners, metal cleaners).	
cieariers).	covers up to 129 day/year
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 27 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
5:	Covers exposure up to 0,33 hours/event
Biocidal products (e.g. Dis-	Covers concentrations up to 15 %
infectants, pest control)	
(excipient only). Cleaners,	
trigger sprays (all purpose	
cleaners, sanitary products,	
glass cleaners).	
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,00 cm2
	For each use event, covers amount up to 35 g

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	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Coatings and paints, thin-	Covers concentrations up to 1,5 %
ners, paint removers Wa-	Oovers concentrations up to 1,5 %
terborne latex wall paint.	
•	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 2.760 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,2 hours/event
Coatings and paints, thin-	Covers concentrations up to 27,5 %
ners, paint removers Solvent rich, high solid, water	
borne paint.	
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,2 hours/event
Coatings and paints, thin- ners, paint removers Aero-	Covers concentrations up to 50 %
sol spray can.	covers use up to 2 day/year
	Covers use up to 2 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
Onetings and said to the	Covers exposure up to 0,33 hours/event
Coatings and paints, thin- ners, paint removers Re- movers (paint-, glue-, wall	Covers concentrations up to 50 %
paper-, sealant-remover).	
	covers use up to 3 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 491 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,00 hours/event
Lubricants, greases, release products Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2

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	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Lubricants, greases, release products Pastes.	Covers concentrations up to 20 %
·	covers use up to 10 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 34 g
	Covers exposure up to 4 hours/event
Lubricants, greases, release products Sprays.	Covers concentrations up to 50 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Washing and cleaning products (including solvent based products) Laundry and dish washing products.	Covers concentrations up to 5 %
and didi madining production	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 15 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,50 hours/event
Washing and cleaning products (including solvent based products) Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	Covers concentrations up to 5 %
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 27 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event
Washing and cleaning products (including solvent based products) Cleaners, trigger sprays (all purpose cleaners, sanitary products,	Covers concentrations up to 15 %

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glass cleaners).	
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,00 cm2
	For each use event, covers amount up to 35 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Welding and soldering products (with flux coatings or flux cores.), flux products	Covers concentrations up to 20 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 12 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event

Section 2.2	Control of Environmental Exposure		
Substance is complex UVCB.			
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used		•	
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonne	s/year):	7,6	
Fraction of Regional tonnage	used locally:	5,0E-04	
Annual site tonnage (tonnes/	year):	3,8E-03	
Maximum daily site tonnage	(kg/day):	1,0E-02	
Frequency and Duration of	Use		
Continuous release.			
Emission Days (days/year):		365	
Environmental factors not	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 wide dispersive use (regional only):		9,5E-01	
Release fraction to wastewater from wide dispersive use:		2,5E-02	
Release fraction to soil from wide dispersive use (regional only):		2,5E-02	
Conditions and Measures r	elated to municipal sewage treatment ہ	olant	
Risk from environmental expo	osure is driven by freshwater.		
Estimated substance remova treatment (%)	I from wastewater via domestic sewage	96,2	
Maximum allowable site tonnage (MSafe) based on release following		140	
total wastewater treatment removal (kg/d)			
Assumed domestic sewage treatment plant flow (m3/d)		2,0E+03	
	elated to external treatment of waste fo		
External treatment and dispo	sal of waste should comply with applicable	e local and/or region-	
al regulations.			
Conditions and measures r	elated to external recovery of waste		

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External recovery and recycling of waste should comply with applicable local and/or regional regulations.

SECTION 3 EXPOSURE ESTIMATION

Section 3.1 - Health

The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.

Section 3.2 - Environment

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

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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 - Consumer

30000001161		
30000001101		
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

Section 2.1	Control of Consumer Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure > 10 kPa at ST	ГР	
Concentration of the Substance in Mixture/Article	Unless stated otherwise.		
	Covers concentration up to (%): 100 %)	
Amounts Used			
Unless stated otherwise.			
for each use event, covers amount up to (g):		13.800	
covers skin contact area (cm2):		857,5	
Frequency and Duration of Use			
Unless stated otherwise.			
Covers use up to (days/year):		365	
covers use up to (times/day of use):		1	
Covers use up to (hours/event):		8	
Other Operational Conditions affecting Exposure			
Unless stated otherwise.			

Covers use at ambient temperatures.

