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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 (24/7)

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-

posure, Category 3, Narcotic effects

H336: May cause drowsiness or dizziness.

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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.

H411 Toxic to aquatic life with long lasting effects.

ENVIRONMENTAL HAZARDS:

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 covering the packaging and storage of this product.

Further information on storage stability

Storage Temperature: Ambient.

Bulk storage tanks should be diked (bunded).

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

strict procedures and precautions.

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

harmful or toxic to man or to the environment.

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

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

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

near containers.

7.3 Specific end use(s)

Specific use(s) : Please refer to section 16 and/or the annexes for the regis-

tered uses under REACH.

See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices

on Static Electricity).

IEC/TS 60079-32-1: Electrostatic hazards, guidance

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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	NDS	20 mg/m3	PL OEL
	Further inform	Further information: Skin		
Naphthalene		NDSch	50 mg/m3	PL OEL
	Further inform	nation: Skin		
Naphthalene		TWA	10 ppm 50 mg/m3	91/322/EEC
	Further inform	nation: Indicative		·
Cumene	98-82-8	NDS	50 mg/m3	PL OEL
	Further inform	nation: Skin		·
Cumene		NDSch	250 mg/m3	PL OEL
	Further inform	nation: Skin		
Cumene		TWA	10 ppm 50 mg/m3	2019/1831/E U
			n assigned to the occupation of significant uptake through	
Cumene		STEL	50 ppm 250 mg/m3	2019/1831/E U
			n assigned to the occupation of significant uptake through	
Benzene	71-43-2	NDS	1,6 mg/m3	PL OEL
	Further inform	nation: Skin		
Benzene		TWA	0,25 ppm 0,8 mg/m3	Shell Internal Standard (SIS) for 8-12 hour TWA.
Benzene		STEL	2,5 ppm 8 mg/m3	Shell Internal Standard (SIS) for 15 min (STEL)

Biological occupational exposure limits

No biological limit allocated.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C10, aromatics, >1% naphthalene	Workers	Dermal	Long-term systemic effects	12,5 mg/kg bw/day
Hydrocarbons, C10, aromatics, >1% naph-	Workers	Inhalation	Long-term systemic effects	151 mg/m3

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thalene				
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:		e is a hydrocarbon with a complex, unknown or	•
	tion. Conventional methods of deriving PNECs are not appropriate and it not possible to identify a single representative PNEC for such substances		

8.2 Exposure controls

Engineering measures

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

Use sealed systems as far as possible.

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended.

Eye washes and showers for emergency use.

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

General Information:

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex. The provided information is made in consideration of the PPE directive (Council Directive

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89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.

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

Eye protection If material is handled such that it could be splashed into eyes,

> protective eyewear is recommended. Approved to EU Standard EN166.

Hand protection

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

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

rubber Nitrile rubber gloves.

Incidental contact/Splash protection: Nitrile rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough

time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key 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 moistur-

izer 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 Stand-

ard, and provide employee skin care programmes.

Protective clothing approved to EU Standard EN14605.

Wear antistatic and flame-retardant clothing, if a local risk

assessment deems it so.

Respiratory protection If engineering controls do not maintain airborne concentra-

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tions to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus

Where air-filtering respirators are suitable, select an appro-

priate combination of mask and filter.

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

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Liquid.

Colour : colourless

Odour : 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

Flash point

Flammability (solid, gas) : Data not available

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit /

7 %(V)

upper flammability limit

Lower explosion limit / : 0,6 %(V)

Lower flammability limit

: Typical 62 - 65,6 °C

Method: ASTM D-93 / PMCC

Auto-ignition temperature : 449 - 510 °C

Method: ASTM E-659

Decomposition temperature

Decomposition tempera: Not applicable

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: 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

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

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SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with strong oxidising agents.

10.4 Conditions to avoid

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

In certain circumstances product can ignite due to static elec-

tricity.

10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

10.6 Hazardous decomposition products

Hazardous decomposition products are not expected to form during normal storage.

Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

SECTION 11: Toxicological information

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

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

exposure skin or eye contact, and accidental ingestion.

Acute toxicity

Components:

Hydrocarbons, 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.

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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.

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

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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 :

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

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

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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).

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

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Toxicity to fish (Chronic tox-

icity)

Toxicity to daphnia and other : Remarks: Data not available

aquatic invertebrates (Chron-

Remarks: Data not available

ic toxicity)

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.

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:

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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 methods in compliance with applicable regulations.

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

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

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

Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Local regulations may be more stringent than regional or national requirements and must be complied with.

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

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SECTION 14: Transport information

14.1 UN number or ID number

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

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Hydrocarbons, C10, aromatics)

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)

14.3 Transport hazard class(es)

ADN : 9
ADR : 9
RID : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADN

Packing group : III
Classification Code : M6
Labels : 9 (N2, F)

ADR

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

RID

Packing group : III

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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

ADN

Environmentally hazardous : yes

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.

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,

28)

REACH - List of substances subject to authorisation

(Annex XIV)

: Product is not subject to Authorisa-

tion under REACH.

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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.

Act of 25 February 2011 on chemical substances and their mixtures (Dz.U. 2011 nr 63 poz. 322).

Ordinance of the Minister of Health of 12 January 2015 concerning the criteria and procedures for classification of chemical substances and their mixtures (Dz.U. 2015 poz. 208).

Regulation of the Minister of Labor and Social Policy of 6th June 2014 concerning the highest allowable concentrations and levels of agents harmful for health in the workplace (Dz.U. 2018 poz. 1286).

Regulations of the Minister of Economy, Labor and Social Policy of 21 December 2005 concerning the basic requirements for personal protective equipment (Dz.U. 2005 nr 259 poz. 2173).

Ordinance of the Minister of Health of 9 September 2016 on the health and safety of workers related to chemical agents at work (Dz.U. 2016 poz. 1488).

Regulation of the Minister of Health of 2nd February 2011 concerning tests and measurement of agents harmful for health in the workplace (Dz.U. 2011 nr 33 poz 166).

Regulation of the Minister of Health of 20 April 2012 on the labelling of packaging of dangerous substances and mixtures of dangerous substances and mixtures (Dz.U. 2011 nr 33 poz. 166). Act of 14 December 2012 on Waste (Dz.U. 2013 poz. 21).

Act of 13 June 2013 on packaging and packaging waste (Dz.U. 2013 poz. 888).

Regulation of the Minister of Environment of 9 December 2014 on the Waste Catalog (Dz.U. 2014 poz. 1923).

Act of 19 August 2011 on the carriage of dangerous goods (Dz.U. 2011 nr 227 poz. 1367).

Product is subject to types and quantities of dangerous substances with an increased risk of developing a major industrial accident (ROZPORZĄDZENIE MINISTRA ROZWOJU z dnia 29 stycznia 2016 r. w sprawie rodzajów i ilości znajdujących się w zakładzie substancji niebezpiecznych, decydujących o zaliczeniu zakładu do zakładu o zwiększonym lub dużym ryzyku wystapienia poważnej awarii przemysłowej) based on Seveso III directive (2012/18/EU).

