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

1.1 Product identifier

Trade name : Isopropyl Alcohol-GMP*

Product code : S1155

Registration number EU : 01-2119457558-25-0001, 01-2119457558-25-0002

Synonyms : 2-propanol, Dimethyl carbinol, IPA-GMP*, IPSC, Isopropanol

CAS-No. : 67-63-0

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

Use of the Sub- : *Meets excipient level of GMP.

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.

This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the sup-

plier.

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

National Poison Information Centre (NVIC): Tel. nr. +31(0)88 755 8000 (24 hrs a day and 7 days a week)

days a week).

Only for the purpose of informing medical personnel.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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

Eye irritation, Category 2 H319: Causes serious eye irritation.

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

, Oral

H336: May cause drowsiness or dizziness.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms





Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:

H225 Highly flammable liquid and vapour.

HEALTH HAZARDS:

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

ENVIRONMENTAL HAZARDS:

Not classified as environmental hazard according to

CLP criteria.

Precautionary statements : Prevention:

P210 Keep away from heat, hot surfaces, sparks, open

flames and other ignition sources. No smoking. P243 Take action to prevent static discharges.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/

attention.

P304 + P340 IF INHALED: Remove person to fresh air and

keep comfortable for breathing.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

2.3 Other hazards

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

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

Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger.

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.

Slightly irritating to respiratory system.

SECTION 3: Composition/information on ingredients

3.1 Substances

Components

| Chemical name | CAS-No. | Concentration (% w/w) |
|-------------------|-----------|-----------------------|
| | EC-No. | , , , |
| Isopropyl alcohol | 67-63-0 | 100 |
| | 200-661-7 | |

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 : Immediately flush eye(s) with plenty of water.

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

rinsing.

Transport to the nearest medical facility for additional treat-

ment.

If swallowed : If swallowed, do not induce vomiting: transport to nearest

medical facility for additional treatment. If vomiting occurs

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

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Breathing of high vapour concentrations may cause central

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

death.

No specific hazards under normal use conditions.

Skin irritation signs and symptoms may include a burning sen-

sation, redness, or swelling.

Eye irritation signs and symptoms may include a burning sen-

sation, redness, swelling, and/or blurred vision.

If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest

congestion, shortness of breath, and/or fever.

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

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!

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 : Alcohol-resistant foam, water spray or fog. Dry chemical pow-

der, carbon dioxide, sand or earth may be used for small fires

only.

Unsuitable extinguishing

media

None

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Carbon monoxide may be evolved if incomplete combustion

occurs.

5.3 Advice for firefighters

Special protective equipment : Proper protective equipment including chemical resistant

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for firefighters 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 : Clear fire area of all non-emergency personnel.

Keep adjacent containers cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Observe the 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.

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Vapour may form an explosive mixture with air.

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.

Stay upwind and keep out of low areas. 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.

Stay upwind and keep out of low areas.

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. Ventilate contaminated area thoroughly. Monitor area with combustible gas indicator.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : For large liquid spills (> 1 drum), transfer by mechanical

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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 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.

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 contact with skin, eyes and clothing.

Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.

Bulk storage tanks should be diked (bunded).

Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.

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.

Properly dispose of any contaminated rags or cleaning mate-

rials in order to prevent fires.

Do NOT use compressed air for filling, discharging, or han-

dling operations.

Product Transfer : Refer to guidance under Handling section.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage : The vapour is heavier than air. Beware of accumulation in pits

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areas and containers and confined spaces. Refer to section 15 for any additional

specific legislation covering the packaging and storage of this

product.

Packaging material : Suitable material: For containers, or container linings use mild

steel, stainless steel.

Unsuitable material: Natural, butyl, neoprene or nitrile rubbers.

Container Advice : Containers, even those that have been emptied, can contain

explosive vapours. 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.

Ensure that all local regulations regarding handling and stor-

age facilities are followed.

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

on Static Electricity).

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Biological occupational exposure limits

No biological limit allocated.

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

| Substance name | End Use | Exposure routes | Potential health effects | Value |
|-------------------|-----------|-----------------|----------------------------|---------------------|
| Isopropyl alcohol | Workers | Dermal | Long-term systemic effects | 888 mg/kg bw/day |
| Isopropyl alcohol | Workers | Inhalation | Long-term systemic effects | 500 mg/m3 |
| Isopropyl alcohol | Consumers | Dermal | Long-term systemic effects | 319 mg/kg bw/day |
| Isopropyl alcohol | Consumers | Inhalation | Long-term systemic effects | 89 mg/m3 |
| Isopropyl alcohol | Consumers | Oral | Long-term systemic effects | 26 mg/kg bw/day |

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

| Substance name | | Environmental Compartment | Value |
|-------------------|----------|---|-------------|
| Isopropyl alcohol | | | |
| Remarks: | Exposure | assessments have not been presented for the | environment |

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therefore PNEC values not required.

8.2 Exposure controls

Engineering measures

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex. Use sealed systems as far as possible.

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

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended.

Eye washes and showers for emergency use.

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

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

General Information:

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

Define procedures for safe handling and maintenance of controls.

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

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

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

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

Personal protective equipment

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

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

Eye protection : Wear goggles for use against liquids and gas.

Wear full face shield if splashes are likely to occur.

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. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable

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> gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Skin and body protection

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

Skin protection is not required under normal conditions of

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

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes. Protective clothing approved to EU Standard EN14605.

Respiratory protection

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

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

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

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

Thermal hazards : Not applicable

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

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Colour : clear

Odour : characteristic

Odour Threshold : Data not available

Melting point/freezing point : no data available

Boiling point/boiling range : 82 - 83 °C

Flammability

Flammability (solid, gas) : Not applicable

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit /

upper flammability limit

: 12 %(V)

Lower explosion limit /

Lower flammability limit

: 2 %(V)

Flash point : 12 °C

Method: IP 170

Auto-ignition temperature : no data available

Decomposition temperature

Decomposition tempera-

ture

no data available

pH : Not applicable

Viscosity

Viscosity, dynamic : 2,43 mPa.s (20 °C)

Method: ASTM D445

Viscosity, kinematic : Data not available

Solubility(ies)

Water solubility : Completely miscible.

Solubility in other solvents : Readily soluble in various organic solvents.

Partition coefficient: n-

octanol/water

: log Pow: 0,05

Vapour pressure : 6.020 Pa

Relative density : 0,78 - 0,79 (20 °C)

Method: ASTM D4052

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Density : 785 - 786 kg/m3 (20 °C)

Method: ASTM D4052

Relative vapour density : 2 (20 °C)

Particle characteristics

Particle size : Data not available

9.2 Other information

Explosive properties : Classification Code: Not classified

Oxidizing properties : Not applicable

Evaporation rate : no data available

Conductivity: > 10,000 pS/m, A number of factors,

for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumu-

lator.

Surface tension : Data not available

Molecular weight : 60,1 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

No hazardous reaction is expected when handled and stored according to provisions

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.

Prevent vapour accumulation.

