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

1.1 Product identifier

Trade name : ShellSol A150

Product code : Q7493

Registration number EU : 01-2119463588-24-0002

Synonyms : Hydrocarbons, C10, aromatics, >1% naphthalene

EC-No. : 919-284-0

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

Telephone : +31 (0)10 441 5137 / +31 (0)10 441 5191 Telefax : +31 (0)20 716 8316 / +31 (0)20 713 9230

Contact for Safety Data : 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)

National Emergency Number: 112

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

agement B.V. and Shell Brands Inc. and used by affiliates of

Shell plc.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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

ways.

Specific target organ toxicity - single ex- H336: May cause drowsiness or dizziness.

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posure, Category 3, Narcotic effects

Carcinogenicity, Category 2 H351: Suspected of causing cancer.

Long-term (chronic) aquatic hazard, Cat-

egory 2

H411: Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements EUH066: Repeated exposure may cause skin dry-

ness or cracking.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :







Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:

Not classified as a physical hazard according to CLP

criteria.

HEALTH HAZARDS:

H304 May be fatal if swallowed and enters airways.

H336 May cause drowsiness or dizziness.H351 Suspected of causing cancer.

ENVIRONMENTAL HAZARDS:

H411 Toxic to aquatic life with long lasting effects.

Supplemental Hazard

Statements

EUH066 cracking.

Repeated exposure may cause skin dryness or

Precautionary statements : Prevention:

P201 Obtain special instructions before use.

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.

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

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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.

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

May form flammable/explosive vapour-air mixture.

This material is a static accumulator.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable airvapour mixtures can occur.

SECTION 3: Composition/information on ingredients

3.1 Substances

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Hydrocarbons, C10, aro-	Not Assigned	< 100
matics, >1% naphthalene	919-284-0	

Further information

Contains:

Chemical name	Identification number	Classification	Concentration (% w/w)
Naphthalene	91-20-3, 202-049-5	Acute Tox.4; H302 Carc.2; H351 Aquatic Acute1; H400 Aquatic Chronic1; H410	0 - 10
Cumene	98-82-8, 202-704-5	Flam. Liq.3; H226 Asp. Tox.1; H304 STOT SE3; H335 Carc.1B; H350 Aquatic Chronic2; H411	0 - 0,099
Benzene	71-43-2, 200-753-7	Flam. Liq.2; H225 Asp. Tox.1; H304 Skin Irrit.2; H315 Eye Irrit.2; H319 Muta.1B; H340 Carc.1A; H350 STOT RE1; H372 Aquatic Chronic3; H412	0 - 0,01

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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. Flush exposed area with wa-

ter and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

In case of eye contact : Flush eye with copious quantities of water.

Remove contact lenses, if present and easy to do. Continue

rinsing.

If persistent irritation occurs, obtain medical attention.

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

If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Breathing of high vapour concentrations may cause central

nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and

death.

No specific hazards under normal use conditions.

Skin irritation signs and symptoms may include a burning sen-

sation, redness, or swelling.

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

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coughing, choking, wheezing, difficulty in breathing, chest

congestion, shortness of breath, and/or fever.

If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Call a doctor or poison control center for guidance.

Potential for chemical pneumonitis.

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon diox-

ide, sand or earth may be used for small fires only.

Unsuitable extinguishing

media

Do not use water in a jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Clear fire area of all non-emergency personnel. Hazardous combustion products may include:

A complex mixture of airborne solid and liquid particulates and

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.

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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 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 bond-

ing 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.

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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.

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

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ingest. If swallowed, then seek immediate medical assistance.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Refer to section 15 for any additional specific legislation cov-

ering the packaging and storage of this product.

Further information on storage stability

Storage Temperature:

Ambient.

Bulk storage tanks should be diked (bunded).

Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of

strict procedures and precautions.

Must be stored in a diked (bunded) well- ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not

harmful or toxic to man or to the environment.

Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.

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

ble.

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.

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

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

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Naphthalene	91-20-3	MV	10 ppm	SI OEL
	Further inform	nation: Carcinogenic	category 2, The properties o	f easier
			ism through (via) the skin	
Naphthalene		MV (Inhalable fraction)	50 mg/m3	SI OEL
	Further inform	,	category 2, The properties of	f easier
			ism through (via) the skin	
Naphthalene	'	KTV	10 ppm	SI OEL
•	Further inform	nation: Carcinogenic	category 2, The properties o	f easier
	transport of su	ubstances into organ	ism through (via) the skin	
Naphthalene		KTV (Inhalable	50 mg/m3	SI OEL
· !		fraction)		
			category 2, The properties o	f easier
	transport of su	ubstances into organ	nism through (via) the skin	
Naphthalene		TWA	10 ppm	91/322/EEC
			50 mg/m3	
	Further inform	nation: Indicative		
Cumene	98-82-8	MV	10 ppm	SI OEL
			50 mg/m3	
			s of easier transport of subst	ances into or-
	ganism throug	gh (via) the skin		
Cumene		KTV	50 ppm	SI OEL
			250 mg/m3	
			s of easier transport of subst	ances into or-
	ganism throug	gh (via) the skin		
Cumene		TWA	10 ppm	2019/1831/E
	<u> </u>		50 mg/m3	U
			n assigned to the occupation	
		icates the possibility	of significant uptake through	the skin., In-
•	dicative	OTEL		0040/4004/5
Cumene		STEL	50 ppm	2019/1831/E
	Frontle and independen	ations A alie estatio	250 mg/m3	U
			n assigned to the occupation	
		icates the possibility	of significant uptake through	the skin., in-
Donzono	dicative	Τ\Λ/Λ	0.25 nnm	Chall Internal
Benzene	71-43-2	TWA	0,25 ppm	Shell Internal Standard
			0,8 mg/m3	(SIS) for 8-12
				hour TWA.
Benzene		STEL	2,5 ppm	Shell Internal
Delizerie		JILL	8 mg/m3	Standard
			0 mg/m0	(SIS) for 15
				min (STEL)
	1	1		(O1LL)

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Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Cumene	98-82-8	2-phenyl-2- propanol: 10 mg/g creatinine (Urine)	End of shift	SI BAT
Benzene	71-43-2	phenol: 18 Millimo- les per mole creat- inine (Urine)	End of shift	SI BAT
		benzene: 4.99 Millimoles per liter (Last expired air)	16 Hours after the end of work	SI BAT
		phenol: 15 mg/g creatinine (Urine)	End of shift	SI BAT
		benzene: 0.12 parts per million (Last expired air)	16 Hours after the end of work	SI BAT

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C10, aromatics, >1% naphthalene	Workers	Dermal	Long-term systemic effects	12,5 mg/kg bw/day
Hydrocarbons, C10, aromatics, >1% naphthalene	Workers	Inhalation	Long-term systemic effects	151 mg/m3
Hydrocarbons, C10, aromatics, >1% naphthalene	Consumers	Oral	Long-term systemic effects	7,5 mg/kg bw/day
Hydrocarbons, C10, aromatics, >1% naphthalene	Consumers	Inhalation	Long-term systemic effects	32 mg/m3
Hydrocarbons, C10, aromatics, >1% naphthalene	Consumers	Dermal	Long-term systemic effects	7,5 mg/kg bw/day
Naphthalene	Consumers	Oral	Long-term systemic effects	4,23 mg/kg
Benzene	Workers	Inhalation	Long-term systemic effects	0,8 mg/m3/ 8h

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

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

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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 quidelines/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

Remarks : Where hand contact with the product may occur the use of

gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: butyl-

rubber Nitrile rubber gloves.

Incidental contact/Splash protection: Nitrile rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For

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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 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.

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Colour : colourless

Odour : aromatic

Odour Threshold : Data not available

pour point : < 20 °C

Melting point/freezing point Data not available

Boiling point/boiling range : 179 - 214 °C

Flammability

Flammability (solid, gas) : Data not available

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit /

upper flammability limit

: 7 %(V)

Lower explosion limit /

Lower flammability limit

: 0,6 %(V)

Flash point : Typical 62 - 65,6 °C

Method: ASTM D-93 / PMCC

Auto-ignition temperature : 449 - 510 °C

Method: ASTM E-659

Decomposition temperature

Decomposition tempera-

ture

Not applicable

pH : Not applicable

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : Typical 1,2 mm2/s (25 °C)

Method: ASTM D445

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-

octanol/water

Data not available

Vapour pressure : 0,09 kPa (20 °C)

Relative density : 0,88 - 0,91 (20 °C)

Method: ASTM D4052

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Density : Typical 893 kg/m3 (15 °C)

Method: ASTM D4052

Relative vapour density : 4,8

Particle characteristics

Particle size : Data not available

9.2 Other information

Explosive properties : Not applicable

Oxidizing properties : Data not available

Evaporation rate : 1,0

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 : Data not available

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.

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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, C10, aromatics, >1% naphthalene:

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

Remarks: Low toxicity

Acute inhalation toxicity : LC50 (Rat): > 2 - 20 mg/l

Remarks: Low toxicity if inhaled.

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

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

Remarks: Low toxicity

Skin corrosion/irritation

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Remarks : Not irritating to skin.

Prolonged/repeated contact may cause defatting of the skin

which can lead to dermatitis.

Serious eye damage/eye irritation

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Remarks : Not irritating to eye.

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Respiratory or skin sensitisation

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Remarks : Not a sensitiser.

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

Germ cell mutagenicity

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Genotoxicity in vivo : Remarks: Not mutagenic.

Germ cell mutagenicity- As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

Carcinogenicity

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Remarks : Limited evidence of carcinogenic effect

Carcinogenicity - Assess-

ment

This product does not meet the criteria for classification in

categories 1A/1B.

Material	GHS/CLP Carcinogenicity Classification
Hydrocarbons, C10, aromatics, >1% naphthalene	Carcinogenicity Category 2
Naphthalene	Carcinogenicity Category 2
Cumene	Carcinogenicity Category 1B
Benzene	Carcinogenicity Category 1A

Material	Other Carcinogenicity Classification
Naphthalene	IARC: Group 2B: Possibly carcinogenic to humans
Cumene	IARC: Group 2B: Possibly carcinogenic to humans
Benzene	IARC: Group 1: Carcinogenic to humans

Reproductive toxicity

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Effects on fertility :

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Remarks: Causes foetotoxicity in animals at doses which are maternally toxic., Not a developmental toxicant., Based on available data, the classification criteria are not met., Does not integrate for tility.

impair fertility.

Reproductive toxicity - As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

STOT - single exposure

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

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, C10, aromatics, >1% naphthalene:

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

sidered relevant to humans

Aspiration toxicity

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

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

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

Further information

Product:

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

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

ponent(s).

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Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Remarks : Classifications by other authorities under varying regulatory

frameworks may exist.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

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

Toxic

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: Data not available

12.2 Persistence and degradability

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Biodegradability : Remarks: Readily biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

12.3 Bioaccumulative potential

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

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12.4 Mobility in soil

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

Mobility : Remarks: Floats on water.

12.5 Results of PBT and vPvB assessment

Components:

Hydrocarbons, C10, aromatics, >1% naphthalene:

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, C10, aromatics, >1% naphthalene:

Additional ecological infor-

mation

: Does not have ozone depletion potential.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Recover or recycle if possible.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal meth-

ods in compliance with applicable regulations.

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Do not dispose into the environment, in drains or in water

courses.

Do not dispose of tank water bottoms by allowing them to

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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.

 ${\sf MARPOL}$ - 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

ADR : 3082
RID : 3082
IMDG : 3082
IATA : 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Hydrocarbons, C10, aromatics)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Hydrocarbons, C10, aromatics)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Hydrocarbons, C10, aromatics)

IATA : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Hydrocarbons, C10, aromatics)

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14.3 Transport hazard class(es)

 ADR
 : 9

 RID
 : 9

 IMDG
 : 9

 IATA
 : 9

14.4 Packing group

ADR

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

RID

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG

Packing group : III Labels : 9

IATA

Packing group : III Labels : 9

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage,

for special precautions which a user needs to be aware of or

needs to comply with in connection with transport.

14.7 Maritime transport in bulk according to IMO instruments

MARPOL Annex 1 rules apply for bulk shipments by sea.