Product is subject to the Regulation of the Minister of Development of 29 January 2016 on the types and quantities of hazardous substances present in the establishment, determining the establishment's count as an establishment with an increased or high risk of a major industrial accident (Dz.U. 2016 poz. 138), 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

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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.

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

PL OEL : Ordinance of the Minister of Family, Labour and Social Policy

of 12 June 2018 concerning the highest allowable concentrations and levels of the agents harmful for health in the work-

place (Dz.U 2018 pos 1286, with later amendments)

2019/1831/EU / TWA : Limit Value - eight hours 2019/1831/EU / STEL : Short term exposure limit 91/322/EEC / TWA : Limit Value - eight hours

PL OEL / NDS : Maximal Admissible Concentration

PL OEL / NDSch : Maximal Admissible Temporary Concentration

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 - Interna-

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tional Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail: SADT - Self-Accelerating Decomposition Temperature: SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

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

erators.

For Industry guidance and tools on REACH please visit the Other information

CEFIC website at http://cefic.org/Industry-support.

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not consid-

ered to be PBT or vPvB.

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

from the previous version.

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

This product is classified as R66 / EUH066 (Repeated exposure may cause skin dryness or cracking). The risk relates to the potential for repeated or prolonged dermal contact. The risk arising from contact is solely related to the physicochemical properties of the substance. The risk can therefore be controlled by implementing risk management measures tailored to this specific hazard and included within Section 8 of the SDS. An exposure scenario is not presented.

Sources of key data used to compile the Safety Data Sheet

The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

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

Title Use in laboratories

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- Professional

Uses - Worker

Title : Use in laboratories

- Industrial

Uses - Worker

Title : Road and construction applications

- Professional

Uses - Worker

Title : Functional Fluids

- Professional

Uses - Worker

Title : Functional Fluids

- Industrial

Uses - Worker

Title : Use as a fuel

- Professional

Uses - Worker

Title : Use as a fuel

- Industrial

Uses - Worker

Title : Use in Agrochemicals uses

- Professional

Uses - Worker

Title : 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

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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

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

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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

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

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- 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.

PL / EN

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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 STF)	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 1 differently).,	00% (unless stated	
Frequency and Duration of			
Covers daily exposures up to	8 hours (unless stated differently).		
Other Operational Conditio			
	in 20°C above ambient temperature (unles	s stated differently).	
Assumes a good basic stand	Assumes a good basic standard of occupational hygiene is implemented.		
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:	5,0E-04	
Annual site tonnage (tonnes/year):		3,0E-04	
Maximum daily site tonnage (kg/day):		8,2E-04	
Frequency and Duration of	Use		
Continuous release.			
Emission Days (days/year): 365		365	
	nfluenced by risk management	1	
Local freshwater dilution factor:		10	
		100	
Other Operational Conditio	ns 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	0,5
RMM):	
Release fraction to soil from process (initial release prior to RMM):	0
Technical conditions and measures at process level (source) to pro	event release
Common practices vary across sites thus conservative process re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit discha-	arges, air emis-
sions and releases to soil	
Risk from environmental exposure is driven by freshwater.	
No wastewater treatment required.	
Treat air emission to provide a typical removal efficiency of (%)	0
Treat onsite wastewater (prior to receiving water discharge) to provide	0
the required removal efficiency of >= (%)	
If discharging to domestic sewage treatment plant, no secondary	0
wastewater treatment required.	
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage	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	2,1E-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	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.	ana, or rogional
· - g - · · · · · ·	

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 occinano - Worker			
30000000779	0000000779		
SECTION 1	EXPOSURE SCENARIO TITLE		
Title	Use in laboratories- Industrial		
Use Descriptor	Sector of Use: SU3 Process Categories: PROC 10, PROC 15 Environmental Release Categories: ERC2, ERC4		
Scope of process	Use of the substance within laboratory settings, including material transfers and equipment cleaning.		

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES		
Section 2.1	Control of Worker Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure < 0.5 kPa at S	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to differently).,	Covers use of substance/product up to 100% (unless stated differently)	
Frequency and Duration of			
	8 hours (unless stated differently).		
Other Operational Condition		<u> </u>	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.			
Contributing Scenarios	Risk Management Measures		
Laboratory activitiesPROC15	No other specific measures identified.		
CleaningPROC10	No other specific measures identified.		
Section 2.2	Control of Environmental Exposure		
Substance is complex UVCE	b.		
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:	1	
Annual site tonnage (tonnes/	/year):	0,6	
Maximum daily site tonnage		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			
Other Operational Condition	ons affecting Environmental Exposure		
Deleges for effect to all forces of	process (initial release prior to RMM):	2,5E-02	

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Release fraction to wastewater from process (initial release prior to RMM):	2,0E-02	
Release fraction to soil from process (initial release prior to RMM):	1,0E-04	
Technical conditions and measures at process level (source) to pro	event release	
Common practices vary across sites thus conservative process re-		
lease estimates used.		
Technical onsite conditions and measures to reduce or limit discharges and releases to soil	arges, air emis-	
Risk from environmental exposure is driven by freshwater sediment.		
No wastewater treatment required.		
Treat air emission to provide a typical removal efficiency of (%)	0	
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	0	
If discharging to domestic sewage treatment plant, no secondary	0	
wastewater treatment required.	U	
Organisational measures to prevent/limit release from site		
Do not apply industrial sludge to natural soils.		
Sludge should be incinerated, contained or reclaimed.		
orange strong be momerated, contained or residing d.		
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 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 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		

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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	0000000789		
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 that 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		<u> </u>
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		.,. = ==
Continuous release.		
Emission Days (days/year):		365
	nfluenced by risk management	1 000
Local freshwater dilution factor		10
Local marine water dilution fa		100
	ns affecting Environmental Exposure	100
Release fraction to air from process (initial release prior to RMM):		0,95
Release fraction to wastewater from process (initial release prior to RMM):		
	process (initial release prior to RMM):	4,0E-02
Technical conditions and measures at process level (source) to prevent release		
	ss sites thus conservative process re-	
	s and measures to reduce or limit discha	arges, air emis-
Risk from environmental expo	osure 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 efficience		
	wage treatment plant, no secondary	0
wastewater treatment require		
	prevent/limit release from site	
Do not apply industrial sludge	to natural soils.	
Sludge should be incinerated	, contained or reclaimed.	
Conditions and Measures r	elated to municipal sewage treatment p	lant
	I from wastewater via domestic sewage	94,6
treatment (%)		
	nm wastewater after onsite and offsite MMs (%)	94,6
	age (MSafe) based on release following	4,6

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total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	4,3E+00

Conditions and Measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

Conditions and measures related to external recovery of waste

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

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

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

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

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

Section 4.2 - Environment

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

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

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

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Exposure Scenario - Worker

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	o 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).

Assumes 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 cortainersPROC9	No other specific measures identified.
Filling/ preparation of equipme from drums or containers.PROC9	nt No other specific measures identified.
General exposures (closed systems)PROC1PROC2PROC	No other specific measures identified.
Operation of equipment contai ing engine oils and simi- lar.(closed systems)PROC20	n- No other specific measures identified.
Operation of equipment contai ing engine oils and simi- lar.(closed systems)Operation carried out at elevated tempera ture (> 20°C above ambient temperature).PROC20	is
Remanufacture of reject arti-	No other specific measures identified.