In certain circumstances product can ignite due to static elec-

tricity.

10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

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10.6 Hazardous decomposition products

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:

Isopropyl alcohol:

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

Remarks: Low toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 10000 ppm

Exposure time: 6 h

Method: Test(s) equivalent or similar to OECD Test Guideline

403

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcot-

ic effects.

Remarks: Low toxicity by inhalation.

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

Remarks: Low toxicity

Skin corrosion/irritation

Components:

Isopropyl alcohol:

Remarks : Not irritating to skin.

Serious eye damage/eye irritation

Components:

Isopropyl alcohol:

Species : Rabbit Exposure time : 24 h

Method : Test(s) equivalent or similar to OECD Test Guideline 405

Remarks : Irritating to eyes.

Species : Rabbit

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Exposure time : 48 h

Method : Test(s) equivalent or similar to OECD Test Guideline 405

Remarks : Irritating to eyes.

Species : Rabbit Exposure time : 72 h

Method : Test(s) equivalent or similar to OECD Test Guideline 405

Remarks : Irritating to eyes.

Respiratory or skin sensitisation

Components:

Isopropyl alcohol:

Species : Guinea pig
Method : Buehler Test
Result : negative
Remarks : Not a sensitiser.

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

Germ cell mutagenicity

Components:

Isopropyl alcohol:

Genotoxicity in vitro : Remarks: Based on available data, the classification criteria

are not met.

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:

Isopropyl alcohol:

Remarks : Not a carcinogen.

Carcinogenicity - Assess-

ment

This product does not meet the criteria for classification in

categories 1A/1B.

| Material | GHS/CLP Carcinogenicity Classification |
|-------------------|--|
| Isopropyl alcohol | No carcinogenicity classification. |

| Material | Other Carcinogenicity Classification |
|-------------------|--|
| Isopropyl alcohol | IARC: Group 3: Not classifiable as to its carcinogenicity to |

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humans

Reproductive toxicity

Components:

Isopropyl alcohol:

Effects on fertility

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

not met.

Reproductive toxicity - As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

STOT - single exposure

Components:

Isopropyl alcohol:

Remarks : May cause drowsiness and dizziness.

STOT - repeated exposure

Components:

Isopropyl alcohol:

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

sidered relevant to humans

Aspiration toxicity

Components:

Isopropyl alcohol:

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.

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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:

Isopropyl alcohol:

Remarks Exposure may enhance the toxicity of other materials.

Classifications by other authorities under varying regulatory

frameworks may exist.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Isopropyl alcohol:

Toxicity to fish : Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

aquatic invertebrates

Toxicity to daphnia and other : Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to algae/aquatic plants Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to microorganisms

Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic tox-

icity)

Remarks: Data not available

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

Remarks: Data not available

12.2 Persistence and degradability

Components:

Isopropyl alcohol:

Biodegradability Remarks: Readily biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

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12.3 Bioaccumulative potential

Components:

Isopropyl alcohol:

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

12.4 Mobility in soil

Components:

Isopropyl alcohol:

Mobility : Remarks: Dissolves in water., If the product enters soil, one or

more constituents will or may be mobile and may contaminate

groundwater.

12.5 Results of PBT and vPvB assessment

Components:

Isopropyl alcohol:

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

tence, bioaccumulation and toxicity and hence is not consid-

ered to be PBT or vPvB..

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to

have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological infor-

mation

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

Components:

Isopropyl alcohol:

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.

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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.

Do not dispose into the environment, in drains or in water courses.

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

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

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

Contaminated packaging : Drain container thoroughly.

After draining, vent in a safe place away from sparks and fire.

Residues may cause an explosion hazard.
Do not, puncture, cut, or weld uncleaned drums.
Send to drum recoverer or metal reclaimer.

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : 1219
ADR : 1219
RID : 1219
IMDG : 1219
IATA : 1219

14.2 UN proper shipping name

ADN : ISOPROPANOL
ADR : ISOPROPANOL
RID : ISOPROPANOL
IMDG : ISOPROPANOL

IATA : ISOPROPANOL

14.3 Transport hazard class(es)

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ADN : 3 **ADR** 3 RID 3 **IMDG** 3 IATA : 3

14.4 Packing group

ADN

: 11 Packing group Classification Code : F1 Labels 3

CDNI Inland Water Waste : NST 8192 Isopropyl alcohol

Agreement

ADR

Ш Packing group Classification Code F1 Hazard Identification Number : 33 Labels

RID

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

IMDG

Packing group Ш Labels 3

IATA

Packing group : II : 3 Labels

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

Environmentally hazardous no

Environmentally hazardous

IMDG

Marine pollutant no

14.6 Special precautions for user

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

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

needs to comply with in connection with transport.

14.7 Maritime transport in bulk according to IMO instruments

Pollution category : Z

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Ship type : IBC Chapter 18 cargo, must be double hulled

Product name : Isopropyl alcohol

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

Nitrogen is an odourless and invisible gas. Exposure to nitrogen enriched atmospheres displaces available oxygen which may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space

entry.

Transport in bulk according to Annex II of Marpol and the IBC

Code

SECTION 15: Regulatory information

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

REACH - List of substances subject to authorisation

(Annex XIV)

: Product is not subject to Authorisa-

tion under REACH.

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

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

Article 57).

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

P5c

FLAMMABLE LIQUIDS

Other regulations:

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

Product is subject to Major accident risk decision 2015 (BRZO+) based on Seveso III directive (2012/18/EU).

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

AIIC : Listed

DSL : Listed

IECSC : Listed

ENCS : Listed

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KECI : Listed

NZIoC : Listed

PICCS : Listed

TSCA : 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

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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Further information

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

erators.

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

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

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

ered to be PBT or vPvB.

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

from the previous version.

Sources of key data used to compile the Safety Data

Sheet

The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU

IUCLID date base, EC 1272 regulation, etc).

Classification of the mixture: Classification procedure:

Flam. Liq. 2 H225 On basis of test data.

Eye Irrit. 2 H319 Expert judgement and weight of evi-

dence determination.

STOT SE 3 H336 Expert judgement and weight of evi-

dence determination.