Additional Information: This product may be transported under nitrogen blanketing.

Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined

space entry.

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SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances,

mixtures and articles (Annex XVII)

Conditions of restriction for the following entries should be considered: Cumene (Number on list 28)

Benzene (Number on list 72, 5, 29,

REACH - List of substances subject to authorisation

(Annex XIV)

: Product is not subject to Authorisation under REACH.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

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

Article 57).

Other regulations:

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

Product is subject to Law No. 36.2014 regulation amending and supplementing the Regulation on the prevention of major accidents and the reduction of their consequences, based on Seveso III directive (2012/18/EU).

The national inventory is based on the CAS number 64742-94-5.

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

DSL : Listed

IECSC Listed

KECI Listed

PICCS Listed

TSCA Listed

ENCS Listed

NZIoC Listed

TCSI Listed

15.2 Chemical safety assessment

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

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SECTION 16: Other information

Full text of other abbreviations

2019/1831/EU : Europe. Commission Directive 2019/1831/EU establishing a

fifth list of indicative occupational exposure limit values

91/322/EEC : Europe. Commission Directive 91/322/EEC on establishing

indicative limit values

SI BAT : Slovenia, BAT-values

SI OEL : Slovenia. Chemical agents at work - Appendix 1: Occupational

exposure limits

2019/1831/EU / TWA : Limit Value - eight hours
2019/1831/EU / STEL : Short term exposure limit
91/322/EEC / TWA : Limit Value - eight hours
SI OEL / MV : Time Weighted Average
SI OEL / KTV : Short Term Exposure Limit

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

Further information

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

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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 considered to be PBT or vPvB.

A vertical bar (|) in the left margin indicates an amendment from the previous version.

This product is classified as H304 (May be fatal if swallowed and enters airways). The risk relates to potential for aspiration. The risk arising from aspiration hazard is solely related to the physico-chemical properties of the substance. The risk can therefore be controlled by implementing risk management measures tailored to this specific hazard and included within Section 8 of the SDS. An exposure scenario is not presented.

This product is classified as R66 / EUH066 (Repeated exposure may cause skin dryness or cracking). The risk relates to the potential for repeated or prolonged dermal contact. The risk arising from contact is solely related to the physicochemical properties of the substance. The risk can therefore be controlled by implementing risk management measures 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).

Identified Uses according to the Use Descriptor System

Uses - Worker

Title : Use in laboratories

- Professional

Uses - Worker

Title : Use in laboratories

- Industrial

Uses - Worker

Title : Road and construction applications

- Professional

Uses - Worker

Title : Functional Fluids

- Professional

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Uses - Worker

Title : Functional Fluids

- Industrial

Uses - Worker

Title : Use as a fuel

- Professional

Uses - Worker

Title : Use as a fuel

- Industrial

Uses - Worker

Title : Use in Agrochemicals uses

- Professional

Uses - Worker

Title : 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 : Lubricants

Professional

High Environmental Release

Uses - Worker

Title : Lubricants

- Professional

Low Environmental Release

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Uses - Worker

Title : Lubricants

- Industrial

Uses - Worker

Title : Use in Oil and Gas field drilling and production operations

- Industrial

Uses - Worker

Title : Use in Cleaning Agents

- Professional

Uses - Worker

Title : Use in Cleaning Agents

- Industrial

Uses - Worker

Title : Uses in Coatings

- Professional

Uses - Worker

Title : Uses in Coatings

- Industrial

Uses - Worker

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

- Industrial

Uses - Worker

Title : Manufacture of substance

- Industrial

Uses - Worker

Title : Distribution of substance

- Industrial

Uses - Worker

Title : Water treatment chemicals

- Industrial

Uses - Worker

Title : Water treatment chemicals

- Professional

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Identified Uses according to the Use Descriptor System

Uses - Consumer

Title : Functional Fluids

- Consumer

Uses - Consumer

Title : Use as a fuel

- Consumer

Uses - Consumer

Title : Use in Agrochemicals uses

- Consumer

Uses - Consumer

Title : Lubricants

- Consumer

High Environmental Release

Uses - Consumer

Title : Lubricants

Consumer

Low Environmental Release

Uses - Consumer

Title : Use in Cleaning Agents

- Consumer

Uses - Consumer

Title : Uses in Coatings

- 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

30000000780	
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 RIS	SK MANAGEMENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STI	P
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 1 differently).,	00% (unless stated
Frequency and Duration of		
	8 hours (unless stated differently).	
Other Operational Condition		
Assumes use at not more that	an 20°C above ambient temperature (unles	ss stated differently).
Assumes a good basic stand	lard of occupational hygiene is implemente	ed.
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	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne	es/year):	0,6
Fraction of Regional tonnage	e used locally:	5,0E-04
Annual site tonnage (tonnes/year):		3,0E-04
Maximum daily site tonnage (kg/day): 8,2E-04		8,2E-04
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year): 365		365
	influenced by risk management	T
Local freshwater dilution factor: 10		
Local marine water dilution factor: 100		100
Other Operational Condition	ons affecting Environmental Exposure	

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Release fraction to air from process (initial release prior to RMM):	0,5
Release fraction to wastewater from process (initial release prior to RMM):	0,5
Release fraction to soil from process (initial release prior to RMM):	0
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	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	2,1E-01
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.	•
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regiona

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	

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

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

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 occurre Worker	
30000000779	
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.

	<u> </u>	
SECTION 2	OPERATIONAL CONDITIONS AND RI MEASURES	SK MANAGEMENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at ST	P
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to differently).,	100% (unless stated
Frequency and Duration of	Use	
	8 hours (unless stated differently).	
Other Operational Conditio	ns affecting Exposure	
	an 20°C above ambient temperature (unle ard of occupational hygiene is implement	
Contributing Scenarios	Risk Management Measures	
Laboratory activi- tiesPROC15	No other specific measures identified.	
CleaningPROC10	No other specific measures identified.	
Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne	s/year):	0,6
Fraction of Regional tonnage used locally:		1
Annual site tonnage (tonnes/	year):	0,6
Maximum daily site tonnage	(kg/day):	30
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		100
	ns affecting Environmental Exposure	
Release fraction to air from p	rocess (initial release prior to RMM):	2,5E-02

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,	
Release fraction to wastewater from process (initial release prior to	2,0E-02
RMM):	
Release fraction to soil from process (initial release prior to RMM):	1,0E-04
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 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	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 treatment (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
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 fo	r disposal
External treatment and disposal of waste should comply with applicable	
regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regiona

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	

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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	
30000000789	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Road and construction applications- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13 Environmental Release Categories: ERC8d, ERC8f, ESVOC SpERC 8.15.v1
Scope of process	Application of surface coatings and binders in road and construction activities, including paving uses, manual mastic and in the application of roofing and water-proofing membranes.

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 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 Conditio	ns 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
Drum/batch transfersNon-dedicated facilityPROC8a	No other specific measures identified.
Drum/batch transfersDedicated facilityPROC8b	No other specific measures identified.
Drum/batch transfersDedicated facilityOperation is carried out at elevated temperature (> 20°C above ambient temperature).PROC8b	Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 4 hours
ManualRolling, Brush- ingPROC10	No other specific measures identified.
Spraying/ fogging by machine applicationOperation is carried out at elevated temperature (> 20°C above ambient temperature).PROC11	Ensure operation is undertaken outdoors. Limit the substance content in the mixture to 50 %. Wear a respirator conforming to EN140 with Type A filter or better. Automate activity where possible.
Spraying/ fogging by ma-	Ensure operation is undertaken outdoors.

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chine applicationPROC11	Wear a respirator conforming to EN140 v better.	vith Type A filter or
Dipping, immersion and pouringPROC13	No other specific measures identified.	
Equipment cleaning and maintenancePROC8a	No other specific measures identified.	
Drum and small package fillingPROC9	No other specific measures identified.	
Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB		
Predominantly hydrophobic.	-	
Amounts Used		l
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne		12
Fraction of Regional tonnage		5,0E-04
Annual site tonnage (tonnes/		6,1E-03
Maximum daily site tonnage (1,7E-02
Frequency and Duration of		1 . 1. – -
Continuous release.		
Emission Days (days/year):		365
	influenced by risk management	1
Local freshwater dilution factor		10
Local marine water dilution fa		100
	ns affecting Environmental Exposure	1
Release fraction to air from p	rocess (initial release prior to RMM):	0,95
	er from process (initial release prior to	1,0E-02
Release fraction to soil from	process (initial release prior to RMM):	4,0E-02
	neasures at process level (source) to pro-	event release
Common practices vary acros lease estimates used.	ss sites thus conservative process re-	
	s and measures to reduce or limit disch	arges, air emis-
Risk from environmental expo	nsure is driven by freshwater	
No wastewater treatment req		
	a typical removal efficiency of (%)	0
	r to receiving water discharge) to provide	0
the required removal efficiency	0 0, .	
•	wage treatment plant, no secondary	0
wastewater treatment require		
	prevent/limit release from site	1
Do not apply industrial sludge	•	
Sludge should be incinerated		
Conditions and Measures r	elated to municipal sewage treatment p	lant
	I from wastewater via domestic sewage	94,6
treatment (%)	-3	
	om wastewater after onsite and offsite MMs (%)	94,6
	age (MSafe) based on release following	4,6
	<u> </u>	<u>, </u>

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One Pitters and Management and the late and amount from the country for the Pitters and	
Assumed domestic sewage treatment plant flow (m3/d)	4,3E+00
total wastewater treatment removal (kg/d)	

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

30000000778	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Functional Fluids- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 8a, PROC 9, PROC 20 Environmental Release Categories: ERC9a, ERC9b, ESVOC SpERC 9.13b.v1
Scope of process	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 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 Condition	ons affecting Exposure	
	an 20°C above ambient temperature (unless stated differently lard of occupational hygiene is implemented.	y).

s a good basic standard of occupational hygiene is implemented.

Contributing Scenarios Risk Management Measures Drum/batch transfersPROC8a No other specific measures identified. Transfer from/pouring from con-No other specific measures identified. tainersPROC9 Filling/ preparation of equipment No other specific measures identified. from drums or containers.PROC9 General exposures (closed No other specific measures identified. systems)PROC1PROC2PROC3 Operation of equipment contain-No other specific measures identified. ing engine oils and similar.(closed systems)PROC20 Operation of equipment contain-No other specific measures identified. ing engine oils and similar.(closed systems)Operation is carried out at elevated temperature (> 20°C above ambient temperature).PROC20 Remanufacture of reject arti-No other specific measures identified.

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clesPROC9		
Equipment maintenance- No other specific measures identified PROC8a		d.
Storage.PROC1PROC2	Store substance within a closed syst	em.
Section 2.2 Co	entrol of Environmental Exposure	
Substance is complex UVCB.	•	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used in re	egion:	0,1
Regional use tonnage (tonnes/ye		3,0
Fraction of Regional tonnage use		5,0E-04
Annual site tonnage (tonnes/year		1,5E-03
Maximum daily site tonnage (kg/d		4,1E-03
Frequency and Duration of Use		1,1-00
Continuous release.		
Emission Days (days/year):		365
Environmental factors not influ	enced by risk management	1 000
Local freshwater dilution factor:	one a grant management	10
Local marine water dilution factor		100
	iffecting Environmental Exposure	1.00
Release fraction to air from proce		5,0E-02
	om process (initial release prior to	2,5E-02
RMM):	(_,-,-
Release fraction to soil from proc	ess (initial release prior to RMM):	2,5E-02
Technical conditions and meas	sures at process level (source) to pr	event release
Common practices vary across si	tes thus conservative process re-	
lease estimates used.		
Technical onsite conditions an sions and releases to soil	d measures to reduce or limit disch	arges, air emis-
Risk from environmental exposur	e is driven by freshwater.	
No wastewater treatment required		
Treat air emission to provide a type		0
	receiving water discharge) to provide	0
the required removal efficiency of		
If discharging to domestic sewage	e treatment plant, no secondary	0
wastewater treatment required.		
Organisational measures to pre		
Do not apply industrial sludge to a Sludge should be incinerated, con		
Conditions and Measures relate	ed to municipal sewage treatment p	lant
	m wastewater via domestic sewage	94,6
Total efficiency of removal from w		94,6
(domestic treatment plant) RMMs	(%) (MSafe) based on release following	1,1
total wastewater treatment remov		1,1
Assumed domestic sewage treatment		2,0E+03
	ed to external treatment of waste fo	
	of waste should comply with applicable	
		<u> </u>

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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	LAI OSONE 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 oceriano - Worker		
30000000777		
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 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 Conditio		
	in 20°C above ambient temperature (unless stated differently).	
Assumes a good basic stands	ard of occupational hygiene is implemented.	
	, , , , , , , , , , , , , , , , , , , ,	
Contributing Scenarios	Risk Management Measures	
Bulk transfers(closed systems)PROC1PROC2	No other specific measures identified.	
Drum/batch transfersDedicated facilityPROC8b	No other specific measures identified.	
Filling of arti- cles/equipment(closed sys-	No other specific measures identified.	
tems)PROC9		
Filling/ preparation of equipment from drums or containers.Non-dedicated facilityPROC8a	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- PROC8a	No other specific measures identified.	