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clesPROC9				
Equipment maintenance- PROC8a		No other specific measures identified	.k	
Storage.PROC1PROC2		Store substance within a closed syst	em.	
Section 2.2	Со	ntrol of Environmental Exposure		
Substance is complex UVCB		•		
Predominantly hydrophobic.				
Amounts Used				
Fraction of EU tonnage used	in re	gion:	0,1	
Regional use tonnage (tonne		<u> </u>	3,0	
Fraction of Regional tonnage			5,0E-04	
Annual site tonnage (tonnes/			1,5E-03	
Maximum daily site tonnage	(kg/d	ay):	4,1E-03	
Frequency and Duration of				
Continuous release.				
Emission Days (days/year):			365	
Environmental factors not	influ	enced by risk management		
Local freshwater dilution factor	or:	•	10	
Local marine water dilution fa	actor:		100	
Other Operational Conditio	ns a	ffecting Environmental Exposure		
Release fraction to air from p	roce	ss (initial release prior to RMM):	5,0E-02	
Release fraction to wastewat RMM):	Release fraction to wastewater from process (initial release prior to			
Release fraction to soil from	proce	ess (initial release prior to RMM):	2,5E-02	
Technical conditions and n	neas	ures at process level (source) to pr	event release	
Common practices vary acrost lease estimates used.	ss si	es thus conservative process re-		
Technical onsite conditions sions and releases to soil	s and	d measures to reduce or limit disch	arges, air emis-	
Risk from environmental expo	osure	e is driven by freshwater.		
No wastewater treatment req				
Treat air emission to provide			0	
		eceiving water discharge) to provide	0	
the required removal efficience	cy of	>= (%)		
If discharging to domestic sev	wage	treatment plant, no secondary	0	
wastewater treatment require				
Organisational measures to				
Do not apply industrial sludge Sludge should be incinerated				
Conditions and Measures r	elate	ed to municipal sewage treatment p	lant	
		n wastewater via domestic sewage	94,6	
. ,		astewater after onsite and offsite	94,6	
	age	(MSafe) based on release following	1,1	
Assumed domestic sewage to			2,0E+03	
		ed to external treatment of waste for		
		f waste should comply with applicable		
External freatment and dispo	Jui U	That of the state	iocai aria, or regional	

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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 3.1 - 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

3000000777		
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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gional

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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

LAPOSUI E SCEITATIO - WOI	Exposure Scenario - Worker		
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 Condition	ons affecting Exposure		
	an 20°C above ambient temperature (unless stated differently). lard of occupational hygiene is implemented.		

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	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 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 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

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 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	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)PROC1PROC2PROC	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		
The ECETOC TRA tool has be indicated.	been 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

Exposure oceriano - W	orker —
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	
	an 20°C above ambient temperature (unless stated differently). 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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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	ı
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	
Common practices vary across sites thus conservative process re-	
lease estimates used.	
Technical onsite conditions and measures to reduce or limit discha-	arges, air emis-
sions and releases to soil	3 · · · · · · · · · · · · · · · · · · ·
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	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	
External treatment and disposal of waste should comply with applicable regulations.	local and/or regional
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable	local and/or regional
regulations.	iocai and/or regional
Togalationo.	

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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

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 o	f Use	
Covers daily exposures up t	o 8 hours (unless stated differently).	
Other Operational Condition	ons affecting Exposure	
	an 20°C above ambient temperature (unles dard 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 e		ted 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:		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):	0,95
Release fraction to wastewate RMM):	er from process (initial release prior to	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		
	a typical removal efficiency of (%)	
	to receiving water discharge) to provide	0
the required removal efficience		
	vage treatment plant, no secondary	0
wastewater treatment require		
Organisational measures to	prevent/limit release from site	
Do not apply industrial sludge		
Sludge should be incinerated,		
Conditions and Measures re	elated to municipal sewage treatment p	lant
Estimated substance removal	from wastewater via domestic sewage	94,6
treatment (%)		
	m wastewater after onsite and offsite	94,6
(domestic treatment plant) RN	/IMs (%)	

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Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)	35
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03

Conditions and Measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

Conditions and measures related to external recovery of waste

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

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

Section 3.2 - Environment

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

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

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

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

Section 4.2 -Environment

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

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

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

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Exposure Scenario - Worker

Exposure occitatio - Worker		
3000000772		
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	
Scope of process	Covers the use as binders and release agents including ma-	
	terial transfers, mixing, application (including spraying and	
	brushing), and handling of waste.	
	2. 3. 3	

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 transfersUse in contained systemsPROC1PROC2PROC	The same of same managements		
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 extracted 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	
Storagon Noon Noo2	Store substance within a sloced syste	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Section 2.2 C	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		
Continuous release.		
Emission Days (days/year):		20
Environmental factors not infl	uenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution factor:		100
	affecting Environmental Exposure	
Release fraction to air from process (initial release prior to RMM): 1,0		
	rom process (initial release prior to	3,0E-06
RMM):		
Release fraction to soil from process (initial release prior to RMM): 0		
Technical conditions and measures at process level (source) to prevent release		
	sites thus conservative process re-	
lease estimates used.		<u> </u>
	nd measures to reduce or limit disch	arges, air emis-
sions and releases to soil	ra ia drivan hy franky rater	T
Risk from environmental exposu		
Prevent discharge of undissolved substance to or recover from onsite		
wastewater.		
No wastewater treatment required.		90
Treat air emission to provide a typical removal efficiency of (%) 80 Treat ensite westewater (prior to receiving water discharge) to provide 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		0
wastewater treatment required.		
Organisational measures to prevent/limit release from site		
Do not apply industrial sludge to		
Sludge should be incinerated, contained or reclaimed.		
Siduge Should be inclinerated, contained of recidified.		

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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 Measures related to external treatment of waste for disposal			

inditions 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

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			
3000000771			
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	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	
General exposures (closed systems)PROC1PROC2PROC3		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 operationsPROC17		Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).
ManualRolling, BrushingPROC10		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 pour-ingPROC13		No other specific measures identified.	
Equipment cleaning and mair nanceNon-dedicated facilityP		No other specific measures in	dentified.
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 fa	ictor:		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	orocess (init	ial release prior to RMM):	5,0E-02
Technical conditions and n	neasures at	process level (source) to pro	event release
Common practices vary across sites thus conservative process re-			
lease estimates used.			
Technical onsite conditions sions and releases to soil		ures to reduce or limit discha	arges, air emis-
		on by frashwater	
	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 0			0
the required removal efficiency of >= (%)			
If discharging to domestic sewage treatment plant, no secondary		0	
wastewater treatment required.			
Organisational measures to		mit release from site	
Do not apply industrial sludge			
Sludge should be incinerated			
Conditions and Measures r	elated to m	unicipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage 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 Magazines related to external treatment of wests for disposal		