Identified Uses according to the Use Descriptor System

Uses - Worker

Title : Manufacture of substance

- Industrial

Uses - Worker

Title : Use as an intermediate

- Industrial

Uses - Worker

Title : Distribution of substance

Industrial

Uses - Worker

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

- Industrial

Uses - Worker

Title : Uses in Coatings

- Industrial

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Uses - Worker

Title : Uses in Coatings

- Professional

Uses - Worker

Title : Use in Cleaning Agents

- Industrial

Uses - Worker

Title : Use in Cleaning Agents

- Professional

Uses - Worker

Title : Lubricants

- Industrial

Uses - Worker

Title : Lubricants

- Professional

Uses - Worker

Title : Metal working fluids / rolling oils

- Industrial

Uses - Worker

Title : Metal working fluids / rolling oils

- Professional

Uses - Worker

Title : Use as binders and release agents

- Industrial

Uses - Worker

Title : Use as binders and release agents

- Professional

Uses - Worker

Title : Use in Agrochemicals uses

- Professional

Uses - Worker

Title : Use as a fuel

Industrial

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Uses - Worker

Title : Use as a fuel

- Professional

Uses - Worker

Title : Functional Fluids

- Industrial

Uses - Worker

Title : Functional Fluids

- Professional

Uses - Worker

Title : De-icing and anti-icing applications

- Professional

Uses - Worker

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

- Industrial

Uses - Worker

Title : Use in laboratories

- Industrial

Uses - Worker

Title : Use in laboratories

- Professional

Uses - Worker

Title : Water treatment chemicals

- Industrial

Uses - Worker

Title : Water treatment chemicals

- Professional

Identified Uses according to the Use Descriptor System

Uses - Consumer

Title : Use in coatings

- Consumer

Uses - Consumer

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Title : Use in Cleaning Agents

- Consumer

Uses - Consumer

Title : Lubricants

- Consumer

Uses - Consumer

Title : Use in agrochemicals

- Consumer

Uses - Consumer

Title : Use as a fuel

- Consumer

Uses - Consumer

Title : Functional Fluids

- Consumer

Uses - Consumer

Title : Use in de-icing and anti-icing fluids

- Consumer

Uses - Consumer

Title : Other Consumer Uses

- Consumer

Uses - Consumer

Title : Water treatment chemicals

- 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.

NL / EN

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Exposure Scenario - Worker

| 30000000271 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Manufacture of substance- Industrial |
| Use Descriptor | Sector of Use: SU3, SU8, SU9 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15 Environmental Release Categories: ERC1, ERC4 |
| Scope of process | Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|--|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., | |
| 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 (unless stated differently). | |

Assumes a good basic standard of occupational hygiene is implemented.

| Contributing Scenarios | Risk Management Measures |
|--|--|
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| General exposures (closed systems)PROC1PROC2PROC | No other specific measures identified. 3 |
| General exposures (open systems)PROC4 | No other specific measures identified. |
| Process samplingPROC8b | No other specific measures identified. |
| Laboratory activitiesPROC15 | No other specific measures identified. |
| Bulk transfers(open systems)PROC8b | No other specific measures identified. |
| Bulk transfers(closed systems)PROC8b | No other specific measures identified. |

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| Equipment cleaning and maintenancePROC8a | Drain down system prior to equipment opening or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. |
|---|--|
| Storage.PROC2 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 | |

indicated.

Section 3.2 -Environment No exposure assessment presented for the environment.

| 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

| 30000000272 | |
|------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use as an intermediate- Industrial |
| Use Descriptor | Sector of Use: SU3, SU8, SU9 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15 Environmental Release Categories: ERC6a |
| Scope of process | Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container). |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|--|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., | |
| Frequency and Duration o | f Use | |
| Covers daily exposures up to | o 8 hours (unless stated differently). | |
| Other Operational Condition | ons affecting Exposure | |
| | an 20°C above ambient temperature (unless stated differently). | |

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 measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| General exposures (closed systems)PROC1PROC2PROC | No other specific measures identified. 3 |
| General exposures (open systems)PROC4 | No other specific measures identified. |
| Process samplingPROC8a | 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. |

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| Equipment cleaning and maintenancePROC8a | Drain down system prior to equipment opening or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. | |
|--|--|--|
| Storage. | Store substance within a closed system. | |
| Section 2.2 | Control of Environmental Exposure | |
| No exposure assessment pre | esented for the environment. | |

| 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.

| 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

| 30000000273 | |
|------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Distribution of substance- Industrial |
| Use Descriptor | Sector of Use: SU3, SU8, SU9 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15 Environmental Release Categories: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC7 |
| Scope of process | Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|--|--|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., | |
| 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 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 measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| General exposures (closed systems)PROC1PROC2PRO | 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(open systems)PROC8b | No other specific measures identified. |
| Bulk transfers(closed systems)PROC8b | No other specific measures identified. |

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| Drum and small package fill-ingPROC9 | No other specific measures identified. |
|--|---|
| Equipment cleaning and maintenancePROC8a | Drain down system prior to equipment opening or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. |
| Storage.PROC2 | Store substance within a closed system. |

| Section 2.2 | Control of Environmental Exposure | |
|----------------------------|-----------------------------------|--|
| No exposure assessment pro | esented for the environment. | |

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

Section 3.2 -Environment

No exposure assessment presented for the environment.

| SECTION 4 | GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO |
|---|---|
| Section 4.1 - Health | |
| Prodicted exposures are not expected to exceed the DN/M/EL when the Rick 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

No exposure assessment presented for the environment.

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Exposure Scenario - Worker

| Exposure Scenario - Works | ,1 |
|---------------------------|--|
| 30000000274 | |
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Formulation & (re)packing of substances and mixtures- Industrial |
| Use Descriptor | Sector of Use: SU3, SU10 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15 Environmental Release Categories: ERC2 |
| Scope of process | Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|------------------------------|---|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., | |
| stance in Mixture/Article | Unless stated otherwise., | |
| Frequency and Duration of | f Use | |
| Covers daily exposures up to | o 8 hours (unless stated differently). | |
| Other Operational Condition | ons affecting Exposure | |

Other Operational Conditions affecting Exposure
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.

| Contributing Scenarios R | isk Management Measures |
|---|--|
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| General exposures (closed systems)PROC1PROC2PROC3 | No other specific measures identified. |
| General exposures (open systems)PROC4 | No other specific measures identified. |
| Batch processes at elevated temperaturesPROC3 | No other specific measures identified. |
| Process samplingPROC3 | No other specific measures identified. |
| Laboratory activitiesPROC15 | No other specific measures identified. |
| Bulk transfersPROC8b | No other specific measures identified. |

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| Storage.PROC2 | Store substance within a closed system. |
|---|--|
| Equipment cleaning and maintenancePROC8a | Drain down system prior to equipment opening or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. |
| Drum and small package fill-ingPROC9 | No other specific measures identified. |
| articles by tabletting, compression, extrusion or pelletisationPROC14 | · |
| Production or preparation or | No other specific measures identified. |
| Drum/batch transfersPROC8k | No other specific measures identified. |
| ManualTransfer from/pouring from containersPROC8a | No other specific measures identified. |
| Mixing operations (open systems)PROC5 | No other specific measures identified. |

| 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. |

| 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

| 30000000275 | |
|------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Uses in Coatings- Industrial |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC10, PROC13, PROC15 Environmental Release Categories: ERC4 |
| Scope of process | Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|--|---|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., | |
| Frequency and Duration of Use | | |
| Covers daily exposures up to 8 hours (unless stated differently). | | |
| Other Operational Condition | ons affecting Exposure | |
| Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational bygiene is implemented | | |

Assumes a good basic standard of occupational hygiene is implemented.