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Storage.PROC1PROC2	Store substance within a closed system.	
Section 2.2	Control of Environmental Exposure	
Substance is complex UVCE	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	d in region:	0,1
Regional use tonnage (tonnes/year):		3,0
Fraction of Regional tonnage		1
Annual site tonnage (tonnes/year):		3,0
Maximum daily site tonnage	(kg/day):	150
Frequency and Duration o	f Use	
Continuous release.		
Emission Days (days/year):		20
Environmental factors not	influenced by risk management	
Local freshwater dilution fac		10
Local marine water dilution f	actor:	100
Other Operational Condition	ons affecting Environmental Exposure	
	process (initial release prior to RMM):	5,0E-03
	ter from process (initial release prior to	3,0E-05
Release fraction to soil from	process (initial release prior to RMM):	1,0E-03
	measures at process level (source) to pro	event release
	oss sites thus conservative process re-	
lease estimates used.		
Technical onsite condition sions and releases to soil	s and measures to reduce or limit discha	arges, air emis-
Risk from environmental exp	oosure is driven by freshwater.	
	olved substance to or recover from onsite	
wastewater.		
No wastewater treatment re-	quired.	
Treat air emission to provide	a typical removal efficiency of (%)	2
Trout all citilosion to provide		0
Treat onsite wastewater (pri	or to receiving water discharge) to provide	0
Treat onsite wastewater (pri	or to receiving water discharge) to provide	
Treat onsite wastewater (pri	or to receiving water discharge) to provide	
Treat onsite wastewater (pri the required removal efficier If discharging to domestic so wastewater treatment requir	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed.	0
Treat onsite wastewater (pri the required removal efficier If discharging to domestic se wastewater treatment requir	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary	0
Treat onsite wastewater (pri the required removal efficier If discharging to domestic so wastewater treatment requir	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. co prevent/limit release from site to natural soils.	0
Treat onsite wastewater (prithe required removal efficier of discharging to domestic sewastewater treatment requirements of the control of th	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. to prevent/limit release from site are to natural soils. d, contained or reclaimed.	0
Treat onsite wastewater (prithe required removal efficier of discharging to domestic sewastewater treatment requirements of the control of th	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. to prevent/limit release from site to natural soils. d, contained or reclaimed. related to municipal sewage treatment p	0 0
Treat onsite wastewater (printhe required removal efficier of the required removal efficier of the required removal efficier of the required to domestic set wastewater treatment required to require the required of the removal of the required	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. to prevent/limit release from site are to natural soils. d, contained or reclaimed.	0
Treat onsite wastewater (prithe required removal efficier If discharging to domestic sewastewater treatment requirement organisational measures of Do not apply industrial sludge should be incinerated. Conditions and Measures Estimated substance remove treatment (%)	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. co prevent/limit release from site to natural soils. d, contained or reclaimed. related to municipal sewage treatment plat from wastewater via domestic sewage	0 0
Treat onsite wastewater (prithe required removal efficier If discharging to domestic sewastewater treatment requirement organisational measures to not apply industrial sludge Sludge should be incinerated. Conditions and Measures Estimated substance remove treatment (%) Total efficiency of removal from the requirement of the removal from the requirement of the requiremen	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. co prevent/limit release from site to natural soils. d, contained or reclaimed. related to municipal sewage treatment plant from wastewater via domestic sewage	0 0 ant 94,6
Treat onsite wastewater (prithe required removal efficier If discharging to domestic sewastewater treatment requirement organisational measures to Do not apply industrial sludge Sludge should be incinerated. Conditions and Measures Estimated substance remove treatment (%) Total efficiency of removal freedomestic treatment plant).	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. co prevent/limit release from site to natural soils. d, contained or reclaimed. related to municipal sewage treatment plant from wastewater via domestic sewage	0 0 ant 94,6
Treat onsite wastewater (prithe required removal efficier If discharging to domestic sewastewater treatment requirement organisational measures to not apply industrial sludge Sludge should be incinerate Conditions and Measures Estimated substance removate treatment (%) Total efficiency of removal front (domestic treatment plant) Removal maximum allowable site toni	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. co prevent/limit release from site to natural soils. d, contained or reclaimed. related to municipal sewage treatment plant from wastewater via domestic sewage from wastewater after onsite and offsite the times of the contained on release following mage (MSafe) based on release following	0 0 0 0 0 94,6 94,6
Treat onsite wastewater (print the required removal efficier of the required removal efficier of the required removal efficier of the required removal required or the required of the reason of the r	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. to prevent/limit release from site to natural soils. d, contained or reclaimed. related to municipal sewage treatment plant from wastewater via domestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to make the tomestic sewage the tomestic sewage to make the tomestic sewage th	0 0 0 ant 94,6 94,6 3,8E+04
Treat onsite wastewater (prithe required removal efficier of the required o	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. to prevent/limit release from site to natural soils. d, contained or reclaimed. related to municipal sewage treatment plant from wastewater via domestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to mastewater after onsite and offsite the tomestic sewage to make the tomestic sewage the tomestic sewage to make the tomestic sewage th	0 0 0 ant 94,6 94,6 3,8E+04 2,0E+03
Treat onsite wastewater (prithe required removal efficier of the required o	or to receiving water discharge) to provide acy of >= (%) ewage treatment plant, no secondary ed. to prevent/limit release from site to natural soils. d, contained or reclaimed. related to municipal sewage treatment plat from wastewater via domestic sewage from wastewater after onsite and offsite the temporal (%) mage (MSafe) based on release following treatment plant flow (m3/d)	0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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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 ocenano - Worke	
30000000776	
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 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
Bulk transfersDedicated facilityPROC8b	No other specific measures identified.
Drum/batch transfersDedicate facilityPROC8b	d No other specific measures identified.
Refueling.Dedicated facili- tyPROC8b	No other specific measures identified.
General exposures (closed systems)PROC1PROC2PROC	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.PROC1	Store substance within a closed system.

Section 2.2 Control of Environmental Exposure		
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1

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Regional use tonnage (tonnes/year):	0,12
Fraction of Regional tonnage used locally:	5,0E-04
Annual site tonnage (tonnes/year):	6,2E-05
Maximum daily site tonnage (kg/day):	1,7E-04
Frequency and Duration of Use	,
Continuous release.	
Emission Days (days/year):	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	1,0E-04
Release fraction to wastewater from process (initial release prior to RMM):	1,0E-05
Release fraction to soil from process (initial release prior to RMM):	1,0E-05
Technical conditions and measures at process level (source) to pr	event release
Common practices vary across sites thus conservative process release 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	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	4,4E-02
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste fo	
Combustion emissions limited by required exhaust emission controls. Waste combustion emissions considered in regional exposure assessment	
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of substance is g	enerated.

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

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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 occurro - Worker		
30000000775		
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 activi-	
	ties 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 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	Ris	sk Management Measures	
Bulk transfersDedicated facili- tyPROC8b	•	No other specific measures identified.	
Drum/batch transfersDedicate facilityPROC8b	ed	No other specific measures identified.	
General exposures (closed systems)PROC1PROC2PRO	C3	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.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonnes/year): 2,5E+03		
Fraction of Regional tonnage	used locally:	1

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	1
Annual site tonnage (tonnes/year):	2,5E+03
Maximum daily site tonnage (kg/day):	2,5E+04
Frequency and Duration of Use	1
Continuous release.	
Emission Days (days/year):	100
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	5,0E-03
Release fraction to wastewater from process (initial release prior to RMM):	1,0E-05
Release fraction to soil from process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to pr	event release
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit dischasions and releases to soil	arges, air emis-
Risk from environmental exposure is driven by freshwater 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 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	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	2,7E+06
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.

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

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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

30000000774	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Agrochemicals uses- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 4, PROC 8a, PROC 8b, PROC 11, PROC 13 Environmental Release Categories: ERC8a, ERC8d, ESVOC SpERC 8.11a.v1
Scope of process	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES		
Section 2.1	Control of Worker Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure < 0.5 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		
	8 hours (unless stated differently).		
Other Operational Conditio	ns affecting Exposure		
	in 20°C above ambient temperature (unless stated differently).		
Assumes a good basic stand	ard of occupational hygiene is implemented.		
Contributing Scenarios	Risk Management Measures		
Transfer from/pouring from containersPROC8b	No other specific measures identified.		
Mixing in contain- ers.PROC4	No other specific measures identified.		
Spraying/ fogging by manual applicationPROC11	Wear a respirator conforming to EN140 with Type A filter or better.		
Spraying/ fogging by machine applicationPROC11	Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of >20.		
Ad hoc manual application via trigger sprays, dipping, etc.PROC13	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			

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Dradominantly by dranhabia	1
Predominantly hydrophobic.	
Amounts Used	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	870
Fraction of Regional tonnage used locally:	2,0E-03
Annual site tonnage (tonnes/year):	1,7
Maximum daily site tonnage (kg/day):	4,8
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 process (initial release prior to RMM):	0,9
Release fraction to wastewater from process (initial release prior to	1,0E-02
RMM):	,
Release fraction to soil from process (initial release prior to RMM):	9,0E-02
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	
Risk from environmental exposure is driven by freshwater.	
No wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	
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	94,6
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	94,6
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	920
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	8,8E+02
Conditions and Measures related to external treatment of waste for	r disposal
External treatment and disposal of waste should comply with applicable regulations.	local and/or regional
Conditions and measures related to external recovery of waste	1 1 1/
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional

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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 - Worker

Exposure occitatio Work	
30000000773	
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 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 8 hours (unless stated differently).	
Other Operational Condition	ons 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 transfersUse in contained systemsPROC1PROC2PROC	No other specific measures identified.
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 a elevated temperature (> 20°C above ambient temperature).PROC6	Provide extraction ventilation at points where emissions occur. , or: Wear a respirator conforming to EN140 with Type A filter or better.
SprayingMachinePROC1	Minimise exposure by extracted full enclosure for the operation or equipment.