Covers use in room size of 20m3

Covers use under typical household ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Adhesives, sealants Glues, hobby use.	Covers concentrations up to 30 %	
	covers use up to 365 day/year	
	covers use up to 1 times/day of use	
	covers skin contact area up to (cm2): 35,73 cm2	
	For each use event, covers amount up to 9 g	

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	Covers use under typical household ventilation
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
A II	Covers exposure up to 4,00 hours/event
Adhesives, sealants Glues DIY-use (carpet glue, tile glue, wood parquet glue).	Covers concentrations up to 30 %
gias, irosa pardast gias).	covers use up to 1 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 110,00 cm2
	For each use event, covers amount up to 6.390 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 6,00 hours/event
Adhesives, sealants Glue from spray.	Covers concentrations up to 30 %
nom opray.	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 85,05 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 4,00 hours/event
Adhesives, sealants Sealants.	Covers concentrations up to 30 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 75 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event
Lubricants, greases, re- lease products Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Lubricants, greases, re- lease products Pastes.	Covers concentrations up to 20 %
- 1	covers use up to 10 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 34 g
	Covers exposure up to 4 hours/event
Lubricants, greases, re- lease products Sprays.	Covers concentrations up to 50 %
iodoo producto oprayo.	covers use up to 6 day/year

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	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Polishes and wax blends	Covers concentrations up to 50 %
Polishes, wax / cream	·
(floor, furniture, shoes).	
· ·	covers use up to 29 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 142 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,23 hours/event
Polishes and wax blends	Covers concentrations up to 50 %
Polishes, spray (furniture,	·
shoes).	
	covers use up to 8 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 35 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event

Section 2.2	Control of Environmental Exposure		
Substance is complex UVCB.			
Predominantly hydrophobic.			
Readily biodegradable.			
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonnes		5,0	
Fraction of Regional tonnage		5,0E-04	
Annual site tonnage (tonnes/)	year):	2,5E-03 6,8E-03	
	Maximum daily site tonnage (kg/day):		
Frequency and Duration of Use			
Continuous release.			
Emission Days (days/year):		365	
Environmental factors not influenced by risk management			
Local freshwater dilution factor:		10	
Local marine water dilution fa		100	
Other Operational Condition	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	
Conditions and Measures related to municipal sewage treatment plant			
Risk from environmental expo			
Estimated substance removal from wastewater via domestic sewage		96,2	

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treatment (%)	
Maximum allowable site tonnage (MSafe) based on release following	100
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03

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	
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.	

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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 - Consumer

Exposure ocerano - consumer	
30000001162	
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 maintenance and disposal of waste oil.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT
	MEASURES

Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STF	,
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 100 %	
Amounts Used		
Unless stated otherwise.		
for each use event, covers amount up to (g):		13.800
covers skin contact area (cm2):		857,5
Frequency and Duration o	Use	
Unless stated otherwise.		
Covers use up to (days/year):		365
covers use up to (times/day of use):		1
Covers use up to (hours/event): 8		8
Other Operational Condition	ons affecting Exposure	
Unless stated otherwise.		

Covers use at ambient temperatures.

Covers use in room size of 20m3

Covers use under typical household ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Adhesives, sealants Glues, hobby use.	Covers concentrations up to 30 %
	covers use up to 365 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 9 g

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	Covers use under tunical bounched ventilation
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
A II	Covers exposure up to 4,00 hours/event
Adhesives, sealants Glues DIY-use (carpet glue, tile glue, wood parquet glue).	Covers concentrations up to 30 %
giac, wood parquet giac).	covers use up to 1 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 110,00 cm2
	For each use event, covers amount up to 6.390 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 6,00 hours/event
Adhesives, sealants Glue from spray.	Covers concentrations up to 30 %
nom spray.	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 85,05 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 4,00 hours/event
Adhesives, sealants Sealants.	Covers concentrations up to 30 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 75 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event
Lubricants, greases, re- lease products Liquids.	Covers concentrations up to 100 %
- '	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Lubricants, greases, release products Pastes.	Covers concentrations up to 20 %
	covers use up to 10 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 34 g
	Covers exposure up to 4 hours/event
Lubricants, greases, re- lease products Sprays.	Covers concentrations up to 50 %
	covers use up to 6 day/year

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	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Polishes and wax blends Polishes, wax / cream	Covers concentrations up to 50 %
(floor, furniture, shoes).	
	covers use up to 29 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 142 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,23 hours/event
Polishes and wax blends Polishes, spray (furniture, shoes).	Covers concentrations up to 50 %
	covers use up to 8 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 35 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonnes	s/year):	5,0
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/)	/ear):	2,5E-03
Maximum daily site tonnage (6,8E-03
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 wide dispersive use (regional only):		4,0E-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
Conditions and Measures related to municipal sewage treatment plant		
Risk from environmental expo	osure is driven by freshwater.	
Estimated substance removal from wastewater via domestic sewage		96,2

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treatment (%)	
Maximum allowable site tonnage (MSafe) based on release following	89
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03

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	
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.	