| Contributing Scenarios Risk M | | lanagement Measures | |
|---|----|--|----|
| General measures (eye irritants). | | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. | a- |
| General exposures (closed systems)PROC1PROC2 | | No other specific measures identified. | |
| General exposures (open systems)PROC4 | ;- | No other specific measures identified. | |
| Film formation - force drying, ing and other technologies.Us contained systemsPROC2 | | No other specific measures identified. | |
| Mixing operations (closed systems)General exposures (closesystems)PROC3 | | No other specific measures identified. | |

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| Film formation - air dryingPROC4 | No other specific measures identified. |
|--|--|
| Preparation of material for applicationMixing operations (open systems)PROC5 | No other specific measures identified. |
| Spraying (automatic/robotic)PROC7 | Carry out in a vented booth or extracted enclosure. |
| ManualSprayingPROC7 | Provide a good standard of controlled ventilation (10 to 15 air changes per hour). |
| Roller, spreader, flow applicationPROC10 | No other specific measures identified. |
| Dipping, immersion and pouringPROC13 | No other specific measures identified. |
| Laboratory activitiesPROC15 | No other specific measures identified. |
| Material transfersDrum/batch transfersTransfer from/pouring from containersPROC8aPROC8bPROC9 | No other specific measures identified. |
| Production or preparation or articles by tabletting, compression, extrusion or pelletisationPROC14 | No other specific measures identified. |

| 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.

| 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

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

| Section 4.2 | -Environment | |
|-------------|--------------|--|
| | | |

No exposure assessment presented for the environment.

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Exposure Scenario - Worker

| Exposure occinate - Worker | |
|----------------------------|--|
| 3000000276 | |
| | |
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Uses in Coatings- Professional |
| Use Descriptor | Sector of Use: SU22 |
| | Process Categories: PROC1, PROC2, PROC3, PROC4, |
| | PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13, |
| | PROC15, PROC19 |
| | Environmental Release Categories: ERC8a, ERC8d |
| | 3 , |
| Scope of process | Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|---|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., | |
| 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 | Risl | k Management Measures | |
|--|-----------|---|-----|
| General measures (eye irritar | nts). | Use suitable eye protection. Avoid direct eye contact with product, also via contaminat on hands. | ion |
| General exposures (closed sy tems)PROC1PROC2PROC3 | | No other specific measures identified. | |
| Filling/ preparation of equipm from drums or containers.Use contained systemsPROC2 | | No other specific measures identified. | |
| General exposures (open systems)PROC4 | S- | No other specific measures identified. | |
| Preparation of material for ap cationUse in contained batch processesPROC3 | | No other specific measures identified. | |

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| Coation 2.2 | Control of Environmental Expenses |
|---|---|
| Hand application - fingerpaints pastels, adhesives PROC19 | No other specific measures identified. |
| Laboratory activitiesPROC15 | No other specific measures identified. |
| Dipping, immersion and pouringPROC13 | No other specific measures identified. |
| ManualSprayingOutdoorPRO0 | Wear a respirator conforming to EN140 with Type A filter or better. |
| ManualSprayingIndoorPROC1 | 1 Carry out in a vented booth or extracted enclosure. |
| Roller, spreader, flow applicationPROC10 | No other specific measures identified. |
| Material transfersDrum/batch transfersPROC8aPROC8b | No other specific measures identified. |
| Preparation of material for app cationIndoorPROC5 | li- No other specific measures identified. |
| Film formation - air dryingln-doorPROC4 | No other specific measures identified. |
| Film formation - air dry- ingOutdoorPROC4 | No other specific measures identified. |

| 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.

| | 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 uses should ensure that risks are managed to at least equivalent levels. | | ions outlined in Section 2 are implemented. nt Measures/Operational Conditions are adopted, then users |

| Se | Section 4.2 -Environment | |
|----|--|--|
| No | o exposure assessment presented for the environment. | |

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Exposure Scenario - Worker

| 30000000277 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use in Cleaning Agents- Industrial |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13 Environmental Release Categories: ERC4 |
| Scope of process | Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|--|---|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., | |
| stance in Mixture/Article Unless stated otherwise., Frequency and Duration of Use | | |
| | | |
| Covers daily exposures up to 8 hours (unless stated differently). | | |
| Other Operational Conditions offseting Expecure | | |

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 measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Bulk transfersPROC8a | Clear transfer lines prior to de-coupling. |
| Automated process with (semi) closed systems.Use in contained systemsPROC2 | No other specific measures identified. |
| Application of cleaning products in closed systemsPROC2 | No other specific measures identified. |
| Filling/ preparation of equipment from drums or | No other specific measures identified. |

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| containers.PROC8b | |
|---|--|
| Use in contained batch processesPROC4 | No other specific measures identified. |
| Degreasing small objects in cleaning stationPROC13 | No other specific measures identified. |
| Cleaning with low-pressure washersPROC10 | No other specific measures identified. |
| Cleaning with high pressure washersPROC7 | Provide a good standard of controlled ventilation (10 to 15 air changes per hour). |
| ManualSurfacesCleaningno sprayingPROC10 | No other specific measures identified. |
| Storage.PROC1 | 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.

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

Section 4.2 - Environment

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Exposure Scenario - Worker

| 30000000278 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use in Cleaning Agents- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13 Environmental Release Categories: ERC8a, ERC8d |
| Scope of process | Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand). |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|---|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., |
| Frequency and Duration o | f Use |
| Covers daily exposures up to 8 hours (unless stated differently). | |
| Other Operational Condition | ons affecting Exposure |
| | an 20°C above ambient temperature (unless stated differently). |

Assumes a good basic standard of occupational hygiene is implemented.

Contributing Scenarios Risk Management Measures

| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
|--|--|
| Filling/ preparation of equipment from drums or containers.PROC8b | No other specific measures identified. |
| Automated process with (semi) closed systems.Use in contained systemsPROC2PROC3 | No other specific measures identified. |
| Semi Automated process. (e.g.: Semi automatic application of floor care and maintenance products)PROC4 | No other specific measures identified. |
| Filling/ preparation of equipment from drums or containers.PROC8a | No other specific measures identified. |
| ManualSurfacesCleaningDipping, immersion and pouringPROC13 | No other specific measures identified. |

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| Cleaning with low-pressure washers- | No other specific measures identified. |
|--|--|
| Rolling, Brushingno sprayingPROC10 | ' |
| Cleaning with high pressure washers- | Provide a good standard of controlled ventilation |
| SprayingIndoorPROC11 | (10 to 15 air changes per hour). |
| Cleaning with high pressure washers- SprayingOutdoorPROC11 | Limit the substance content in the product to 1 %., or: Avoid carrying out activities involving exposure for |
| | more than 15 minutes. |
| ManualSurfacesCleaningSprayingPROC10 | No other specific measures identified. |
| Ad hoc manual application via trigger sprays, dipping, etc.Rolling, BrushingPROC10 | No other specific measures identified. |
| Application of cleaning products in closed systemsOutdoorPROC4 | 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 |
|---|-----------------------------------|
| 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.