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SprayingManualPROC11	Carry out in a vented booth or extract	Carry out in a vented booth or extracted enclosure.	
	, or:		
	Wear a respirator conforming to EN1	40 with Type A filter or	
	better.		
ManualRolling, Brush-	No other specific measures identified		
ingPROC10			
Storage.PROC1PROC2	Store substance within a closed syste	em.	
Section 2.2	Control of Environmental Exposure		
Substance is complex UVCB.			
Predominantly hydrophobic.			
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonnes	s/year):	100	
Fraction of Regional tonnage		5,0E-04	
Annual site tonnage (tonnes/y	rear):	5,0E-02	
Maximum daily site tonnage (kg/day):	0,14	
Frequency and Duration of	Use		
Continuous release.			
Emission Days (days/year):		365	
Environmental factors not i	nfluenced by risk management		
Local freshwater dilution factor	r:	10	
Local marine water dilution fa	ctor:	100	
Other Operational Condition	ns affecting Environmental Exposure		
Release fraction to air from pr	ocess (initial release prior to RMM):	0,95	
Release fraction to wastewater from process (initial release prior to RMM): 2,5E-02		2,5E-02	
Release fraction to soil from p	rocess (initial release prior to RMM):	2,5E-02	
	easures at process level (source) to pre	event release	
	s sites thus conservative process re-		
lease estimates used.			
Technical onsite conditions sions and releases to soil	and measures to reduce or limit disch	arges, air emis-	
Risk from environmental expo	sure is driven by freshwater.		
No wastewater treatment requ			
Treat air emission to provide a typical removal efficiency of (%)			
	to receiving water discharge) to provide	0	
the required removal efficience			
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			
Sludge should be incinerated,			
Conditions and Measures related to municipal sewage treatment plant		lant	
Estimated substance removal from wastewater via domestic sewage 94,6			
treatment (%)			
Total efficiency of removal from wastewater after onsite and offsite		94,6	
(domestic treatment plant) RMMs (%)			

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Maximum allowable site tonnage (MSafe) based on release following	35
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

30000000772	
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 MANAGEM MEASURES	ENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless st differently).,	ated
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 Sconarios | Disk Management Measures

Contributing Scenarios	Risk Management Measures
Bulk transfersUse in contained systemsPROC1PROC2PROC	The same of same mass and same and
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 a elevated temperature (> 20°C above ambient temperature). Aerosol generation due to elevated process temperature-PROC6	
SprayingMachinePROC7	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.

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SprayingManualPROC7	Carry out in a vented booth or extract	ed enclosure.
	, or:	
	Provide a good standard of controlled	I ventilation (10 to 15 air
	changes per hour).	
	Avoid carrying out activities involving	exposure for more than
	4 hours	
Manual Dalling Bruch	No other enseitie massures identified	
ManualRolling, Brush- ingPROC10	No other specific measures identified	•
Dipping, immersion and pour-	No other specific measures identified	
ingPROC13	140 other specific measures identified	•
Storage.PROC1PROC2	Store substance within a closed systematical	
Otorage: NOOT NOO2	Ctore substance within a closed syste	,,,,,
Section 2.2	ontrol of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.	_	
Amounts Used		
Fraction of EU tonnage used in r	egion:	0,1
Regional use tonnage (tonnes/ye		100
Fraction of Regional tonnage use		1
Annual site tonnage (tonnes/yea		100
Maximum daily site tonnage (kg/		5,0E+03
Frequency and Duration of Us		1 0,02 1 00
Continuous release.	<u>×</u>	
Emission Days (days/year):	20	
Environmental factors not influ	uenced by risk management	
Local freshwater dilution factor:	10	
Local marine water dilution factor:		100
	affecting Environmental Exposure	
Release fraction to air from proce	ess (initial release prior to RMM):	1,0
	rom process (initial release prior to	3,0E-06
RMM):		
Release fraction to soil from production	0	
	sures at process level (source) to pr	event release
	sites thus conservative process re-	
lease estimates used.		
	nd measures to reduce or limit disch	arges, air emis-
sions and releases to soil		
Risk from environmental exposu		
Prevent discharge of undissolved substance to or recover from onsite		
wastewater.		
No wastewater treatment require		
Treat air emission to provide a typical removal efficiency of (%)		80
Treat onsite wastewater (prior to receiving water discharge) to provide 0		
the required removal efficiency of >= (%)		
If discharging to domestic sewage treatment plant, no secondary		
wastewater treatment required.	rovent/limit release from site	
Organisational measures to pr		
Do not apply industrial sludge to		
Sludge should be incinerated, co	mamed of recidiffied.	

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Conditions and Measures related to municipal sewage treatment plant		
Estimated substance removal from wastewater via domestic sewage treatment (%)	94,6	
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6	
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1,2E+06	
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 b	peen 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

30000000771	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Metal working fluids / rolling oils- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 17 Environmental Release Categories: ERC8a, ERC8d, ESVOC SpERC 8.7c.v1
Scope of process	Covers the use in formulated MWFs including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/ reject articles, and disposal of waste oils.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 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 Conditio	ns 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 Man	agement Measures	
General exposures (closed sy tems)PROC1PROC2PROC3	/S-	No other specific measures identified.	
Bulk transfersPROC8b		No other specific measures identified.	
Filling/ preparation of equipm drums or containers.Dedicate tyPROC5PROC8aPROC8bP	d facili-	No other specific measures identified.	
Process samplingPROC8b		No other specific measures identified.	
Metal machining operationsP	ROC17	Provide a good standard of general or controlled ver lation (5 to 15 air changes per hour).	nti-
ManualRolling, BrushingPRO	C10	No other specific measures identified.	
SprayingPROC11		Avoid carrying out activities involving exposure for more than 1 hour.	

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		, or: Wear a respirator conforming A/P2 filter or better.	to EN140 with Type	
Treatment by dipping and poingPROC13	ur-	No other specific measures in	dentified.	
Equipment cleaning and mair nanceNon-dedicated facilityP		No other specific measures in	No other specific measures identified.	
Equipment cleaning and main Dedicated facilityPROC8b		No other specific measures in	dentified.	
Storage.PROC1PROC2		Store substance within a clos	sed system.	
Section 2.2	Control of	f Environmental Exposure		
Substance is complex UVCB	•			
Predominantly hydrophobic.				
Amounts Used				
Fraction of EU tonnage used	in region:		0,1	
Regional use tonnage (tonne			50	
Fraction of Regional tonnage		<i>I</i> .	5,0E-04	
Annual site tonnage (tonnes/		,.	2,5E-02	
Maximum daily site tonnage			6,8E-02	
Frequency and Duration of			7 0,02 02	
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 p	rocess (initia	al release prior to RMM):	0,15	
Release fraction to wastewater from process (initial release prior to RMM):		5,0E-02		
Release fraction to soil from process (initial release prior to RMM): 5,0E-02				
Technical conditions and n	neasures at	process level (source) to pro	event release	
Common practices vary acros	ss sites thus	s conservative process re-		
lease estimates used. Technical onsite conditions and measures to reduce or limit discharges, air emis-				
Technical onsite conditions sions and releases to soil		ures to reduce or limit discha	arges, air emis-	
Risk from environmental expe		on by frashwater		
		en by nesnwater.		
	No wastewater treatment required. Treat air emission to provide a typical removal officiency of (%)			
Treat air emission to provide a typical removal efficiency of (%) Treat onsite wastewater (prior to receiving water discharge) to provide 0			0	
the required removal efficiency of >= (%)				
If discharging to domestic sewage treatment plant, no secondary 0		0		
wastewater treatment required.				
Organisational measures to prevent/limit release from site				
Do not apply industrial sludge to natural soils.				
Sludge should be incinerated				
Conditions and Measures r	elated to m	unicipal sewage treatment p	lant	
Estimated substance remova treatment (%)			94,6	

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Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following	17
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 wests for	, diamonal

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
0 4 4 11 141	

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 - Worker		
30000000770		
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 RIS MEASURES	K MANAGEMENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STF	
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 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		No other specific measures identified.	
General exposures (open systems)PROC4	5-	No other specific measures identified.	
Bulk transfersPROC8b		No other specific measures identified.	
Filling/ preparation of equipm 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.	
Treatment by dipping and pour ingPROC13	ur-	No other specific measures identified.	

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SprayingPROC7		Minimise exposure by partial end equipment and provide extract ve		
ManualRolling, BrushingPROC10		No other specific measures iden	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 iden	tified.	
Semi-automated metal roll- ing/formingOperation is carrie at elevated temperature (> 20 above ambient tempera- ture).PROC17		Minimise exposure by partial end equipment and provide extract ve		
Equipment cleaning and main nancePROC8aPROC8b	nte-	No other specific measures iden	tified.	
Storage.PROC1PROC2		Store substance within a closed	system.	
Section 2.2	Contr	ol of Environmental Exposure		
Substance is complex UVCB		•		
Predominantly hydrophobic.				
Amounts Used				
Fraction of EU tonnage used	in regio	n:	0,1	
Regional use tonnage (tonne			100	
Fraction of Regional tonnage			1	
Annual site tonnage (tonnes/			100	
Maximum daily site tonnage			5,0E+03	
Frequency and Duration of			0,02100	
Continuous release.	000			
Emission Days (days/year):			20	
Environmental factors not	nfluenc	ced by risk management	120	
Local freshwater dilution factor		ood by Hok Managomone	10	
Local marine water dilution fa			100	
		cting Environmental Exposure	1100	
			2.0E-02	
Release fraction to air from process (initial release prior to RMM): Release fraction to wastewater from process (initial release prior to RMM): 3,0E-05 RMM):			,	
	orocess	(initial release prior to RMM):	0	
Release fraction to soil from process (initial release prior to RMM): Technical conditions and measures at process level (source) to prevent release				
		thus conservative process re-		
lease estimates used.				
Technical onsite conditions sions and releases to soil	s and m	easures to reduce or limit disch	narges, air emis-	
	osure is	driven by freshwater sediment		
Risk from environmental exposure is driven by freshwater sediment. Prevent discharge of undissolved substance to or recover from onsite			+	
wastewater.				
No wastewater treatment req	uired			
Treat air emission to provide a typical removal efficiency of (%) 70			70	
Treat onsite wastewater (prior to receiving water discharge) to provide 0			1.5	

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the required removal efficiency of >= (%)	
If discharging to domestic sewage treatment plant, no secondary	0
wastewater treatment required.	
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage	94,6
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	94,6
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	8,9E+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.

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

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or in combination.

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

(http://cefic.org).

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Exposure Scenario - Worker

30000000769	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Lubricants- ProfessionalHigh Environmental Release
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 17, PROC 18, PROC 20 Environmental Release Categories: ERC8a, ERC8d, ESVOC SpERC 8.6c.v1
Scope of process	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.

SECTION 2	OPERATIONAL CONDITIONS AND RIS MEASURES	K MANAGEMENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at 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	o 8 hours (unless stated differently).	
Other Operational Condition	ons 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 transfersDedicated facili- tyPROC8b	-	No other specific measures identified.	
Filling/ preparation of equipme from drums or contain- ers.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 henergy open equipmentIndoorPROC17PROC18	igh	Restrict area of openings to equipment.	

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Operation and lubrication of high	Wear a respirator conforming to E	N140 with Type A filter or
energy open equipmentOut-	better.	
doorPROC17		
Maintenance (of larger plant items)	No other specific measures ident	ified.
and machine set upPROC8b	Darie de la constant de la constant	
Maintenance (of larger plant items)	Drain down system prior to equip	ment opening or mainte-
and machine set upOperation is carried out at elevated tempera-	nance.	
ture (> 20°C above ambient tem-		
perature).Dedicated facili-		
tyPROC8b		
Maintenance of small itemsOpera-	Drain down system prior to equip	ment opening or mainte-
tion is carried out at elevated tem-	nance.	gg
perature (> 20°C above ambient		
temperature).Non-dedicated facili-		
tyPROC8a		
Engine lubricant servicePROC9	No other specific measures ident	ified.
ManualRolling, BrushingPROC10	No other specific measures ident	ified.
Constitution and DDCC 444	Assistance in a substitution in the	<i>(</i>
SprayingPROC11	Avoid carrying out activities involved than 1 hour.	ang exposure for more
	, or:	
	l '	=N140 with Type
	Wear a respirator conforming to EN140 with Type A/P2 filter or better.	
	741 2 11161 61 561611	
Treatment by dipping and pour- ingPROC13	No other specific measures ident	ified.
Storage.PROC1PROC2	Store substance within a closed s	system.
-		
Section 2.2 Cont	rol of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used in regi		0,1
Regional use tonnage (tonnes/year)		50
Fraction of Regional tonnage used I	ocally:	5,0E-04
Annual site tonnage (tonnes/year):		2,5E-02
Maximum daily site tonnage (kg/day	<u>'):</u>	6,8E-02
Frequency and Duration of Use		
Continuous release.		
Emission Days (days/year): 365		
Environmental factors not influen	ced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution factor:		100
Other Operational Conditions affe		10.45
I Release traction to air from process	(initial release prior to RMM):	0,15
	/, ,,, ,	1 05 00
Release fraction to wastewater from	process (initial release prior to	5,0E-02
Release fraction to wastewater from RMM):		·
Release fraction to wastewater from	s (initial release prior to RMM):	5,0E-02

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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 dischasions and releases to soil	arges, 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 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 (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	17
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 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
	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

30000000768	
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 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	o 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.	