Conditions and Measures related to external treatment of waste for disposal

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

Conditions and measures related to external recovery of waste

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

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

Section 3.2 - Environment

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

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	•
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 RISK MANAGEMENT MEASURES		
Section 2.1	Control of Worker Exposure		
Product Characteristics	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 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 sys tems)PROC4	No other specific measures identified.
Bulk transfersPROC8b	No other specific measures identified.
Filling/ preparation of equipment from drums or containers.PROC5PROC8bPROC9	ent No other specific measures identified.
Process samplingPROC8b	No other specific measures identified.
Metal machining operationsPROC17	No other specific measures identified.
Treatment by dipping and pour ingPROC13	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 ident	
Automated metal roll-		No other specific measures ident	tified.
ing/formingUse in contained systemsOperation is carried out at elevated temperature (> 20°C above ambient tempera-			
ture).PROC2 Semi-automated metal roll- ing/formingOperation is carried out at elevated temperature (> 20°C 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 ident	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			
Continuous release.			
Emission Days (days/year):			20
Environmental factors not i	nfluenc	ced by risk management	
Local freshwater dilution factor			10
Local marine water dilution fa			100
		cting Environmental Exposure	
		(initial release prior to RMM):	2,0E-02
Release fraction to wastewater from process (initial release prior to RMM):			
Release fraction to soil from	orocess	(initial release prior to RMM):	0
		es at process level (source) to pr	revent release
Common practices vary acros	ss sites	thus conservative process re-	
lease estimates used.		·	
Technical onsite conditions sions and releases to soil	s and m	neasures to reduce or limit disch	narges, air emis-
	osure 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		al removal efficiency of (%)	70

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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	

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.

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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	SK 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 sys-No other specific measures identified. tems)PROC1PROC2PROC3 Operation of equipment containing No other specific measures identified. engine oils and similar.PROC20 General exposures (open sys-No other specific measures identified. tems)PROC4 Bulk transfersDedicated facili-No other specific measures identified. tyPROC8b Filling/ preparation of equipment No other specific measures identified. from drums or containers.Dedicated facilityPROC8b Filling/ preparation of equipment No other specific measures identified. from drums or containers. Nondedicated facilityPROC8a Operation and lubrication of high Restrict area of openings to equipment. energy open equipmentIndoorPROC17PROC18

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Operation and lubrication of high	Wear a respirator conforming to	EN140 with Type A filter or
energy open equipmentOut-	better.	
doorPROC17		
Maintenance (of larger plant iter	ns) No other specific measures ident	tified.
and machine set upPROC8b		
Maintenance (of larger plant iter		ment opening or mainte-
and machine set upOperation is		
carried out at elevated tempera-		
ture (> 20°C above ambient tem	-	
perature).Dedicated facili-		
tyPROC8b		
Maintenance of small itemsOpe		ment opening or mainte-
tion is carried out at elevated ter		
perature (> 20°C above ambient		
temperature).Non-dedicated fac	III-	
tyPROC8a	A 1 (1 (2)	ere i
Engine lubricant servicePROC9	No other specific measures iden	tified.
ManualRolling, BrushingPROC1	0 No other specific measures iden	tified.
SprayingPROC11	Avoid carrying out activities invol	ving exposure for more
Spraying: 118811	than 1 hour.	ing expected for more
	, or:	
	Wear a respirator conforming to	EN140 with Type
	A/P2 filter or better.	71
Treatment by dipping and pour-	No other specific measures iden	tified.
ingPROC13	·	
Storage.PROC1PROC2	Store substance within a closed	system.
Section 2.2	ontrol of Environmental Exposure	
	ontroi oi Environmentai Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used in		0,1
Regional use tonnage (tonnes/y		50
Fraction of Regional tonnage us		5,0E-04
Annual site tonnage (tonnes/yea		2,5E-02
Maximum daily site tonnage (kg.		6,8E-02
Frequency and Duration of Us	е	
Continuous release.		100-
Emission Days (days/year):		365
Environmental factors not infl	uenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution factor		100
	affecting Environmental Exposure	10.45
	ess (initial release prior to RMM):	0,15
Release fraction to wastewater f RMM):	rom process (initial release prior to	5,0E-02
	cess (initial release prior to RMM):	5,0E-02
	sures at process level (source) to p	
i common comandons and med	saics at process level (source) to p	1 C V C I I C I C I C I C I C I C I C I C

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Common practices vary across sites thus conservative process re	
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 (%)	
Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of >= (%)	0
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.	0
Organisational measures to prevent/limit release from site	1
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	lant
Estimated substance removal from wastewater via domestic sewage treatment (%)	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 I	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	
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	
27272114	
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 8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	Risk	Management Measures	
General exposures (closed sy tems)PROC1PROC2PROC3	/S-	No other specific measures identified.	
Operation of equipment conta engine oils and similar.PROC		No other specific measures identified.	
General exposures (open sys tems)PROC4	-	No other specific measures identified.	
Bulk transfersPROC8b		No other specific measures identified.	
Filling/ preparation of equipme from drums or containers.Dedicated facilityPROC8b		No other specific measures identified.	
Filling/ preparation of equipme from drums or containers.Non 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 energy open equipmentOut-doorPROC17	Ensure operation is undertaken o Avoid carrying out activities involv than 4 hours , or:	
	Wear a respirator conforming to E better.	N140 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	ystem.
·	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):	۸-	2,5E-02
Maximum daily site tonnage (kg/day):	6,8E-02
Frequency and Duration of Use		
Continuous release.		205
Emission Days (days/year): 36: Environmental factors not influenced by risk management		300
Local freshwater dilution factor:	ced by lisk illaliagelilelit	10
Local marine water dilution factor:		100
Other Operational Conditions affe	cting Environmental Exposure	100
Release fraction to air from process		1,0E-02
Transact haction to all Holli process	minual roloase prior to Minin).	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 pro	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	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	18
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	local and/or regional
regulations.	iocai 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	

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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	
30000000707	
OFOTION 4	EVECUIE COENADIO TITI E
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 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	
General exposures (closed		No other specific measures identified.	
systems)PROC1PROC2PRO			
General exposures (open sys-	-	No other specific measures identified.	
tems)PROC4			
Bulk transfersPROC8b		No other specific measures identified.	
Filling/ preparation of equipme		No other specific measures identified.	
from drums or containers.Non	-		
dedicated facilityPROC8a			
Filling/ preparation of equipme	ent	No other specific measures identified.	
from drums or contain-			
ers.Dedicated facilityPROC8b	1		
Initial factory fill of equip-		No other specific measures identified.	
mentPROC9			
Operation and lubrication of		No other specific measures identified.	
high energy open equip-			
mentPROC17PROC18			