| 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

| 30000000294 | |
|------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Lubricants- Industrial |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18 Environmental Release Categories: ERC7, ERC4 |
| Scope of process | Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|--|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., |
| 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 I | Risk Management Measures |
|--|--|
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| General exposures (closed systems)PROC1PROC2PROC | No other specific measures identified. |
| General exposures (open systems)PROC4 | No other specific measures identified. |
| Bulk transfersDedicated facilityPROC8b | Clear transfer lines prior to de-coupling. |
| Filling/ preparation of equipmer from drums or containers.PROC8aPROC8b | No other specific measures identified. |
| Initial factory fill of equip- mentPROC9 | No other specific measures identified. |
| Operation and lubrication of | Provide extraction ventilation at points where emissions oc- |

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| high energy open equip- | Cur. |
|---|---|
| mentPROC17PROC18 | Restrict area of openings to equipment. |
| Manual applications e.g. brushing, rollingPROC10 | No other specific measures identified. |
| Treatment by dipping and pour-ingPROC13 | No other specific measures identified. |
| SprayingPROC7 | Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. |
| Maintenance (of larger plant items) and machine set up-PROC8b | No other specific measures identified. |
| Maintenance of small itemsPROC8a | 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.

| 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 | |

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

| 30000000295 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Lubricants- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20 Environmental Release Categories: ERC8a, ERC8d, ERC9a, ERC9b |
| Scope of process | Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|---|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., |
| stance in Mixture/Article | Unless stated otherwise., |
| Frequency and Duration of Use | |
| Covers daily exposures up to 8 hours (unless stated differently). | |
| Other Operational Conditions affecting Exposure | |

Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.

| Contributing Scenarios | Risk N | Management Measures |
|---|--------|---|
| General measures (eye irrita | nts). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| General exposures (closed stems)PROC1PROC2PROC3 | • | No other specific measures identified. |
| Operation of equipment con engine oils and similar.PRO | | No other specific measures identified. |
| General exposures (open sy tems)PROC4 | 'S- | No other specific measures identified. |
| Bulk transfersDedicated faci tyPROC8b | li- | No other specific measures identified. |
| Filling/ preparation of equipment from drums or containers.PROC8aPROC8b | nent | No other specific measures identified. |

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| Operation and lubrication of high | Restrict area of openings to equipment. |
|---|---|
| energy open equipmentIn- doorPROC17PROC18 | Provide extraction ventilation at points where emissions occur. |
| Operation and lubrication of high energy open equipmentOut-doorPROC17PROC18 | No other specific measures identified. |
| Maintenance and machine set upelevated temperaturePROC8b | Provide extract ventilation to emission points when contact with warm (>50 Degrees C) lubricant is likely. |
| Maintenance of small itemselevated temperatureCovers percentage sub- | Avoid carrying out activities involving exposure for more than 4 hours |
| stance in the product up to 5%.PROC8a | Retain drain downs in sealed storage pending disposal or for subsequent recycle. |
| Engine lubricant servicePROC9 | No other specific measures identified. |
| Manual applications e.g. brushing, rollingPROC10 | No other specific measures identified. |
| SprayingPROC11 | Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. , or: |
| | Wear a respirator conforming to EN140 with Type A/P2 filter or better. |
| Treatment by dipping and pour- ingPROC13 | Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. , or: |
| | Provide a good standard of controlled ventilation (10 to 15 air changes per hour). |
| | Allow time for product to drain from workpiece. |
| Storage.PROC1PROC2 | Store substance within a closed system. |
| 0 (' 0 0 | |

| 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. | |

| 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.

Should chould that holds are managed to at least equivalent levels.

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Exposure Scenario - Worker

| 30000000296 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Metal working fluids / rolling oils- Industrial |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17 Environmental Release Categories: ERC4 |
| Scope of process | Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | | |
|--|---|--|--|
| Additional Information | No exposure assessment presented for the environment. | | |
| Section 2.1 | Control of Worker Exposure | | |
| Product Characteristics | Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | | |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., | | |
| 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 | Risl | k Management Measures | |
|--|-------|---|----|
| General measures (eye irritar | nts). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination hands. | on |
| General exposures (closed sy tems)PROC1PROC2PROC3 | | No other specific measures identified. | |
| General exposures (open systems)PROC4 | ;- | No other specific measures identified. | |
| Bulk transfersDrum/batch tran fersPROC5PROC8bPROC9 | าร- | No other specific measures identified. | |
| Product sampling.PROC8b | | No other specific measures identified. | |
| Metal machining operationsPROC17 | | No other specific measures identified. | |

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| Treatment by dipping and pour-ingPROC13 | No other specific measures identified. |
|---|---|
| SprayingPROC7 | Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. |
| Manual applications e.g. brushing, rollingPROC10 | No other specific measures identified. |
| Automated metal roll- ing/formingelevated tempera- tureUse in contained sys- temsPROC2 | No other specific measures identified. |
| Semi-automated metal roll- ing/formingelevated tempera- turePROC17 | Automate activity where possible. No other specific measures identified. |
| Equipment cleaning and maintenancePROC8aPROC8b | Retain drain downs in sealed storage pending disposal or for subsequent recycle. |
| 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.

| 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. | Ī |

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Exposure Scenario - Worker

| 30000000297 | |
|------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Metal working fluids / rolling oils- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17 Environmental Release Categories: ERC8a, ERC8d |
| 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. |

| OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | | |
|---|--|--|
| No exposure assessment presented for the environment. | | |
| Control of Worker Exposure | | |
| Product Characteristics | | |
| Liquid, vapour pressure 0.5 - 10 kPa at STP | | |
| Covers percentage substance in the product up to 100%., Unless stated otherwise., | | |
| Frequency and Duration of Use | | |
| Covers daily exposures up to 8 hours (unless stated differently). | | |
| Other Operational Conditions affecting Exposure | | |
| | | |

Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.

| Contributing Scenarios | Risk Managen | nent Measures | |
|--|--------------|--|--|
| General measures (eye irritants). | | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. | |
| General exposures (closed systems)PROC1PROC2PROC3 | | No other specific measures identified. | |
| Bulk transfersDedicated facilityPROC8b | | Clear transfer lines prior to de-coupling. | |
| Filling/ preparation of equipment from drums or contain- ers.PROC5PROC8aPROC8bPROC9 | | No other specific measures identified. | |
| Product sampling.PROC8b | | No other specific measures identified. | |
| Metal machining operationsPROC17 | | Provide extraction ventilation at points where emissions occur. | |

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| Roller, spreader, flow applicationPROC10 | No other specific measures identified. |
|---|--|
| SprayingPROC11 | Carry out in a vented booth or extracted enclosure. , or: Wear a respirator conforming to EN140 with Type A/P2 filter or better. |
| Treatment by dipping and pouringPROC13 | Allow time for product to drain from workpiece. No other specific measures identified. |
| Equipment cleaning and maintenance-PROC8aPROC8b | Retain drain downs in sealed storage pending disposal or for subsequent recycle. No other specific measures identified. |
| Storage.PROC1PROC2 | Handle 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.

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

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

Section 4.2 -Environment No exposure assessment presented for the environment.