Assumes a good basic standard of occupational hygiene is implemented.

Contributing Scenarios Risk Management Measures

General exposures (closed sys
No other specific measures identified.

tems)PROC1PROC2PROC3	The other specific measures identified.
Operation of equipment containing engine oils and similar.PROC20	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 contain- ers.Dedicated facilityPROC8b	No other specific measures identified.
Filling/ preparation of equipment from drums or containers.Non-dedicated facilityPROC8a	No other specific measures identified.
Operation and lubrication of high energy open equipmentIndoorPROC17PROC18	Restrict area of openings to equipment.

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Operation and lubrication of high energy open equipmentOut-doorPROC17	Ensure operation is undertaken o Avoid carrying out activities involve than 4 hours , or:	
	Wear a respirator conforming to E better.	EN140 with Type A filter or
Maintenance (of larger plant items) and machine set upPROC8b	No other specific measures identi	fied.
Maintenance (of larger plant items) and machine set upOperation is carried out at elevated temperature (> 20°C above ambient temperature). Dedicated facilityPROC8b	Drain down system prior to equipinance.	ment opening or mainte-
Maintenance of small itemsOpera-	Provide enhanced general ventila	tion by mechanical
tion is carried out at elevated tem- perature (> 20°C above ambient temperature).Non-dedicated facili- tyPROC8a	means. Avoid carrying out operation for m	nore than 4 hours.
Engine lubricant servicePROC9	No other specific measures identi	fied.
ManualRolling, BrushingPROC10	No other specific measures identi	fied.
SprayingPROC11	Avoid carrying out activities involve than 1 hour. , or: Wear a respirator conforming to E A/P2 filter or better.	•
Treatment by dipping and pour- ingPROC13	No other specific measures identi	fied.
Storage.PROC1PROC2	Store substance within a closed s	system.
·	rol of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used in region		0,1
Regional use tonnage (tonnes/year)		50
Fraction of Regional tonnage used lo	ocally:	5,0E-04
Annual site tonnage (tonnes/year):	N	2,5E-02
Maximum daily site tonnage (kg/day):	6,8E-02
Frequency and Duration of Use		
Continuous release.		205
Emission Days (days/year):	and by rick management	365
Environmental factors not influen	ceu by risk management	110
Local freshwater dilution factor:		10
Local marine water dilution factor: Other Operational Conditions affe	eting Environmental Exposure	100
Release fraction to air from process		1,0E-02
Nelease fraction to all from process	fillitial release prior to Kiviivi).	1,00-02

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Release fraction to wastewater from process (initial release prior to	1,0E-02
RMM):	
Release fraction to soil from process (initial release prior to RMM):	1,0E-02
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 (%)	
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 treatment (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	18
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste fo	r disposal
External treatment and disposal of waste should comply with applicable	•
regulations.	J
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regiona

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	

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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

30000000767	
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 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 Condition	ons 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 No other specific measures identified. systems)PROC1PROC2PROC3 General exposures (open sys-No other specific measures identified. tems)PROC4 Bulk transfersPROC8b No other specific measures identified. Filling/ preparation of equipment No other specific measures identified. from drums or containers. Nondedicated facilityPROC8a Filling/ preparation of equipment No other specific measures identified. from drums or containers.Dedicated facilityPROC8b Initial factory fill of equip-No other specific measures identified. mentPROC9 Operation and lubrication of No other specific measures identified. high energy open equipmentPROC17PROC18

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ManualRolling, Brush-ingPROC10		No other specific measures identified	d.
Treatment by dipping and pour- ingPROC13		No other specific measures identified	d.
SprayingPROC7		Minimise exposure by partial enclose equipment and provide extract vention	
Maintenance (of larger plant items) and machine set up-PROC8b		No other specific measures identified	d.
Maintenance (of larger plant items) and machine set upOperation is carried out at elevated temperature (> 20°C above ambient temperature).PROC8b		Drain down and flush system prior to maintenance.	equipment opening or
Maintenance of small itemsPROC8a		No other specific measures identified	d.
Remanufacture of reject articlesPROC9		No other specific measures identifie	d.
Storage.PROC1PROC2		Store substance within a closed sys	tem.
Section 2.2	Со	ntrol of Environmental Exposure	
Substance is complex UVCB.			
Predominantly hydrophobic.			
Amounts Used			.1
Fraction of EU tonnage used	in ro	gion:	0,1
			630
Regional use tonnage (tonne	S/yea	غا). طام ماليو	
Fraction of Regional tonnage			0,16
Annual site tonnage (tonnes/year)			100
Maximum daily site tonnage (kg/d		ay):	5,0E+03
Frequency and Duration of Use			
Continuous release.			
Emission Days (days/year):			20
Environmental factors not i		enced by risk management	T. 10
Local freshwater dilution factor:			10
Local marine water dilution fa			100
		ffecting Environmental Exposure	T-05-00
		ss (initial release prior to RMM):	5,0E-03
RMM):			3,0E-05
Release fraction to soil from process (initial release prior to RMM): 1,0E-03			
Technical conditions and measures at process level (source) to prevent release			
Common practices vary across sites thus conservative process re-			
lease estimates used.			
	s and	d measures to reduce or limit disch	arges, air emis-
sions and releases to soil			
Risk from environmental exposure is driven by freshwater sediment.			
Prevent discharge of undissolved substance to or recover from onsite wastewater.			
No wastewater treatment req	uirec	J.	
Treat air emission to provide			70
		, , ,	

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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	94,6	
treatment (%)		
Total efficiency of removal from wastewater after onsite and offsite	94,6	
(domestic treatment plant) RMMs (%)		
Maximum allowable site tonnage (MSafe) based on release following	8,9E+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	

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	
Managera of Congressian al Conglisiana acestina de la Constiana O ara implantamenta d	

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.

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Exposure Scenario - Worker

30000000766	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Oil and Gas field drilling and production operations- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b Environmental Release Categories: ERC4, ESVOC SpERC 4.5a.v1
Scope of process	Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance.

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 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		
Covers daily exposures up to	8 hours (unless stated differently).	
Other Operational Conditio		
	in 20°C above ambient temperature (unless stated differently). ard of occupational hygiene is implemented.	
Contributing Scenarios	Risk Management Measures	
Bulk transfersDedicated facilityPROC8b	No other specific measures identified.	
Filling/ preparation of equipment from drums or containers.Dedicated facilityPROC8b	No other specific measures identified.	
Drilling mud (re-)formulationPROC3	No other specific measures identified.	
Drill floor operationsPROC4	No other specific measures identified.	
Operation of solids filtering equipment - vapour exposuresPROC4	No other specific measures identified.	
Cleaning of solids filtering equipmentPROC8a	No other specific measures identified.	
Treatment and disposal of filtered solidsPROC3	No other specific measures identified.	

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Process samplingPROC3	No other specific measures identified.	
General exposures (closed systems)PROC1	No other specific measures identified.	
Pouring from small containersPROC8a	No other specific measures identified.	
General exposures (open systems)PROC4	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	
No exposure assessment presented for the environment.		

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

No exposure assessment presented for the environment.

Quantitative exposure and risk assessment not possible due to lack of emissions to aquatic environment.

Qualitative approach used to conclude safe use.

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

No exposure assessment presented for the environment.

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Exposure Scenario - Worker

Exposure Scenario - Worker	
30000000765	
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 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	
Filling/ preparation of equipme from drums or containers.Dedicated facilityPROC8b	· ·	
Filling/ preparation of equipme from drums or containers.Non dedicated facilityPROC8a	ent No other specific measures identified.	
Automated process with (sem closed systems.Use in contair systemsPROC2	,	
Automated process with (sem closed systems.Drum/batch tr fersUse in contained systemsPROC3		
Semi Automated process. (e.g Semi automatic application of care and maintenance prod- ucts)PROC4	·	

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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	Limit the substance content in the product to 5 %. , or: Wear a respirator conforming to EN140 with Type A filter or better.
Cleaning with high pressure washersSprayingOutdoorPROC11	Limit the substance content in the product to 5 %. , or: Wear a respirator conforming to EN140 with Type A filter or better.
ManualSurfacesCleaningPROC10	No other specific measures identified.
Ad hoc manual application via trigger sprays, dipping, etc.Rolling, BrushingPROC10	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.	Predominantly hydrophobic.		
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonnes	s/year):	14	
Fraction of Regional tonnage	used locally:	5,0E-04	
Annual site tonnage (tonnes/y	rear):	7,1E-03	
Maximum daily site tonnage (kg/day):	1,9E-02	
Frequency and Duration of	Use		
Continuous release.			
Emission Days (days/year):		365	
Environmental factors not i	nfluenced by risk management		
Local freshwater dilution factor	r:	10	
Local marine water dilution factor:		100	
Other Operational Condition	ns affecting Environmental Exposure)	
Release fraction to air from pr	ocess (initial release prior to RMM):	2,0E-02	
Release fraction to wastewate	er from process (initial release prior to	1,0E-06	
RMM):			
Release fraction to soil from p	rocess (initial release prior to RMM):	0	
Technical conditions and m	easures at process level (source) to	prevent release	
Common practices vary acros	s 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 expo	sure is driven by freshwater.		
No wastewater treatment requ	uired.		

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	T -	
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	94,6	
treatment (%)		
Total efficiency of removal from wastewater after onsite and offsite	94,6	
(domestic treatment plant) RMMs (%)		
Maximum allowable site tonnage (MSafe) based on release following	5,4	
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.	Ŭ	
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

3000000764	
000000000104	
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 MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration o	Use	
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Condition	ons affecting Exposure	
	an 20°C above ambient temperature (unless stated differently).	

Assumes a good basic standard of occupational hygiene is implemented.

Contributing Scenarios F	Risk Management Measures
Bulk transfersPROC8a	No other specific measures identified.
Automated process with (semi) closed systems. Use in containe systems PROC2	No other specific measures identified.
Automated process with (semi) closed systems.Drum/batch trar fersUse in contained batch processesPROC3	
Application of cleaning products closed systemsPROC2	s in No other specific measures identified.
Filling/ preparation of equipmen from drums or containers.PROC8b	No other specific measures identified.
Use in contained batch process esPROC4	- No other specific measures identified.

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Degreasing small objects in cleaning stationPROC13	No other specific measures identifi	ed.		
Cleaning with low-pressure was ersPROC10	h- No other specific measures identifi	No other specific measures identified.		
Cleaning with high pressure washersPROC7	Limit the substance content in the , or: Avoid carrying out operation for mo , alternatively: Wear a respirator conforming to El better.	ore than 1 hour.		
ManualSurfacesCleaningPROC	10 No other specific measures identifi	ed.		
Storage.PROC1	Store substance within a closed sy	rstem.		
Section 2.2	Control of Environmental Exposure			
Substance is complex UVCB.	The state of the s			
Predominantly hydrophobic.				
Amounts Used				
	ragion	0.1		
Fraction of EU tonnage used in		0,1		
Regional use tonnage (tonnes/y		240		
Fraction of Regional tonnage us		0,41		
Annual site tonnage (tonnes/yea		100		
Maximum daily site tonnage (kg		5,0E+03		
Frequency and Duration of Us	Se			
Continuous release.				
Emission Days (days/year):		20		
Environmental factors not inf	luenced by risk management			
Local freshwater dilution factor:		10		
Local marine water dilution factor		100		
	affecting Environmental Exposure			
	cess (initial release prior to RMM):	1,0		
RMM):	from process (initial release prior to	3,0E-06		
Release fraction to soil from pro	cess (initial release prior to RMM):	0		
Technical conditions and mea	asures at process level (source) to pr	event release		
Common practices vary across lease estimates used.	sites thus conservative process re-			
	nd measures to reduce or limit disch	arges, air emis-		
sions and releases to soil				
Risk from environmental exposu	ure is driven by freshwater.			
Prevent discharge of undissolved substance to or recover from onsite				
wastewater.				
No wastewater treatment required.				
Treat air emission to provide a typical removal efficiency of (%)		70		
Treat onsite wastewater (prior to receiving water discharge) to provide		0		
the required removal efficiency of >= (%)				
If discharging to domestic sewa wastewater treatment required.	ge treatment plant, no secondary	0		
Organisational measures to prevent/limit release from site				
Do not apply industrial sludge to natural soils.				
Do not apply industrial sludge to	riatural solls.			