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ManualRolling, Brush-	No other specific measures identified	ed.
ingPROC10 Treatment by dipping and pou	r- No other specific measures identifie	ed.
ingPROC13	·	
SprayingPROC7	Minimise exposure by partial enclos	sure of the operation or
	equipment and provide extract vent	ilation at openings.
Maintenance (of larger plant	No other specific measures identifie	2d
items) and machine set up-	Two other specific measures identific	,u.
PROC8b		
Maintenance (of larger plant	Drain down and flush system prior t	to equipment opening or
items) and machine set upOp-		
eration is carried out at elevate	ed	
temperature (> 20°C above		
ambient temperature).PROC8		1
Maintenance of small itemsPROC8a	No other specific measures identified	ed.
Remanufacture of reject arti-	No other specific measures identifie	ed.
clesPROC9	·	
Storage.PROC1PROC2	Store substance within a closed sys	stem.
Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used i	n region:	0,1
Regional use tonnage (tonnes		630
Fraction of Regional tonnage	used locally:	0,16
Annual site tonnage (tonnes/y		100
Maximum daily site tonnage (I		5,0E+03
Frequency and Duration of	Jse	
Continuous release.		
Emission Days (days/year):		20
	fluenced by risk management	T.,
Local freshwater dilution facto		10
Local marine water dilution fac		100
	s affecting Environmental Exposure	F 0F 02
	ocess (initial release prior to RMM): r from process (initial release prior to	5,0E-03 3,0E-05
RMM):	i from process (initial release prior to	3,00-00
	rocess (initial release prior to RMM):	1,0E-03
	easures at process level (source) to p	
	s sites thus conservative process re-	
lease estimates used.	•	
Technical onsite conditions	and measures to reduce or limit discl	harges, air emis-
sions and releases to soil		
	sure is driven by freshwater sediment.	
	ved substance to or recover from onsite	
wastewater.		
No wastewater treatment requ		70
reat air emission to provide a	typical removal efficiency of (%)	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.	9 * **	

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.	
1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	

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 Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of		
	8 hours (unless stated differently).	
Other Operational Conditio		
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.	
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

Semi Automated process. (e.g.:

ucts)PROC4

Semi automatic application of floor care and maintenance prod-

Exposure occinatio Worke	-
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 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 o	f 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 equipment No other specific measures identified. from drums or containers.Dedicated facilityPROC8b Filling/ preparation of equipment No other specific measures identified. from drums or containers. Nondedicated facilityPROC8a Automated process with (semi) No other specific measures identified. closed systems. Use in contained systemsPROC2 Automated process with (semi) No other specific measures identified. closed systems. Drum/batch transfersUse in contained systemsPROC3

No other specific measures identified.

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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.		
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/)	year):	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: 10		10
Local marine water dilution factor:		100
Other Operational Conditions affecting Environmental Exposure		
Release fraction to air from p	rocess (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	process (initial release prior to RMM):	0
Technical conditions and m	neasures at process level (source) to	prevent release
Common practices vary across sites thus conservative process re-		
lease estimates used.		
Technical onsite conditions	s and measures to reduce or limit dis	charges, air emis-
sions and releases to soil		
Risk from environmental expo	osure is driven by freshwater.	
No wastewater treatment required.		

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0
0
0
lant
94,6
94,6
5,4
2,0E+03
r disposal
local and/or regional
local and/or regional

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	

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

Section 3.2 - Environment

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

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

Measures/Operational Conditions outlined in Section 2 are implemented.

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

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

30000000764	
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 N MEASURES	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 100% differently).,	(unless stated
Frequency and Duration o	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 transfersPROC8a No other specific measures identified. Automated process with (semi) No other specific measures identified. closed systems. Use in contained systemsPROC2 Automated process with (semi) No other specific measures identified. closed systems. Drum/batch transfersUse in contained batch processesPROC3 Application of cleaning products in No other specific measures identified. closed systemsPROC2 Filling/ preparation of equipment No other specific measures identified. from drums or containers.PROC8b Use in contained batch process-No other specific measures identified. esPROC4

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Degreasing small objects in cleaning stationPROC13	No other specific measures identifi	ed.
Cleaning with low-pressure washersPROC10	No other specific measures identifi	ed.
Cleaning with high pressure	Limit the substance content in the	product to 1 %
washersPROC7	, or:	product to 1 70.
	Avoid carrying out operation for mo	ore than 1 hour.
	, alternatively:	
	Wear a respirator conforming to EN	N140 with Type A filter or
	better.	
Marria IO. (con Obrasia PROCA)	No. of the control of	1
ManualSurfacesCleaningPROC10	No other specific measures identifi	ea.
Storage.PROC1	Store substance within a closed sy	rstem.
Section 2.2 Conf	trol of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used in reg	ion:	0,1
Regional use tonnage (tonnes/year):	240
Fraction of Regional tonnage used	locally:	0,41
Annual site tonnage (tonnes/year):		100
Maximum daily site tonnage (kg/day	y):	5,0E+03
Frequency and Duration of Use		
Continuous release.		
Emission Days (days/year):		20
Environmental factors not influer	nced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution factor:		100
Other Operational Conditions aff		
Release fraction to air from process (initial release prior to RM		1,0
Release fraction to wastewater from	n process (initial release prior to	3,0E-06
RMM):		
Release fraction to soil from proces		0
	res at process level (source) to pro-	event release
Common practices vary across site	s thus conservative process re-	
lease estimates used.		
	measures to reduce or limit disch	arges, air emis-
sions and releases to soil	a duivan by frankyyatar	
Risk from environmental exposure i		
Prevent discharge of undissolved solved solv	ubstance to or recover from onsite	
No wastewater treatment required.		
	cal removal efficiency of (%)	70
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 t		0
wastewater treatment required.	. Jan. Jan., 110 000011daily	
Organisational measures to prev	ent/limit release from site	
Do not apply industrial sludge to na		
_ = 1.10t apply illudothal oldago to ha		

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Sludge should be incinerated, contained or reclaimed.	
Conditions and Measures related to municipal sewage treatment p	olant
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	1,2E+06
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2,0E+03
Conditions and Measures related to external treatment of waste for 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		
Managera Operational Conditions outlined in Section 2 are implemented		

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

3000000763		
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Uses in Coatings- Professional	
Use Descriptor	Sector of Use: SU22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13, PROC 15, PROC 19 Environmental Release Categories: ERC8a, ERC8d, ESVOC SpERC 8.3b.v1	
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.	

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 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 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	No other specific measures identified.	
Filling/ preparation of equipme from drums or containers. Use contained systems PROC2		
General exposures (closed sy tems)Use in contained systemsPROC2	S- No other specific measures identified.	
Preparation of material for apprecationUse in contained batch processesPROC3	No other specific measures identified.	
Film formation - air dryingPRC	No other specific measures identified.	
Preparation of material for apprecationPROC5	No other specific measures identified.	