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Exposure Scenario - Worker

| Exposure occination Worker | | |
|----------------------------|---|--|
| 30000000298 | | |
| SECTION 1 | EXPOSURE SCENARIO TITLE | |
| Title | Use as binders and release agents- Industrial | |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC6, PROC7, PROC8a, PROC8b, PROC10, PROC13, PROC14 Environmental Release Categories: ERC4 | |
| Scope of process | Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), mould forming and casting, and handling of waste. | |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|--|---|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., | |
| stance in Mixture/Article | Unless stated otherwise., | |
| 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 |
|--|--|
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Bulk transfers(closed systems)PROC1PROC2PROC3 | Clear transfer lines prior to de-coupling. |
| Drum/batch transfer- sPROC8aPROC8b | 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)elevated temperature- PROC6 | Provide extraction ventilation at points where emissions occur. |

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| Treatment by dipping and pour-ingPROC13 | No other specific measures identified. |
|--|---|
| Spraying (automatic/robotic)PROC7 | Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings. |
| SprayingManualPROC7 | Carry out in a vented booth or extracted enclosure. |
| 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.

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

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

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

Section 4.2 - Environment

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Exposure Scenario - Worker

| 30000000299 | |
|------------------|--|
| 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 |
| 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 | |
|--|---|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., | |
| stance in Mixture/Article | Unless stated otherwise., | |
| 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 measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Bulk transfers(closed systems)PROC1PROC2PROC3 | No other specific measures identified. |
| Drum/batch transfer- sPROC8aPROC8b | No other specific measures identified. |
| Mixing operations (open systems)PROC4 | No other specific measures identified. |
| Mixing operations (closed sys tems)PROC3 | - No other specific measures identified. |
| Mold formingPROC14 | No other specific measures identified. |
| Casting operations(open systems)elevated temperature-PROC6 | Provide extraction ventilation at points where emissions occur. |

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| Coation 2.2 | Central of Environmental Expenses |
|---|--|
| Storage.PROC1PROC2 | Store substance within a closed system. |
| | Segregate the activity away from other operations. |
| | , or: Wear a respirator conforming to EN140 with Type A/P2 filter or better. |
| ManualSprayingPROC11 | Carry out in a vented booth or extracted enclosure. |
| Roller, spreader, flow applica tionPROC10 | No other specific measures identified. |
| MachineSprayingPROC11 | Carry out in a vented booth or extracted enclosure. Segregate the activity away from other operations. |

| 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.

| SECTION 4 | GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO |
|--------------------|---|
| Castian 4.4 Haalth | |

Section 4.1 - Health

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

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

Section 4.2 - Environment

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Exposure Scenario - Worker

| 30000000300 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use in Agrochemicals uses- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC4, PROC8a, PROC8b, PROC11, PROC13 Environmental Release Categories: ERC8a, ERC8d |
| Scope of process | Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|---|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., |
| Frequency and Duration of Use | |
| Covers daily exposures up t | o 8 hours (unless stated differently). |
| Other Operational Conditions affecting Exposure | |
| Assumes use at not more th | an 20°C above ambient temperature (unless stated differently). |

Assumes a good basic standard of occupational hygiene is implemented.

| Contributing Scenarios | Risk Management Measures |
|---|--|
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Transfer from/pouring from containersPROC8b | No other specific measures identified. |
| Mixing operations (open systems)PROC4 | No other specific measures identified. |
| Spraying/ fogging by manual applicationPROC11 | Limit the substance content in the product to 25 %. Avoid carrying out activities involving exposure for more than 4 hours |
| 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. |

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| Equipment cleaning and maintenancePROC8a | Retain drain downs in sealed storage pending disposal or for subsequent recycle. |
|--|--|
| Storage.PROC1PROC2 | Store substance within a closed system. |
| | |
| Section 2.2 | Control of Environmental Exposure |
| No exposure assessment pre | esented for the environment. |

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

Section 3.2 - Environment

No exposure assessment presented for the environment.

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

Section 4.1 - Health

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

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

Section 4.2 - Environment

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Exposure Scenario - Worker

| 30000000301 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use as a fuel- Industrial |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16 Environmental Release Categories: ERC7 |
| Scope of process | Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|--|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., |
| Frequency and Duration o | f Use |
| Covers daily exposures up t | o 8 hours (unless stated differently). |
| Other Operational Conditions affecting Exposure | |
| Assumes use at not more than 20°C above ambient temperature (unless stated differently). | |
| Assumes a good basic stand | dard of occupational hygiene is implemented. |

| Assumes a good basic standard of occupational hygiene is implemented. | |
|---|--|
| Contributing Scenarios | Risk Management Measures |
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Bulk transfersDedicated facilityPROC8b | Transfer via enclosed lines. Clear transfer lines prior to de-coupling. |
| Drum/batch transfersDedicate facilityPROC8b | ed Use drum pumps or carefully pour from container. |
| General exposures (closed systems)PROC1PROC2PRO | No other specific measures identified. |
| Use as a fuel(closed systems)PROC16 | No other specific measures identified. |
| Equipment cleaning and maintenancePROC8a | Drain down system prior to equipment opening or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. |

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| Storage.PROC1PROC2 | Store substance within a closed system. | |
|----------------------------|---|--|
| Section 2.2 | Control of Environmental Exposure | |
| No exposure assessment pre | sented for the environment. | |

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

Section 3.2 - Environment No exposure assessment presented for the environment.

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE

| | 32011014 | 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. | |
| | | ent Measures/Operational Conditions are adopted, then users managed to at least equivalent levels. |

Section 4.2 -Environment No exposure assessment presented for the environment.

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Exposure Scenario - Worker

| 30000000302 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use as a fuel- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16 Environmental Release Categories: ERC9a, ERC9b |
| Scope of process | Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|--|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., |
| stance in Mixture/Article | Unless stated otherwise., |
| 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 measures (eye irri-Use suitable eye protection. Avoid direct eye contact with product, also via contamination tants). on hands. Bulk transfersDedicated facili-Transfer via enclosed lines. tyPROC8b Clear transfer lines prior to de-coupling. Drum/batch transfersDedicated Avoid spillage when withdrawing pump. facilityPROC8b Refueling.Dedicated facili-Avoid spillage when withdrawing pump. tyPROC8b Use as a fuel(closed sys-No other specific measures identified. tems)PROC16 General exposures (closed No other specific measures identified. systems)PROC1PROC2PROC3 Equipment cleaning and Retain drain downs in sealed storage pending disposal or for maintenancePROC8a subsequent recycle.

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Storage.PROC1 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.