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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	94,6	
	0 1,0	
treatment (%)		
Total efficiency of removal from wastewater after onsite and offsite	94,6	
(domestic treatment plant) RMMs (%)		
Maximum allowable site tonnage (MSafe) based on release following	1,2E+06	
	1,22,00	
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	

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.

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

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

30000000763	
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 RIS MEASURES	K MANAGEMENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STF	
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 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)PROC1	S-	No other specific measures identified.	
Filling/ preparation of equipme from drums or containers. Use contained systems PROC2		No other specific measures identified.	
General exposures (closed sy tems)Use in contained systemsPROC2	S-	No other specific measures identified.	
Preparation of material for app cationUse in contained batch processesPROC3	oli-	No other specific measures identified.	
Film formation - air dryingPRC	C4	No other specific measures identified.	
Preparation of material for app cationPROC5	oli-	No other specific measures identified.	

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Material transfersDrum/batch transfersNon-dedicated facilityPROC8aPROC8b	No other specific measures identified.
Roller, spreader, flow applicationPROC10	No other specific measures identified.
ManualSprayingIndoorPROC11	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Limit the substance content in the mixture to 50 %. , or: Wear a respirator conforming to EN140 with Type A filter or better.
ManualSprayingOutdoorPROC11	Ensure operation is undertaken outdoors. Limit the substance content in the mixture to 50 %. Avoid carrying out activities involving exposure for more than 4 hours , or: Wear a respirator conforming to EN140 with Type A filter or better.
Dipping, immersion and pouringPROC13	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Hand application - fingerpaints, pastels, adhesivesIn-doorPROC19	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Hand application - fingerpaints, pastels, adhesivesOut-doorPROC19	Ensure operation is undertaken outdoors.
Storage.PROC1	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.	Predominantly hydrophobic.	
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonnes	s/year):	110
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/y	/ear):	5,4E-02
Maximum daily site tonnage (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	or:	10
Local marine water dilution fa		100
Other Operational Conditions affecting Environmental Exposure		
Release fraction to air from pr	ocess (initial release prior to RMM):	0,98
Release fraction to wastewate RMM):	er from process (initial release prior to	1,0E-02

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Release fraction to soil from process (initial release prior to RMM):	1,0E-02
Technical conditions and measures at process level (source) to pr	
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 Massures related to municipal sowage treatment r	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage	94,6
Estimated substance removal from wastewater via domestic sewage treatment (%)	
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite	
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following	94,6
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	94,6 94,6 4,0E+01
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d)	94,6 94,6 4,0E+01 2,0E+03
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for	94,6 94,6 4,0E+01 2,0E+03 r disposal
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for External treatment and disposal of waste should comply with applicables	94,6 94,6 4,0E+01 2,0E+03 r disposal
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for	94,6 94,6 4,0E+01 2,0E+03 r disposal
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for External treatment and disposal of waste should comply with applicable regulations.	94,6 94,6 4,0E+01 2,0E+03 r disposal
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for External treatment and disposal of waste should comply with applicable regulations. Conditions and measures related to external recovery of waste	94,6 94,6 4,0E+01 2,0E+03 r disposal e local and/or regiona
Estimated substance removal from wastewater via domestic sewage treatment (%) Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for External treatment and disposal of waste should comply with applicable regulations.	94,6 94,6 4,0E+01 2,0E+03 r disposal e local and/or regiona

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		

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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.

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

30000000762		
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 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 Conditio	ns 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.
Mixing operations (closed systems)Use in contained	No other specific measures identified.

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hotel process DDOC2	I	
batch processesPROC3	No officers of the control of the co	
Film formation - air dry- ingPROC4	No other specific measures identified.	
Preparation of material for	No other specific measures identified.	
applicationMixing opera-		
tions (open sys-		
tems)PROC5		
Spraying (automat- ic/robotic)PROC7	Carry out in a vented booth provided with	h laminar airflow.
ManualSprayingPROC7	Carry out in a vented booth provided with	h laminar airflow.
gg.	, or: Wear a respirator conforming to EN140 better.	
Material transfersNon- dedicated facilityPROC8a	No other specific measures identified.	
Material transfersDedicated facilityPROC8b	No other specific measures identified.	
Roller, spreader, flow applicationPROC10	No other specific measures identified.	
Dipping, immersion and pouringPROC13	No other specific measures identified.	
Laboratory activi- tiesPROC15	No other specific measures identified.	
Material trans-	No other specific measures identified.	
fersDrum/batch transfer-		
sTransfer from/pouring from		
containersPROC9		
Production or preparation	Store substance within a closed system.	
or articles by tabletting,		
compression, extrusion or pelletisationPROC14		
Equipment cleaning and maintenancePROC8a	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.		
Amounts Used		
Fraction of EU tonnage used	<u>~</u>	0,1
Regional use tonnage (tonne	• /	370
Fraction of Regional tonnage	used locally:	1
Annual site tonnage (tonnes/		370
Maximum daily site tonnage		1,9E+04
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		20
Environmental factors not	nfluenced by risk management	
Local freshwater dilution factor: 10		10
Local marine water dilution factor: 100		100

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Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	9,8E-01
Release fraction to wastewater from process (initial release prior to	7,0E-04
RMM): Release fraction to soil from process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to process	U
Common practices vary across sites thus conservative process re-	- CVCIII TOTOGOC
lease estimates used.	
Technical onsite conditions and measures to reduce or limit disch	arges, air emis-
sions and releases to soil	J ,
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	89,1
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 treatment (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following	3,8E+04
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 regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regiona

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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Exposure Scenario - Worker

Exposure Scenario - Work	er
30000000761	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Formulation & (re)packing of substances and mixtures- Industrial
Use Descriptor	Sector of Use: SU3 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 RIS	K MANAGEMENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STF	
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 Condition	ns affecting Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently).		
Assumes a good basis standard of assumptional business is implemented		

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 temperature (> 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.
Mixing operations (open sys-	No other specific measures identified.

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tems)PROC5		
ManualTransfer from/pouring	No other specific measures identified	1
from containersNon-dedicated		4.
facilityPROC8a		
Drum/batch transfersDedicate facilityPROC8b	d No other specific measures identified	d.
Production or preparation or	No other specific measures identified	<u>. </u>
articles by tabletting, compres		. .
sion, extrusion or pelletisa-		
tionPROC14		
Drum and small package fill-	No other specific measures identified	d.
ingPROC9		
Equipment cleaning and	No other specific measures identified	d.
maintenancePROC8a		
Storage.PROC1PROC2	Store substance within a closed syst	em.
Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used in	n region:	0,1
Regional use tonnage (tonnes		70
Fraction of Regional tonnage		1
Annual site tonnage (tonnes/y		70
Maximum daily site tonnage (k		7,0E+03
Frequency and Duration of U		1 1,0=100
Continuous release.		
Emission Days (days/year):		10
Environmental factors not in	nfluenced by risk management	
		10
Local marine water dilution fac	ctor:	100
Other Operational Condition	s affecting Environmental Exposure	
	ocess (initial release prior to RMM):	1,0E-02
Release fraction to wastewate	r from process (initial release prior to	2,0E-04
RMM):		
	rocess (initial release prior to RMM):	1,0E-04
	easures at process level (source) to pr	event release
	s sites thus conservative process re-	
lease estimates used.		
Technical onsite conditions sions and releases to soil	and measures to reduce or limit disch	arges, air emis-
	sure is driven by freshwater sediment.	
	ved substance to or recover from onsite	
wastewater.	ved substance to or recover from orisite	
No wastewater treatment requ	ired	
	typical removal efficiency of (%)	0
	to receiving water discharge) to provide	0
the required removal efficiency		
	rage treatment plant, no secondary	0
wastewater treatment required.		
	prevent/limit release from site	•

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Do not apply industrial sludge to natural soils.

Sludge should be incinerated, contained or reclaimed.

Conditions and Measures related to municipal sewage treatment plant		
Estimated substance removal from wastewater via domestic sewage	94,6	
treatment (%)		
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6	
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1,3E+05	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+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 3.1 - 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 occitatio - Worke	·
30000000759	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Manufacture of substance- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 Environmental Release Categories: ERC1, ERC4, ESVOC SpERC 1.1.v1
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure < 0.5 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 Condition	ns affecting Exposure
	an 20°C above ambient temperature (unless stated differently). and of occupational hygiene is implemented.

Assumes a good basic standard of occupational hygiene is implemented.

Contributing Scenarios	Risk Management Measures
General exposures (closed systems)PROC1PROC2PRO	No other specific measures identified.
General exposures (open sys tems)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.
Section 2.2	Control of Environmental Exposure

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Outstance in complex LIV/OD	T
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	1
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	9,5E+03
Fraction of Regional tonnage used locally:	1
Annual site tonnage (tonnes/year):	9,5E+03
Maximum daily site tonnage (kg/day):	9,5E+04
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	100
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	•
Release fraction to air from process (initial release prior to RMM):	1,0E-02
Release fraction to wastewater from process (initial release prior to	3,0E-04
RMM):	
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 re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit discharge	arges, air emis-
sions and releases to soil	
Risk from environmental exposure is driven by freshwater sediment.	
Prevent discharge of undissolved substance to or recover from onsite	
wastewater.	
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	74,9
the required removal efficiency of >= (%)	74,5
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.	
Prevent discharge of undissolved substance to or recover from onsite w	astewater.
· ·	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage	94,6
treatment (%)	
Total efficiency of removal from wastewater after onsite and offsite	94,6
(domestic treatment plant) RMMs (%)	
Maximum allowable site tonnage (MSafe) based on release following	4,4E+05
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	1,0E+04
Conditions and Measures related to external treatment of waste for	
During manufacturing no waste of the substance is generated.	
Conditions and measures related to external recovery of waste	
Conditions and measures related to external recovery of waste	

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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.

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Exposure Scenario - Worker

Storage.PROC1PROC2

30000000760	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Distribution of substance- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15 Environmental Release Categories: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC 6C,, ERC7, ESVOC SpERC 1.1b.v1
Scope of process	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

SECTION 2	OPERATIONAL CONDITIONS AND RIS MEASURES	K MANAGEMENT
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STF	
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 No other specific measures identified. systems)PROC1PROC2PROC3 General exposures (open sys-No other specific measures identified. tems)PROC4 Process samplingPROC3 No other specific measures identified. Laboratory activitiesPROC15 No other specific measures identified. Bulk transfers(closed sys-No other specific measures identified. tems)PROC8b Bulk transfers(open sys-No other specific measures identified. tems)PROC8b Drum and small package fill-No other specific measures identified. ingPROC9 Equipment cleaning and No other specific measures identified. maintenancePROC8a

Store substance within a closed system.