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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 - Consumer

30000001164	
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

Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article		
Covers concentration up to (%): 100 %		0 %
Amounts Used		
Unless stated otherwise.		
for each use event, covers a	amount up to (g):	13.800
covers skin contact area (cm2):		857,5
Frequency and Duration of Use		
Unless stated otherwise.		
Covers use up to (days/year):		365
covers use up to (times/day of use):		1
Covers use up to (hours/event): 8		8
Other Operational Conditions affecting Exposure		
Unless stated otherwise		

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

Covers use under typical household ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Fuels Liquid: Automotive Refuelling.	Covers concentrations up to 100 %	
	covers use up to 52 day/year	
	covers use up to 1 times/day of use	
	covers skin contact area up to (cm2): 210,00 cm2	
	For each use event, covers amount up to 37.500 g	
	Covers outdoor use.	
	Covers use in room size of 100 m3	
	Covers exposure up to 0,05 hours/event	

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Fuels Liquid Scooter Refuelling.	Covers concentrations up to 100 %
	covers use up to 52 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210,00 cm2
	For each use event, covers amount up to 3.750 g
	Covers outdoor use.
	Covers use in room size of 100 m3
	Covers exposure up to 0,03 hours/event
Fuels Liquid, Garden Equipment - Use.	Covers concentrations up to 100 %
· ·	covers use up to 26 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 750 g
	Covers outdoor use.
	Covers use in room size of 100 m3
	Covers exposure up to 2,00 hours/event
Fuels Liquid: Garden Equipment - Refuelling.	Covers concentrations up to 100 %
	covers use up to 26 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 420,00 cm2
	For each use event, covers amount up to 750 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,03 hours/event
Fuels Liquid: Home space heater fuel.	Covers concentrations up to 100 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210,00 cm2
	For each use event, covers amount up to 3.000 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,03 hours/event
Fuels Liquid: Lamp oil.	Covers concentrations up to 100 %
	covers use up to 52 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210,00 cm2
	For each use event, covers amount up to 100 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,01 hours/event

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		

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Fraction of EU tonnage used in region:	0,1	
Regional use tonnage (tonnes/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):	1,4E-02	
Frequency and Duration of Use		
Continuous release.		
Emission Days (days/year):	365	
Environmental factors not influenced by risk management		
Local freshwater dilution factor:	10	
Local marine water dilution factor:	100	
Other Operational Conditions affecting Environmental Exposure		
Release fraction to air from wide dispersive use (regional only):	1,0E-03	
Release fraction to wastewater from wide dispersive use:	1,0E-05	
Release fraction to soil from wide dispersive use (regional only):	1,0E-05	
Conditions and Measures related to municipal sewage treatment 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	210	
total wastewater treatment removal (kg/d)		
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03	
Conditions and Measures related to external treatment of waste for	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 generated.		

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

Section 3.2 - Environment

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

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

Section 4.2 - Environment

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Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

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

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

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Exposure Scenario - Consumer

•	Exposure occination occidance	
30000001169		
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	

Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
Covers concentration up to (%): 100 %		%
Amounts Used		
Unless stated otherwise.		
for each use event, covers a	for each use event, covers amount up to (g):	
covers skin contact area (cm2):		857,5
Frequency and Duration of Use		
Unless stated otherwise.		
Covers use up to (days/year):	4
covers use up to (times/day	of use):	1
Covers use up to (hours/event):		0,17
Other Operational Conditions affecting Exposure		
Unless stated otherwise.		
Covers use at ambient temperatures.		
Covers use in room size of 20m3		
Covers use under typical household ventilation.		

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Heat transfer fluids Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3

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	Covers exposure up to 0,17 hours/event
Hydraulic fluids Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event

Section 2.2	Section 2.2 Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Readily biodegradable.		
Amounts Used		·
Fraction of EU tonnage used in region:		0,1
Regional use tonnage (tonnes/year):		2,0
Fraction of Regional tonnage used locally:		5,0E-04
Annual site tonnage (tonnes/year):		1,0E-03
Maximum daily site tonnage (kg/day):		2,7E-03
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
	ns affecting Environmental Exposure	
Release fraction to air from wide dispersive use (regional only):		5,0E-02
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 re	elated to municipal sewage treatment p	olant
Risk from environmental expo		
Estimated substance remova treatment (%)	I from wastewater via domestic sewage	96,2
Maximum allowable site tonnatotal wastewater treatment re	age (MSafe) based on release following moval (kg/d)	41
Assumed domestic sewage treatment plant flow (m3/d)		2,0E+03
	elated to external treatment of waste fo	r disposal
External treatment and disposal regulations.	sal of waste should comply with applicable	e local and/or region-
O-u-1:4:		

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		
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise		

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indicated.

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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.