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

Section 4.2 - Environment

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Exposure Scenario - Worker

| 30000000303 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Functional Fluids- Industrial |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC4, PROC8a, PROC9, PROC8b Environmental Release Categories: ERC7 |
| Scope of process | Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|---|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., | |
| stance in Mixture/Article | Unless stated otherwise., | |
| 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 measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Bulk transfers(closed systems)PROC1PROC2 | Clear transfer lines prior to de-coupling. |
| Drum/batch transfersDedicated facilityPROC8b | No other specific measures identified. |
| Filling of arti- cles/equipmentUse of closed filling equip- ment.PROC9 | No other specific measures identified. |
| ManualFilling of articles/equipmentPROC8a | Carefully pour from containers. |
| Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.PROC2 | No other specific measures identified. |

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| General exposures (open systems)PROC4 | No other specific measures identified. |
|---|--|
| Equipment cleaning and maintenancePROC8a | Retain drain downs in sealed storage pending disposal or for subsequent recycle. |
| 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.

| 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 | |

Section 4.2 - Environment

No exposure assessment presented for the environment.

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

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Exposure Scenario - Worker

| 30000000305 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Functional Fluids- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC3, PROC8a, PROC9, PROC20 Environmental Release Categories: ERC9a, ERC9b |
| Scope of process | Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|--|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., |
| stance in Mixture/Article | Unless stated otherwise., |
| Frequency and Duration o | f Use |
| Covers daily exposures up t | o 8 hours (unless stated differently). |
| Other Operational Condition | ons affecting Exposure |
| Assumes use at not more than 20°C above ambient temperature (unless stated differently). | |
| Assumes a good basic standard of occupational hygiene is implemented. | |

| Contributing Scenarios | Risk Management Measures |
|--|--|
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Drum/batch transfersPROC8a | No other specific measures identified. |
| Transfer from/pouring from cortainersPROC9 | n- No other specific measures identified. |
| ManualFilling of arti- cles/equipmentPROC9 | Carefully pour from containers. |
| Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.PROC20 | No other specific measures identified. |
| General exposures (closed systems)PROC1PROC2PROC | No other specific measures identified. |
| Remanufacture of reject articlesPROC9 | No other specific measures identified. |

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| Equipment cleaning and maintenancePROC8a Storage.PROC1PROC2 | Retain drain downs in sealed storage pending disposal or for subsequent recycle. Store substance within a closed system. |
|--|---|
| | Control of Environmental Exposure |

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 be indicated. | peen used to estimate workplace exposures unless otherwise |

Section 3.2 -Environment No exposure assessment presented for the environment.

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

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

Section 4.2 -Environment No exposure assessment presented for the environment.

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Exposure Scenario - Worker

| Exposure occinano 11 | - NO. |
|----------------------|--|
| 30000000306 | |
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | De-icing and anti-icing applications- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC8a, PROC8b, PROC11 Environmental Release Categories: ERC8d |
| Scope of process | Ice prevention and de-icing of vehicles, aircraft and other equipment by spraying. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|---|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., |
| Frequency and Duration of | Use |
| Covers daily exposures up to | o 8 hours (unless stated differently). |
| Other Operational Condition | |
| | an 20°C above ambient temperature (unless stated differently). |
| Assumes a good basic stand | lard of occupational hygiene is implemented. |
| Contributing Scenarios | Risk Management Measures |
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Bulk transfersDedicated facilityPROC8b | Clear transfer lines prior to de-coupling. |
| Drum/batch transfer- sPROC8b | No other specific measures identified. |
| Spraying/ fogging by machine applicationPROC11 | Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 1 hour. Stay upwind/ keep distance from source. |
| Ad hoc manual application via trigger sprays, dipping, etc.PROC11 | Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 1 hour. Stay upwind/ keep distance from source. |
| Equipment cleaning and | No other specific measures identified. |

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| maintenancePROC8a | | |
|----------------------------|---|--|
| Storage.PROC1PROC2 | Store substance within a closed system. | |
| | | |
| Section 2.2 | Control of Environmental Exposure | |
| No exposure assessment pre | sented for the environment. | |

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

Section 3.2 - Environment

No exposure assessment presented for the environment.

| 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

| 300000010046 | |
|------------------|---|
| | |
| 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: PROC1, PROC2, PROC3, PROC4, |
| | PROC8a, PROC8b |
| | Environmental Release Categories: ERC4 |
| | |
| 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 |
|------------------------------|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., |
| stance in Mixture/Article | Unless stated otherwise., |
| Frequency and Duration o | f Use |
| No specific measures identi- | fied. |
| Other Operational Conditi | ons affecting Exposure |
| Assumes use at not more th | an 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 |
|---|--|
| Bulk transfers from tote tanks and supply vesselsDedicated facilityPROC8b | No other specific measures identified. |
| Filling/ preparation of equipment from drums or containers.Dedicated facilityPROC8b | No other specific measures identified. |
| Drilling mud (re-)formulationUse in con- tained batch process- esPROC3 | No other specific measures identified. |
| Operation of solids filtering equipment - vapour exposuresPROC4 | No other specific measures identified. |
| Operation of solids filtering | No other specific measures identified. |

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| equipment - aerosol exposuresPROC4 Cleaning of solids filtering equipmentPROC8a Treatment and disposal of filtered solidsPROC3 Process samplingPROC3 No other specific measures identified. No other specific measures identified. No other specific measures identified. |
|---|
| Cleaning of solids filtering equipmentPROC8a Treatment and disposal of filtered solidsPROC3 Process samplingPROC3 No other specific measures identified. No other specific measures identified. |
| equipmentPROC8a Treatment and disposal of filtered solidsPROC3 Process samplingPROC3 No other specific measures identified. No other specific measures identified. |
| equipmentPROC8a Treatment and disposal of filtered solidsPROC3 Process samplingPROC3 No other specific measures identified. No other specific measures identified. |
| Treatment and disposal of filtered solidsPROC3 Process samplingPROC3 No other specific measures identified. No other specific measures identified. |
| Filtered solidsPROC3 Process samplingPROC3 No other specific measures identified. |
| Process samplingPROC3 No other specific measures identified. |
| |
| General exposures (closed No other specific measures identified. |
| General exposures (closed No other specific measures identified. |
| |
| systems)PROC1 |
| |
| Pouring from small contain- No other specific measures identified. |
| ersPROC8a |
| General exposures (open No other specific measures identified. |
| systems)PROC4 |
| Equipment cleaning and No other specific measures identified. |
| maintenancePROC8a |
| |
| Storage.PROC1PROC2 No other specific measures identified. |
| |
| 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 | |
| 1 | |

indicated.

Section 3.2 - Environment

No exposure assessment presented for the environment.

| 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

| 30000000310 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use in laboratories- Industrial |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC10, PROC15 Environmental Release Categories: ERC2, ERC4 |
| Scope of process | Use of the substance within laboratory settings, including material transfers and equipment cleaning. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|-----------------------------|--|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., |
| stance in Mixture/Article | Unless stated otherwise., |
| Frequency and Duration o | f Use |
| | o 8 hours (unless stated differently). |
| Other Operational Condition | |
| Assumes use at not more th | an 20°C above ambient temperature (unless stated differently). |
| Assumes a good basic stand | dard of occupational hygiene is implemented. |
| Contributing Scenarios | Risk Management Measures |
| General measures (eye | Use suitable eye protection. |
| irritants). | Avoid direct eye contact with product, also via contamination |
| , | on hands. |
| Laboratory activi- | No other specific measures identified. |
| tiesPROC15 | · |
| CleaningPROC10 | No other specific measures identified. |
| Section 2.2 | Control of Environmental Exposure |

| 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.