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Substance is complex UVCB. Predominantly hydrophobic. Amounts Used Fraction of EU tonnage used in region: Regional use tonnage (tonnes/year): Fraction of Regional tonnage used locally: Annual site tonnage (tonnes/year): Maximum daily site tonnage (kg/day): Frequency and Duration of Use Continuous release. Emission Days (days/year): Emission Days (days/year): Environmental factors not influenced by risk management Local freshwater dilution factor: Local marine water dilution factor: 100 Other Operational Conditions affecting Environmental Exposure Release fraction to air from process (initial release prior to RMM): Release fraction to wastewater from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from wastewater via domestic sewage treatment plant Predational releases to soil Risk from environmental exposure is driven by freshwater. No wastewater treatment required. Treat air emission to provide a typical removal efficiency of (%) 90 Treat air emission to provide a typical removal efficiency of (%) Total efficiency of removal from wastewater afte		Control of Environmental Exposure	
Predominantly hydrophobic. Amounts Used Fraction of EU tonnage used in region: Regional use tonnage (tonnes/year): Fraction of Regional tonnage used locally: Annual site tonnage (tonnes/year): Annual site tonnage (tonnes/year): Maximum daily site tonnage (kg/day): Frequency and Duration of Use Continuous release. Emission Days (days/year): Emission Days (days/year): Environmental factors not influenced by risk management Local marine water dilution factor: 10 Other Operational Conditions affecting Environmental Exposure Release fraction to air from process (initial release prior to RMM): Release fraction to wastewater from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 Rehancial conditions and measures at process level (source) to prevent release Common practices vary across sites thus conservative process release estimates used. Technical conditions and measures to reduce or limit discharges, air emissions and releases to soil Risk from environmental exposure is driven by freshwater. No wastewater treatment required. Treat air emission to provide a typical removal efficiency of (%) Treat air emission to provide a typical removal efficiency of (%) Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of = (%) To a apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Conditions and Measures related to municipal sewage treatment plant exament (%) Total efficiency of removal	Substance is complex LIVCB		
Fraction of EU tonnage used in region: Regional use tonnage (tonnes/year): Fraction of Regional tonnage used locally: Annual site tonnage (tonnes/year): Fraction of Regional tonnage used locally: Annual site tonnage (tonnes/year): Frequency and Duration of Use Continuous release. Emission Days (days/year): Environmental factors not influenced by risk management Local freshwater dilution factor: Local marine water dilution factor: Conditions affecting Environmental Exposure Release fraction to air from process (initial release prior to RMM): Release fraction to wastewater from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soi	•		
Fraction of EU tonnage used in region: Regional use tonnage (tonnes/year): Fraction of Regional tonnage used locally: Annual site tonnage (tonnes/year): Maximum daily site tonnage (kg/day): Frequency and Duration of Use Continuous release. Emission Days (days/year): Environmental factors not influenced by risk management Local freshwater dilution factor: Local marine water dilution factor: Local marine water dilution factor: Release fraction to air from process (initial release prior to RMM): Release fraction to wastewater from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 Technical conditions and measures at process level (source) to prevent release Common practices vary across sites thus conservative process release estimates used. Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Risk from environmental exposure is driven by freshwater. No wastewater treatment required. Treat air emission to provide a typical removal efficiency of (%) Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%) If discharging to domestic sewage treatment plant, no secondary wastewater treatment required. Organisational measures to prevent/limit release from site Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed. Conditions and Measures related to municipal sewage treatment plant estimated substance removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%) Total efficiency of removal from waste			
Regional use tonnage (tonnes/year): Fraction of Regional tonnage used locally: Annual site tonnage (konnes/year): Maximum daily site tonnage (kg/day): Frequency and Duration of Use Continuous release. Emission Days (days/year): Emission Days (days/year): Docal marine water dilution factor: Local freshwater dilution factor: Local marine water dilution factor: Other Operational Conditions affecting Environmental Exposure Release fraction to air from process (initial release prior to RMM): Release fraction to wastewater from process (initial release prior to RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from environmental process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from process (initial release prior to RMM): 1,0E-05 RMM): Release fraction to soil from proce		in region:	0.1
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Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for disposal External treatment and disposal of waste should comply with applicable local and/or region	,		94,6
total wastewater treatment removal (kg/d) Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for disposal External treatment and disposal of waste should comply with applicable local and/or region			
Assumed domestic sewage treatment plant flow (m3/d) Conditions and Measures related to external treatment of waste for disposal External treatment and disposal of waste should comply with applicable local and/or region			1,4E+04
Conditions and Measures related to external treatment of waste for disposal External treatment and disposal of waste should comply with applicable local and/or region			
External treatment and disposal of waste should comply with applicable local and/or region			
	Conditions and Measures r	elated to external treatment of waste fo	r disposal
regulations.	External treatment and dispo	sal of waste should comply with applicable	e local and/or regiona
	regulations.		-

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regulations.

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 Sociality 11	O. K.O.
30000000781	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Water treatment chemicals- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 13 Environmental Release Categories: ERC3, ERC4, ESVOC SpERC 3.22a.v1
Scope of process	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES Control of Worker Exposure	
Section 2.1		
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STF)
Triysical form of product	Elquid, vapour pressure < 0.5 Kr a at 011	
Concentration of the Sub-	Covers use of substance/product up to 1	00% (unless stated
stance in Mixture/Article	differently).,	,
Frequency and Duration of	Use	
	8 hours (unless stated differently).	
Other Operational Condition		
	an 20°C above ambient temperature (unles	
Assumes a good basic stand	ard of occupational hygiene is implemented	d.
Contributing Scenarios	Dick Management Measures	
Bulk transfersUse in con-	Risk Management Measures No other specific measures identified.	
tained systemsPROC2	No other specific measures identified.	
Drum/batch transfersDedi-	No other specific measures identified.	
cated facilityPROC8b	·	
General exposures (closed	No other specific measures identified.	
systems)PROC3		
General exposures (open	No other specific measures identified.	
systems)PROC4		
Pouring from small containersPROC13	No other specific measures identified.	
Equipment maintenance-	No other specific measures identified.	
PROC8a	Two 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.		
Amounts Used		
Fraction of EU tonnage used in region:		0,1
Regional use tonnage (tonnes/year):		340

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Fraction of Regional tonnage used locally:	8,8E-02
Annual site tonnage (tonnes/year):	3,0E-01
Maximum daily site tonnage (kg/day):	1,0E+02
Frequency and Duration of Use	1,02.02
Continuous release.	
Emission Days (days/year):	300
Environmental factors not influenced by risk management	1
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	•
Release fraction to air from process (initial release prior to RMM):	5,0E-02
Release fraction to wastewater from process (initial release prior to RMM):	0,95
Release fraction to soil from process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to pr	event release
Common practices vary across sites thus conservative process release estimates used.	
Technical onsite conditions and measures to reduce or limit disch	arges, air emis-
sions and releases to soil	J. J
Risk from environmental exposure is driven by freshwater sediment.	
If discharging to domestic sewage treatment plant, additional onsite	
wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	98,5
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	71,9
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	98,5
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1,0E+02
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste fo	
External treatment and disposal of waste should comply with applicable regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	local and/or regional

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

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Exposure Scenario - Worker

Expectate decitation 11		
30000000782	2	
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Water treatment chemicals- Professional	
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 13 Environmental Release Categories: ERC8f, ESVOC SpERC 8.22b.v1	
Scope of process	Covers the use of the substance for the treatment of water in open and closed systems.	

SECTION 2	OPERATIONAL CONDITIONS AND RIS	K MANAGEMENT		
Section 2.1	Control of Worker Exposure			
Product Characteristics	•			
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STF			
Concentration of the Sub-	Covers use of substance/product up to 10	00% (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			
Drum/batch transfersDedicated facilityPROC8b	No other specific measures identified.			
General exposures (closed systems)PROC3	No other specific measures identified.			
General exposures (open systems)PROC4	No other specific measures identified.			
Pouring from small containersPROC13	No other specific measures identified.			
Equipment maintenance- PROC8a	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.				
Amounts Used				
Fraction of EU tonnage used	in region:	0,1		
Regional use tonnage (tonne		130		
Fraction of Regional tonnage	used locally:	1,1E-02		
Annual site tonnage (tonnes/	year):	1,5		

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Maximum daily site tonnage (kg/day):	4,0
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 process (initial release prior to RMM):	1,0E-02
Release fraction to wastewater from process (initial release prior to RMM):	0,99
Release fraction to soil from process (initial release prior to RMM):	0
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 soil.	
If discharging to domestic sewage treatment plant, no secondary	
wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide	64,3
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 treatment (%)	94,6
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	26
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste fo	
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 indicated.		een used to estimate workplace exposures unless otherwise	

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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

30000001116	
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 Pa	
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):		2.200
covers skin contact area (cm2):		468
Frequency and Duration o	f Use	
Unless stated otherwise.		
Covers use up to (days/year):		4
covers use up to (times/day of use):		1
Exposure (hours/event): 0,17		0,17
Other Operational Conditi	ons affecting Exposure	

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

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	
	Covers exposure up to 0,17 hours/event	
Hydraulic fluids Liquids.	Covers concentrations up to 100 %	

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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 Control of Environmental Exposure			
Substance is complex UVCB.			
Predominantly hydrophobic.			
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonne	s/year):	3,0	
Fraction of Regional tonnage	used locally:	5,0E-04	
Annual site tonnage (tonnes/	year):	1,5E-03	
Maximum daily site tonnage (kg/day):	4,1E-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 p	5,0E-02		
Release fraction to wastewater from process (initial release prior to		2,5E-02	
RMM):			
Release fraction to soil from process (initial release prior to RMM):		2,5E-02	
	elated to municipal sewage treatment p	lant	
Risk from environmental exposure is driven by freshwater.			
Estimated substance removal from wastewater via domestic sewage		94,6	
treatment (%)			
Maximum allowable site tonnage (MSafe) based on release following		1,1	
total wastewater treatment removal (kg/d)			
Assumed domestic sewage treatment plant flow (m3/d)		2,0E+03	
Conditions and Measures re	elated 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 consumer exposures unless otherwise		
indicated		

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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

300000001115	
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 Pa		
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):		37.500	
covers skin contact area (cm2):		420	
Frequency and Duration of Use			
Unless stated otherwise.Covers use up to (days/year):			
Covers use up to (days/year):		365	
covers use up to (times/day of use):		1	
Exposure (hours/event): 2		2	
Other Operational Conditions offseting Expenses			

Other Operational Conditions affecting Exposure

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

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	
Fuels Liquid Scooter Refuelling.	Covers concentrations up to 100 %	

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	covers use up to F2 day/year
	covers use up to 52 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210 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 %
- 1 dele Liquidi Lamp em	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.		
Amounts Used		
Fraction of EU tonnage used	n region:	0,1
Regional use tonnage (tonnes/year): 2,4E+03		2,4E+03
Fraction of Regional tonnage	used locally:	5,0E-04

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Annual site tonnage (tonnes/year):	1,2 3,2	
Maximum daily site tonnage (kg/day):	3,2	
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 process (initial release prior to RMM):	1,0E-04	
Release fraction to wastewater from process (initial release prior to	1,0E-05	
RMM):		
Release fraction to soil from process (initial release prior to RMM):	1,0E-05	
Conditions and Measures related to municipal sewage treatment p	lant	
Risk from environmental exposure is driven by freshwater.		
Estimated substance removal from wastewater via domestic sewage	94,6	
treatment (%)		
Maximum allowable site tonnage (MSafe) based on release following	8,4E+02	
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		
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
A 41 A 4 11 141	

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	

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 - Consumer

30000001114	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Agrochemicals uses - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: , PC27 Environmental Release Categories: ERC8a, ERC8d, ESVOC SpERC 8.11b.v1
Scope of process	Covers the consumer use in agrochemicals in liquid and solid forms.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 Pa	
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 50 °	%
Amounts Used		
Unless stated otherwise.		
covers skin contact area (cm2):		857,5
Frequency and Duration of	of Use	
Unless stated otherwise.		
Covers use up to (days/year):		365
covers use up to (times/day	of use):	1
Exposure (hours/event):		4
Other Operational Conditi	one offocting Exposure	

Other Operational Conditions affecting Exposure

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Fertilizers Lawn and garden preparations.	Covers concentrations up to 15 %
	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
	Covers exposure up to 4 hours/event
	For each use event, assumes swallowed amount of 0,3 g
	Covers exposure up to 4 hours/event
Plant protection products	Covers concentrations up to 15 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use

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covers skin contact area up to (cm2): 857,50 cm2
For each use event, assumes swallowed amount of 0,3 g
Covers exposure up to 4 hours/event

Section 2.2 Control of Environmental Exposure		
Substance is complex UVCB		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonne	s/year):	10
Fraction of Regional tonnage		2,0E-03
Annual site tonnage (tonnes/	year):	2,0E-02
Maximum daily site tonnage (kg/day):	5,5E-02
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not i	nfluenced by risk management	
Local freshwater dilution factor	or:	10
Local marine water dilution factor:		100
Other Operational Conditio	ns affecting Environmental Exposure	
Release fraction to air from p	rocess (initial release prior to RMM):	0,9
Release fraction to wastewate RMM):	er from process (initial release prior to	1,0E-02
,	process (initial release prior to RMM):	9,0E-02
	elated to municipal sewage treatment	
Risk from environmental expo		
Estimated substance removal from wastewater via domestic sewage		94,6
treatment (%)		
Maximum allowable site tonnage (MSafe) based on release following		1,4E+01
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		

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 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.