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Material transfersDrum/batch transfersNon-dedicated facili-tyPROC8aPROC8b	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, adhesivesIndoorPROC19	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 (tonne	s/year):	110	
Fraction of Regional tonnage		5,0E-04	
Annual site tonnage (tonnes/	/ear):	5,4E-02	
Maximum daily site tonnage (kg/day):		0,15	
Frequency and Duration of	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):		0,98	
Release fraction to wastewater from process (initial release prior to RMM):		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	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	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	4,0E+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	r disposal	
External treatment and disposal of waste should comply with applicable local and/or regional		
regulations.		
regulations. Conditions and measures related to external recovery of waste		
	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

3000000762		
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 Condition	ns affecting Exposure	
Assumes use at not more that	n 20°C above ambient temperature (unless stated differently).	
Assumes a good basic standa	ard 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 dry- ing, stoving and other tech- nologies.(closed sys- tems)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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batch processesPROC3	No other consideration		
Film formation - air dry-	No other specific measures identified.		
IngPROC4	No other constitutions in a stiff of		
Preparation of material for	No other specific measures identified.		
applicationMixing opera-			
tions (open sys-			
tems)PROC5	Corm, out in a vented booth provided with	lominar airflau	
Spraying (automat-	Carry out in a vented booth provided with	i iaminar airiiow.	
ic/robotic)PROC7 ManualSprayingPROC7	Corm, out in a vented booth provided with	lominar airflau	
wanuaiSprayingPROC7	Carry out in a vented booth provided with	i iaminar aimow.	
	, or: Wear a respirator conforming to EN140 with Type A filter or		
	better.	with Type A filter of	
	Detter.		
Material transfersNon-	No other specific measures identified.		
dedicated facilityPROC8a	Two other specific measures identified.		
Material transfersDedicated	No other specific measures identified.		
facilityPROC8b	The other specific measures identified.		
Roller, spreader, flow appli-	No other specific measures identified.		
cationPROC10	The other specific measures identified.		
Dipping, immersion and	No other specific measures identified.		
pouringPROC13	No other specific measures identified.		
Laboratory activi-	No other specific measures identified.		
tiesPROC15	No other specific measures identified.		
Material trans-	No other specific measures identified.		
fersDrum/batch transfer-	Two other specific measures identified.		
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	No other specific measures identified.		
maintenancePROC8a	·		
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):		370	
Fraction of Regional tonnage used locally:		1	
Annual site tonnage (tonnes/year):		370	
Maximum daily site tonnage		1,9E+04	
Frequency and Duration of		•	
Continuous release.			
Emission Days (days/year): 20			
	influenced by risk management	•	
Local freshwater dilution factor:		10	
Local marine water dilution fa		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
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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

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 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).	
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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 Batch processes at elevated Formulate in enclosed or ventilated mixing vessels. 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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terns)PROCS		
ManualTransfer from/pouring from containersNon-dedicated facilityPROC8a	No other specific measures identified	l.
Drum/batch transfersDedicated facilityPROC8b	No other specific measures identified	l.
Production or preparation or articles by tabletting, compres-	No other specific measures identified	l.
sion, extrusion or pelletisa- tionPROC14		
Drum and small package fill-ingPROC9	No other specific measures identified	I .
Equipment cleaning and maintenancePROC8a	No other specific measures identified	I.
Storage.PROC1PROC2	Store substance within a closed syst	em.
Section 2.2 C	ontrol of Environmental Exposure	
Substance is complex UVCB.		
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used in	egion:	0,1
Regional use tonnage (tonnes/ye		70
Fraction of Regional tonnage us		1
Annual site tonnage (tonnes/yea	r):	70
Maximum daily site tonnage (kg/		7,0E+03
Frequency and Duration of Us		
Continuous release.		
Emission Days (days/year):		10
Environmental factors not infl	uenced by risk management	
		10
Local marine water dilution factor	r:	100
Other Operational Conditions	affecting Environmental Exposure	
Release fraction to air from proc	ess (initial release prior to RMM):	1,0E-02
Release fraction to wastewater from process (initial release prior to RMM):		2,0E-04
Release fraction to soil from pro-	cess (initial release prior to RMM):	1,0E-04
Technical conditions and measures at process level (source) to prevent release		
Common practices vary across s	sites thus conservative process re-	
lease estimates used.		
Technical onsite conditions at	nd measures to reduce or limit discha	arges, air emis-
sions and releases to soil		
	re is driven by freshwater sediment.	
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 (%)		0
	receiving water discharge) to provide	0
the required removal efficiency of		0
If discharging to domestic sewage treatment plant, no secondary wastewater treatment required.		U
Organisational measures to p	event/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	94,6	
(domestic treatment plant) RMMs (%)		
Maximum allowable site tonnage (MSafe) based on release following	1,3E+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 disposal

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

Conditions and measures related to external recovery of waste

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

SECTION 3 EXPOSURE ESTIMATION

Section 3.1 - Health

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

Section 3.2 - Environment

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

Section 4.1 - Health

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

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

Section 4.2 - Environment

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

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

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

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Exposure Scenario - Worker

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 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 systems)PROC1PROC2PRO	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Process samplingPROC8b	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfers(open systems)PROC8b	No other specific measures identified.
Bulk transfers(closed systems)PROC8b	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.
Section 2.2	Control of Environmental Exposure

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Out stages is secondary IN/OD	
Substance is complex UVCB.	
Predominantly hydrophobic.	
Amounts Used	
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 pre	
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	goo, a oo
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 >= (%)	,0
If discharging to domestic sewage treatment plant, no secondary	0
wastewater treatment required.	
Organisational measures to prevent/limit release from site	
Do not apply industrial sludge to natural soils.	
Sludge should be incinerated, contained or reclaimed.	
Prevent discharge of undissolved substance to or recover from onsite w	astewater
Trovers algebra and leading a carrier of the critical state of the	actoriator.
Conditions and Measures related to municipal sewage treatment pl	ant
Estimated substance removal from wastewater via domestic sewage	94,6
treatment (%)	0 1,0
Total efficiency of removal from wastewater after onsite and offsite	94,6
(domestic treatment plant) RMMs (%)	0 7,0
Maximum allowable site tonnage (MSafe) based on release following	4,4E+05
total wastewater treatment removal (kg/d)	1,72100
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.	นเอมบอลเ
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

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 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
General exposures (closed systems)PROC1PROC2PROC	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Process samplingPROC3	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfers(closed systems)PROC8b	No other specific measures identified.
Bulk transfers(open systems)PROC8b	No other specific measures identified.
Drum and small package fill-ingPROC9	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	No other specific measures identified.
Storage.PROC1PROC2	Store substance within a closed system.

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Section 2.2	Control of Environmental Exposure	
Substance is complex UVCB		
Predominantly hydrophobic.		
Amounts Used		l.
Fraction of EU tonnage used in region:		0,1
Regional use tonnage (tonnes/year):		150
Fraction of Regional tonnage used locally:		6,8E-03
Annual site tonnage (tonnes/year):		1,0
Maximum daily site tonnage (kg/day):		50
Frequency and Duration of		•
Continuous release.		
Emission Days (days/year):		20
Environmental factors not	influenced by risk management	
Local freshwater dilution fact	or:	10
Local marine water dilution fa	actor:	100
	ns affecting Environmental Exposure	
	rocess (initial release prior to RMM):	1,0E-04
RMM):	er from process (initial release prior to	1,0E-05
	process (initial release prior to RMM):	1,0E-05
	neasures at process level (source) to pr	event release
	ss sites thus conservative process re-	
lease estimates used.		
Technical onsite conditions sions and releases to soil	s and measures to reduce or limit disch	arges, air emis-
Risk from environmental exp	osure is driven by freshwater.	
No wastewater treatment req		
Treat air emission to provide a typical removal efficiency of (%)		90
Treat onsite wastewater (pric	r to receiving water discharge) to provide	0
the required removal efficiency of >= (%)		
	wage treatment plant, no secondary	0
wastewater treatment require		
	prevent/limit release from site	
Do not apply industrial sludge		
Sludge should be incinerated	, contained or reclaimed.	
Conditions and Measures r	elated to municipal sewage treatment p	lant
	Il from wastewater via domestic sewage	94,6
treatment (%)		<u> </u>
	om wastewater after onsite and offsite	94,6
(domestic treatment plant) R	MMs (%)	
	age (MSafe) based on release following	1,4E+04
total wastewater treatment re		
Assumed domestic sewage treatment plant flow (m3/d)		2,0E+03
	elated to external treatment of waste fo	
External treatment and disporegulations.	sal of waste should comply with applicable	local and/or regiona
Conditions and measures	related to external recovery of waste	
	ng of waste should comply with applicable	1 1 1/