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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

Exposure Sociality Contra	
30000001113	
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 Pa	
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): 6.390		6.390
1 (6)		468
Frequency and Duration of Use		
Unless stated otherwise.		
Covers use up to (days/year):		365
covers use up to (times/day of use):		1
Exposure (hours/event): 8		8
Other Operational Conditions affecting Exposure		
I I a I a conservation I and I and I a conservation		

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

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
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3

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	Covers exposure up to 4,00 hours/event	
Adhesives, sealants Glues	Covers concentrations up to 30 %	
DIY-use (carpet glue, tile	Covere concentrations up to 30 70	
glue, wood parquet glue).		
gido, wood parquot gido).	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	Covers concentrations up to 30 %	
from spray.	Covers concerniations up to 50 %	
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 Seal-	Covers concentrations up to 30 %	
ants.		
	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	
	Avoid using when windows closed.	
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	
	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, re-	Covers concentrations up to 20 %	
lease products Pastes.	, i	
	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	

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	2000 25 and 25 a
	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

Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	in region:	0,1
Regional use tonnage (tonnes	s/year):	50
Fraction of Regional tonnage	used locally:	5,0E-04
Annual site tonnage (tonnes/y	/ear):	2,5E-02
Maximum daily site tonnage (kg/day):	6,8E-02
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not i		
Local freshwater dilution factor:		10
Local marine water dilution factor:		100
Other Operational Conditions affecting Environmental Exposure		
Release fraction to air from process (initial release prior to RMM):		0,15
Release fraction to wastewater from process (initial release prior to RMM):		5,0E-02
Release fraction to soil from process (initial release prior to RMM):		5,0E-02
Conditions and Measures related to municipal sewage treatment plant		plant
Risk from environmental exposure is driven by freshwater.		
Estimated substance removal from wastewater via domestic sewage treatment (%)		94,6

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Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	17
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.	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

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30000001112	
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 AN MEASURES	ND RISK MANAGEMENT
Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 Pa	
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 10	00 %
Amounts Used		
Unless stated otherwise.		
for each use event, covers amount up to (g):		6.390
covers skin contact area (cm2):		468
Frequency and Duration of Úse		
Unless stated otherwise.		
Covers use up to (days/year):		365
covers use up to (times/day of use):		1
Exposure (hours/event): 8		8
Other Operational Conditions affecting Exposure		

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

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
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3

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	Covers exposure up to 4,00 hours/event	
Adhesives, sealants Glues	Covers exposure up to 4,00 nours/event Covers concentrations up to 30 %	
DIY-use (carpet glue, tile glue, wood parquet glue).	Govers concentrations up to 30 70	
grace, me car pen que e grace,	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 %	
-1 -2	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 Seal-	Covers concentrations up to 30 %	
ants.	·	
	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	
	Avoid using when windows closed.	
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	
	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, release products Sprays.	Covers concentrations up to 50 %	
	covers use up to 6 day/year	
	Covers use up to 1 times/day of use	

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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
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
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.			
Amounts Used			
Fraction of EU tonnage used	in region:	0,1	
Regional use tonnage (tonne	s/year):	50	
Fraction of Regional tonnage	used locally:	5,0E-04	
Annual site tonnage (tonnes/	year):	2,5E-02	
Maximum daily site tonnage (kg/day):	6,8E-02	
Frequency and Duration of	Use		
Continuous release.			
Emission Days (days/year):		365	
Environmental factors not i	Environmental factors not influenced by risk management		
Local freshwater dilution factor: 10		10	
Local marine water dilution factor:		100	
Other Operational Conditions affecting Environmental Exposure			
Release fraction to air from process (initial release prior to RMM):		1,0E-02	
Release fraction to wastewater from process (initial release prior to RMM):		1,0E-02	
Release fraction to soil from process (initial release prior to RMM): 1,0E-02		1,0E-02	
Conditions and Measures related to municipal sewage treatment plant			
Risk from environmental exposure is driven by freshwater.			
Estimated substance removal from wastewater via domestic sewage treatment (%)		94,6	

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Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	18
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+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

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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 MEASURES	AND RISK MANAGEMENT
Section 2.1	Control of Consumer Exposur	e
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kP	a 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	mount 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):		4
Exposure (hours/event):		8
Other Operational Condition	ons affecting Exposure	
Unless stated otherwise.		_
Covers use at ambient temp	eratures.	
Covers used in room size of S	0m2	

Covers use in room size of 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
	For each use event, covers amount up to 0,1 g
	Covers use under typical household ventilation.

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	Covers use in room size of 20 m3
	Covers exposure up to 0,25 hours/event
Air care products Air care,	Covers concentrations up to 50 %
stant action (aerosol	
sprays). pesticides (excipi-	
ent only).	
one 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 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,	Covers concentrations up to 10 %
continuous action (solid and liquid).	Covers concentrations up to 10 70
	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).	·
Offiy).	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 window.	Covers concentrations up to 1 70
	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.
	Covers use in room size of 34 m3
	Covers exposure up to 0,02 hours/event
Anti-Freeze and de-icing products Pouring into radia-	Covers concentrations up to 10 %
tor.	covers use up to 265 day/year
	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
	For each use event, covers amount up to 2.000 g
	Covers use in a one car garage (34 m3) under typical ventila-

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	tion.
	Covers use in room size of 34 m3
Anti-Freeze and de-icing	Covers exposure up to 0,17 hours/event 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 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	Covers concentrations up to 5 %
and dish washing products.	
~ .	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
infectants, pest control) (excipient only). Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	
	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,	Covers concentrations up to 15 %
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
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3

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	Covers exposure up to 0,17 hours/event
Coatings and paints, thin-	Covers concentrations up to 1,5 %
ners, paint removers Wa-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
terborne latex wall paint.	
•	Covers use under typical household ventilation.
	For each use event, covers amount up to 2.760 g
	covers skin contact area up to (cm2): 428,75 cm2
	Covers use up to 1 times/day of use
	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 Sol-	The state of the s
vent 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-	Covers concentrations up to 50 %
ners, paint removers Aerosol spray can.	
. ,	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
Coatings and paints, thin-	Covers concentrations up to 50 %
ners, paint removers Re-	
movers (paint-, glue-, wall	
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
	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 eveneurs up to 0.17 hours/event
Lubricanta arcasas ra	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 4,00 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	Covers concentrations up to 5 %
products (including solvent based products) Laundry and dish washing products.	Covers concentrations up to 6 %
	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, glass cleaners).	Covers concentrations up to 15 %
	covers use up to 120 day/yeer
	covers use up to 128 day/year

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	covers skin contact area up to (cm2): 428,00 cm2
	For each use event, assumes swallowed amount of 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	Covers concentrations up to 20 %
or flux cores.), flux products	
	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.		
Amounts Used		
Fraction of EU tonnage used in	region:	0,1
Regional use tonnage (tonnes/	year):	1,2E-02
Fraction of Regional tonnage u		5,0E-04
Annual site tonnage (tonnes/ye	ear):	6,2E-06
Maximum daily site tonnage (k		1,7E-05
Frequency and Duration of U	lse	
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		
	ocess (initial release prior to RMM):	0,95
Release fraction to wastewater RMM):	from process (initial release prior to	2,5E-02
Release fraction to soil from process (initial release prior to RMM):		2,5E-02
Conditions and Measures rel	lated to municipal sewage treatment	olant
Risk from environmental expos	sure is driven by freshwater.	
Estimated substance removal t treatment (%)	from wastewater via domestic sewage	94,6
Maximum allowable site tonnagtotal wastewater treatment rem	ge (MSafe) based on release following noval (kg/d)	4,0E-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 disposa al regulations.	al of waste should comply with applicabl	e local and/or region-
Conditions and measures re	lated to external recovery of waste	
External recovery and recycling of waste should comply with applicable local and/or regional regulations.		

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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.

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Exposure Scenario - Consumer

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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 kP	a 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
Exposure (hours/event):		6
Other Operational Condition	ons affecting Exposure	·
Unless stated otherwise.	<u> </u>	

Covers use at ambient temperatures.

Covers use in room size of 20m3

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
	Covers use in room size of 20 m3

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	Covers exposure up to 4 hours/event	
	Covers use under typical household ventilation.	
Adhesives, sealants Glues	Covers concentrations up to 30 %	
DIY-use (carpet glue, tile	Covers concentrations up to 30 %	
glue, wood parquet glue).		
giae, weed parquet giae).	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	
Adhaniyas applanta Club	Covers exposure up to 6,00 hours/event Covers concentrations up to 30 %	
Adhesives, sealants Glue	Covers concentrations up to 30 %	
from spray.	covers use up to 6 day/year	
	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	
	Avoid using when windows closed.	
Anti-Freeze and de-icing products Washing car window.	Covers concentrations up to 1 %	
	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.	
	Covers use in room size of 34 m3	
	Covers exposure up to 0,02 hours/event	
Anti-Freeze and de-icing products Pouring into radiator.	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	
	For each use event, covers amount up to 2.000 g	
	Covers use in a one car garage (34 m3) under typical ventilation.	
	Covers use in room size of 34 m3	

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	Covers eveneurs up to 0.17 hours/event
Auti France and de isine	Covers exposure up to 0,17 hours/event
Anti-Freeze and de-icing products Lock de-icer.	Covers concentrations up to 50 %
products Eock de loci:	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) (excipient only). Laundry and dish washing products.	
<u> </u>	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)	Covers concentrations up to 5 %
(excipient only). Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	
·	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
	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
Coatings and paints, thin-	Covers exposure up to 1,17 hours/event
Coalings and paints, thiri-	L Covers concentrations up to 1,0 /0

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nore point removers We	
ners, paint removers Waterborne latex wall paint.	
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-	Covers concentrations up to 27,5 %
ners, paint removers Solvent rich, high solid, water borne paint.	Covers concentrations up to 27,3 %
	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, thin- ners, paint removers Aero- sol spray can.	Covers concentrations up to 50 %
oor opray cam	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
Fillers, Putties Plasters and	Covers concentrations up to 2 %

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floor equalizers.	
	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 clay.	Covers concentrations up to 1 %
	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 1,25 %
	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 treatment products Waterborne latex wall paint.	Covers concentrations up to 1,5 %
istor trail 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 %
1 7	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
Non-metal-surface treat-	Covers concentrations up to 50 %

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ment products Removers	
(paint-, glue-, wall paper-,	
sealant-remover).	according to 2 day/year
	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	ар на об да
products Polishes, spray	
(furniture, shoes).	
(1000000)	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
	Covers exposure up to 0,33 hours/event
Lubricants, greases, re-	Covers concentrations up to 100 %
lease products Liquids.	Covers concentrations up to 100 /0
	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

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

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Amounts Used	
Fraction of EU tonnage used in region:	0,1
Regional use tonnage (tonnes/year):	5,1
Fraction of Regional tonnage used locally:	5,0E-04
Annual site tonnage (tonnes/year):	2,6E-03
Maximum daily site tonnage (kg/day):	7,0E-03
Frequency and Duration of Use	
Continuous release.	
Emission Days (days/year):	365
Environmental factors not influenced by risk management	
Local freshwater dilution factor:	10
Local marine water dilution factor:	100
Other Operational Conditions affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM):	0,985
Release fraction to wastewater from process (initial release prior to	1,0E-02
RMM):	
Release fraction to soil from process (initial release prior to RMM):	5,0E-03
Conditions and Measures related to municipal sewage treatment p	lant
Risk from environmental exposure is driven by freshwater.	
Estimated substance removal from wastewater via domestic sewage treatment (%)	94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	1,8
Assumed domestic sewage treatment plant flow (m3/d)	2.000
Conditions and Measures related to external treatment of waste fo	r disposal
External treatment and disposal of waste should comply with applicable al regulations.	e local and/or region-
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable regulations.	e local and/or regiona

SECTION 3	EXPOSURE ESTIMATION	
Section 3.1 - Health		
The ECETOC TRA tool has b	een 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.

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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