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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	
Castian 0.4		
Section 2.1		
Product Characteristics	T	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STF	•
Concentration of the Sub-	Covers use of substance/product up to 1	00% (unless stated
stance in Mixture/Article	differently).,	
Frequency and Duration of		
	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 implemente	d.
Contributing Scenarios	Risk Management Measures	
Bulk transfersUse in contained systemsPROC2	No other specific measures identified.	
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		0,1
Regional use tonnage (tonnes/year): 340		340

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Free Control (Decimal Control	0.05.00
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
Continuous release.	
Emission Days (days/year):	300
Environmental factors not influenced by risk management	T
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	.
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	98,5
the required removal efficiency of >= (%)	
If discharging to domestic sewage treatment plant, no secondary	71,9
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 (%)	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 b	een 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

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30000000102		
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		
	MEASURES			
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 1	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.				
Assumes a good basic stand 	ard of occupational riggiene is implemented	u.		
Contributing Scenarios Risk Management Measures				
Drum/batch transfersDedi-	No other specific measures identified.			
cated facilityPROC8b	The other specific measures identified.			
General exposures (closed	No other specific measures identified.			
systems)PROC3				
General exposures (open	No other specific measures identified.			
systems)PROC4	No other execitic recovers identified			
Pouring from small containersPROC13	No other specific measures identified.			
Equipment maintenance-	No other specific measures identified.			
PROC8a				
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): 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 prevent 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 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)	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 local and/or regiona regulations.				
Conditions and measures related to external recovery of waste				
External recovery and recycling of waste should comply with applicable local and/or regional regulations.				

	SECTION 3	EXPOSURE ESTIMATION
	Section 3.1 - Health	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwi 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 (%): 1	00 %
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	or:	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):		2,5E-02
		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 treatment (%)		94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)		1,1
Assumed domestic sewage treatment plant flow (m3/d)		2,0E+03
Conditions and Measures r	elated to external treatment of waste fo	r disposal
Cutoro al transferant and diama	ما ماه منا	local and/annamian

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 (%): 1	00 %
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.Cov	vers 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 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 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 %
	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
	Tookers 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 in region: 0,1		0,1
Regional use tonnage (tonnes/year): 2,4E+03		2,4E+03
Fraction of Regional tonnage used locally: 5,0E-04		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 fo	r disposal
Combustion emissions limited by required exhaust emission controls.	
Waste combustion emissions considered in regional exposure assessm	ient.
Conditions and measures related to external recovery of waste	
This substance is consumed during use and no waste of substance is g	jenerated.

SECTION 3	EXPOSURE ESTIMATION
0 (' 0 4 11141	

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

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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		857,5
Frequency and Duration of Use		
Unless stated otherwise.		
Covers use up to (days/year):		365
covers use up to (times/day of use):		1
Exposure (hours/event): 4		4
Other Operational Conditional	one affecting 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	used locally:	2,0E-03
Annual site tonnage (tonnes/	year):	2,0E-02
Maximum daily site tonnage (kg/day):	5,5E-02
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not i	nfluenced by risk management	
Local freshwater dilution factor: 10		10
Local marine water dilution factor:		100
Other Operational Conditions affecting Environmental Exposure		
	rocess (initial release prior to RMM):	0,9
Release fraction to wastewate RMM):	er from process (initial release prior to	1,0E-02
Release fraction to soil from p	process (initial release prior to RMM):	9,0E-02
Conditions and Measures re	elated to municipal sewage treatment p	olant
Risk from environmental expo	osure is driven by freshwater.	
Estimated substance removal from wastewater via domestic sewage		94,6
treatment (%)	(1.2.4.).	
Maximum allowable site tonnatotal wastewater treatment re	age (MSafe) based on release following moval (kg/d)	1,4E+01
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 region-		

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.

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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

20222224442	
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
Сооро страсосс	and open systems including transfer operations, application,
	operation of engines and similar articles, equipment mainte-
	nance and disposal of waste oil.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES		
Section 2.1	Control of Consumer Exposure	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 a	mount up to (g):	6.390	
covers skin contact area (cm2):		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 Condition	ns 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	Covord Control and to Co 70
glue, wood parquet glue).	
g.ac, weed parquet g.ac).	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 concentrations up to 30 %
пош эргау.	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
A.II	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.	
	covers use up to 10 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 34 g
	· · · · · · · · · · · · · · · · · · ·
	Covers exposure up to 4 hours/event
Lubricants, greases, re-	Covers exposure up to 4 hours/event Covers concentrations up to 50 %
Lubricants, greases, re- lease products Sprays.	Covers exposure up to 4 hours/event Covers concentrations up to 50 %
Lubricants, greases, re- lease products Sprays.	

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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
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 (6,8E-02
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
	nfluenced by risk management	
Local freshwater dilution factor:		10
Local marine water dilution factor:		100
	ns affecting Environmental Exposure	
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		olant
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	17
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.	een used to estimate consumer 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 - Consumer

30000001112	
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 AND RISK MANAGEMENT MEASURES		
Section 2.1	Control of Consumer Exposure	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 (%): 1	00 %	
Amounts Used			
Unless stated otherwise.			
for each use event, covers a	mount up to (g):	6.390	
covers skin contact area (cm2):		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 Condition	ons affecting Exposure		
I I allowed a Control of Charles Control			

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 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
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 (6,8E-02
Frequency and Duration of	Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not i		
Local freshwater dilution factor: 10		10
Local marine water dilution factor: 100		100
Other Operational Condition	ns 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
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 be indicated.	peen used to estimate consumer 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	
Day Parketta and a second	and the later and the DNI/ANEL Through Diel 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 - 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 A MEASURES	AND RISK MANAGEMENT
Section 2.1	Control of Consumer Exposure	e
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa	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):		4
Exposure (hours/event): 8		8
Other Operational Condition	ons affecting Exposure	
Unless stated otherwise.		
Covers use at ambient temp	eratures.	
Covers use in room size of 2	20m3	

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Air care products Air care, instant action (aerosol sprays).	Covers concentrations up to 50 %
	covers use up to 365 day/year
	covers use up to 4 times/day of use
	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 %
instant action (aerosol	Covers concentrations up to 50 //
sprays). pesticides (excipi-	
ent only).	
	covers use up to 365 day/year
	Covers use up to 4 times/day of use
	For each use event, covers amount up to 5 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,25 hours/event
Air care products Air care, continuous action (solid and liquid).	Covers concentrations up to 10 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,70 cm2
	For each use event, covers amount up to 0,48 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 8,00 hours/event
Air care products Air care,	Covers concentrations up to 50 %
continuous action (solid and liquid). pesticides (excipient only).	
,	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,70 cm2
	For each use event, covers amount up to 0,48 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 8,00 hours/event
Anti-Freeze and de-icing 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

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

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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-	Covere control and to 1,0 /0
terborne latex wall paint.	
torsome latex wan 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-	Covers concentrations up to 21,5 %
vent rich, high solid, water	
borne paint.	
Болго ранк.	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.	development up to so /o
-	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 Removers (paint-, glue-, wall paper-, sealant-remover).	
paper-, sediant-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
Lubriconto avecese ve	Covers exposure up to 2,00 hours/event
Lubricants, greases, re- lease products Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3

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	Covers expecting up to 0.17 hours/event
Lubricanta graccas ra	Covers exposure up to 0,17 hours/event Covers concentrations up to 20 %
Lubricants, greases, release products Pastes.	Covers concentrations up to 20 %
lease products r astes.	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, re-	Covers concentrations up to 50 %
lease products Sprays.	Covere consentations up to 60 %
	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 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	Covers concentrations up to 5 %
products (including solvent	
based products) Cleaners,	
liquids (all purpose clean-	
ers, sanitary products, floor	
cleaners, glass cleaners,	
carpet cleaners, metal	
cleaners).	covers use up to 128 day/year
	Covers use up to 126 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	Covers concentrations up to 15 %
products (including solvent	COVOID CONCENTIALIONS UP to 10 /0
based products) Cleaners,	
trigger sprays (all purpose	
cleaners, sanitary products,	
glass cleaners).	
g.sco ologiloloji	covers use up to 128 day/year
	Covers use up to 1 times/day of use

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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 or flux cores.), flux products	Covers concentrations up to 20 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 12 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event

Section 2.2	Control of Environmental Exposure	
Substance is complex UVC	3.	
Predominantly hydrophobic.		
Amounts Used		
Fraction of EU tonnage used	d in region:	0,1
Regional use tonnage (tonn	es/year):	1,2E-02
Fraction of Regional tonnage	e used locally:	5,0E-04
Annual site tonnage (tonnes	/year):	6,2E-06
Maximum daily site tonnage		1,7E-05
Frequency and Duration o	f Use	
Continuous release.		
Emission Days (days/year):		365
Environmental factors not	influenced by risk management	
Local freshwater dilution fac	tor:	10
Local marine water dilution f		100
	ons affecting Environmental Exposure	
	process (initial release prior to RMM):	0,95
Release fraction to wastewater from process (initial release prior to RMM):		2,5E-02
Release fraction to soil from process (initial release prior to RMM):		2,5E-02
Conditions and Measures	related to municipal sewage treatment p	olant
	posure is driven by freshwater.	
	al from wastewater via domestic sewage	94,6
Maximum allowable site tonnage (MSafe) based on release following total wastewater treatment removal (kg/d)		4,0E-03
Assumed domestic sewage treatment plant flow (m3/d)		2,0E+03
	related to external treatment of waste for	or disposal
	osal of waste should comply with applicable	
Conditions and mossures	related to external recovery of waste	

Conditions and measures related 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	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.

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Exposure Scenario - Consumer

30000001110	
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 A	AND RISK MANAGEMENT
Section 2.1	Control of Consumer Exposur	e
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa	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 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	Ouvers 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 exposure up to 0,17 hours/event	
Anti Franza and do joing	Covers exposure up to 5,17 hours/event	
Anti-Freeze and de-icing products Lock de-icer.	Covers concentrations up to 50 %	
products Lock de-icer.	covers use up to 365 day/year	
	Covers use up to 1 times/day of use	
	covers skin contact area up to (cm2): 214,40 cm2	
	For each use event, covers amount up to 4 g	
	Covers use in a one car garage (34 m3) under typical ventila-	
	tion.	
	Covers use in room size of 34 m3	
	Covers exposure up to 0,25 hours/event	
Piggidal products (c.g. Dis	Covers concentrations up to 5 %	
Biocidal products (e.g. Dis- infectants, pest control) (excipient only). Laundry and dish washing products.	Covers concentrations up to 3 %	
	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, 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 concentrations up to 1,5 %	
Coderigo and panto, tilli	1 001010 00110011111111111111111111111	

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ners, paint removers Wa-	
terborne latex wall paint.	
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 2.760 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Coatings and paints, thin- ners, paint removers Sol- vent rich, high solid, water borne paint.	Covers concentrations up to 27,5 %
·	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Coatings and paints, thin- ners, paint removers Aero- sol spray can.	Covers concentrations up to 50 %
cor 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 ventila-
	tion.
	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.	
noor equalizers.	covers use up to 12 day/year
	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
Ellere D. Gler Mr. Lellere	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 treat- ment products Waterborne latex wall paint.	Covers concentrations up to 1,5 %
latex wall paint.	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 2.760 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Non-metal-surface treat-	Covers concentrations up to 27,5 %
ment products Solvent rich, high solid, water borne paint.	Covers concentrations up to 21,5 %
-	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Non-metal-surface treat- ment products Aerosol spray can.	Covers concentrations up to 50 %
	covers use up to 2 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventila-
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in a one car garage (34 m3) under typical ventila-

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ment products Removers	
(paint-, glue-, wall paper-,	
sealant-remover).	covers use up 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
L.L. a. H.C. a. a.	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, finishing, impregnation and care products Polishes, spray	Covers concentrations up to 50 %
(furniture, shoes).	
	covers use up to 8 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 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, 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-
	Covers use in a one car garage (34 m3) under typical ventila-

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Lubricanta gracaca ra	Covers concentrations up to 20.9/
Lubricants, greases, re-	Covers concentrations up to 20 %
lease products Pastes.	covers use up to 10 day/year
	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
1. 1. 2	Covers exposure up to 4 hours/event
Lubricants, greases, release products Sprays.	Covers concentrations up to 50 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Polishes and wax blends	Covers concentrations up to 50 %
Polishes, wax / cream (floor, furniture, shoes).	
,	covers use up to 29 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 142 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 1,23 hours/event
Polishes and wax blends	Covers concentrations up to 50 %
Polishes, spray (furniture, shoes).	Covers concentrations up to 30 %
	covers use up to 8 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	For each use event, covers amount up to 35 g
	Covers use under typical household ventilation.
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event
Textile dyes, finishing and	Covers concentrations up to 10 %
impregnating products; including bleaches and	
other processing aids	
	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 skin contact area up to (cm2): 857,50 cm2 For each use event, covers amount up to 115 g
	covers skin contact area up to (cm2): 857,50 cm2 For each use event, covers amount up to 115 g Covers use under typical household ventilation.
	covers skin contact area up to (cm2): 857,50 cm2 For each use event, covers amount up to 115 g

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	olant
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	1,8
total wastewater treatment removal (kg/d)	
Assumed domestic sewage treatment plant flow (m3/d)	2.000
Conditions and Measures related to external treatment of waste for	
External treatment and disposal of waste should comply with applicable	e local and/or region-
al regulations.	
Conditions and measures related to external recovery of waste	
External recovery and recycling of waste should comply with applicable	local and/or regions
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.

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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