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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

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Exposure Scenario - Worker

| 30000000311 | |
|------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use in laboratories- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC10, PROC15 Environmental Release Categories: ERC8a |
| Scope of process | Use of small quantities within laboratory settings, including material transfers and equipment cleaning. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|--------------------------------|---|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Sub- | Covers percentage substance in the product up to 100%., |
| stance in Mixture/Article | Unless stated otherwise., |
| Frequency and Duration o | f Use |
| Covers daily exposures up t | o 8 hours (unless stated differently). |
| Other Operational Conditi | |
| Assumes use at not more th | an 20°C above ambient temperature (unless stated differently). |
| Assumes a good basic stand | dard of occupational hygiene is implemented. |
| Contributing Scenarios | Risk Management Measures |
| General measures (eye | Use suitable eye protection. |
| irritants). | Avoid direct eye contact with product, also via contamination on hands. |
| Laboratory activitiesPROC15 | No other specific measures identified. |
| CleaningPROC10 | No other specific measures identified. |
| Section 2.2 | Control of Environmental Exposure |

| 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.

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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

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Exposure Scenario - Worker

| 30000000312 | |
|------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Water treatment chemicals- Industrial |
| Use Descriptor | Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC13 Environmental Release Categories: ERC3, ERC4 |
| Scope of process | Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES |
|---|--|
| Additional Information | No exposure assessment presented for the environment. |
| Section 2.1 | Control of Worker Exposure |
| Product Characteristics | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., |
| Frequency and Duration of | Use |
| | 8 hours (unless stated differently). |
| Other Operational Conditio | |
| | in 20°C above ambient temperature (unless stated differently). |
| Assumes a good basic stand | ard of occupational hygiene is implemented. |
| Contributing Scenarios | Risk Management Measures |
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. |
| Bulk transfers(closed systems)PROC2 | Clear transfer lines prior to de-coupling. |
| Drum/batch transfersDedicated facilityPROC8b | Use drum pumps or carefully pour from container. |
| General exposures (closed systems)Use in contained batch processesPROC3 | No other specific measures identified. |
| General exposures (open systems)PROC4 | No other specific measures identified. |
| ManualPouring from small containersPROC13 | Carefully pour from containers. |
| Equipment cleaning and maintenancePROC8a | Retain drain downs in sealed storage pending disposal or for subsequent recycle. |
| | Store substance within a closed system. |

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| Section 2.2 | Control of Environmental Exposure | |
|----------------------------|-----------------------------------|--|
| No exposure assessment pre | sented 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.

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

Section 4.2 - Environment

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Exposure Scenario - Worker

| 30000000313 | |
|-----------------------------------|---|
| SECTION 1 EXPOSURE SCENARIO TITLE | |
| Title | Water treatment chemicals- Professional |
| Use Descriptor | Sector of Use: SU22 Process Categories: PROC1, PROC3, PROC4, PROC8a, PROC8b, PROC13 Environmental Release Categories: ERC8f |
| Scope of process | Covers the use of the substance for the treatment of water in open and closed systems. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|--|--|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Worker Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure 0.5 - 10 kPa at STP | |
| Concentration of the Substance in Mixture/Article | Covers percentage substance in the product up to 100%., Unless stated otherwise., | |
| Frequency and Duration of | Use | |
| | 8 hours (unless stated differently). | |
| Other Operational Condition | ns affecting Exposure | |
| | an 20°C above ambient temperature (unless stated differently). | |
| Assumes a good basic stand | lard of occupational hygiene is implemented. | |
| Contributing Scenarios | Risk Management Measures | |
| General measures (eye irritants). | Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands. | |
| Bulk transfersDedicated facilityPROC8b | Clear transfer lines prior to de-coupling. | |
| Drum/batch transfer- sPROC8b | Use drum pumps or carefully pour from container. | |
| General exposures (closed systems)Use in contained batch processesPROC3 | No other specific measures identified. | |
| General exposures (open systems)PROC4 | No other specific measures identified. | |
| ManualPouring from small containersPROC13 | Carefully pour from containers. | |
| | Retain drain downs in sealed storage pending disposal or for subsequent recycle. | |
| Equipment cleaning and maintenancePROC8a | | |

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| Section 2.2 | Control of Environmental Exposure | |
|----------------------------|-----------------------------------|--|
| No exposure assessment pre | sented 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.

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

Section 4.2 -Environment

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Exposure Scenario - Consumer

| 30000001013 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use in coatings - Consumer |
| Use Descriptor | Sector of Use: SU21 Product Categories: PC1, PC4, PC8 (excipient only), PC9a, PC9b, PC9c, PC15, PC18, PC23, PC31, PC34 Environmental Release Categories: ERC8a, ERC8d |
| Scope of process | Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RIMEASURES | SK MANAGEMENT |
|---|--|------------------|
| Additional Information | No exposure assessment presented for | the environment. |
| Section 2.1 | Control of Consumer Exposure | |
| Product Characteristics | • | |
| Physical form of product | Liquid, vapour pressure > 10 Pa 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 | | 13.800 |
| covers skin contact area (cm2): 857,5 | | 857,5 |
| Frequency and Duration o | f Use | |
| Unless stated otherwise. | | |
| covers use up to (times/day of use): | | 1 |
| Exposure (hours/event): 6 | | 6 |
| Other Operational Condition | ons affecting Exposure | |
| Unless stated otherwise | | |

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 50 % | |
| | 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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| | for each use event Covers exposure up to 4 hours/event |
|--|---|
| Adhesives, sealants Glues | Covers concentrations up to 50 % |
| DIY-use (carpet glue, tile | Service concentrations up to 60 % |
| glue, wood parquet glue). | |
| gido, wood parquet gido). | covers use up to 1 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 110,00 cm2 |
| | For each use event, covers amount up to 6.390 g |
| | Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 6,00 hours/event |
| Adhesives, sealants Glue | Covers concentrations up to 50 % |
| from spray. | |
| | covers use up to 6 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 35,73 cm2 |
| | For each use event, covers amount up to 85,05 g |
| | Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 4,00 hours/event |
| Adhesives, sealants Sealants. | 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): 35,73 cm2 |
| | For each use event, covers amount up to 75 g |
| | Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 1,00 hours/event |
| Anti-Freeze and de-icing products Washing car win- | Covers concentrations up to 50 % |
| dow. | covers use up to 265 day/year |
| | 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 ventilation. |
| | Covers use in room size of 34 m3 |
| | for each use event Covers exposure up to 0,02 hours/event |
| Anti-Freeze and de-icing products Pouring into radiator. | 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): 428,00 cm2 |
| | For each use event, covers amount up to 2.000 g |
| | Covers use in a one car garage (34 m3) under typical ventila- |
| | tion. |
| | Covers use in room size of 34 m3 |
| | for each use event Covers exposure up to 0,17 hours/event |
| Anti-Freeze and de-icing | Covers concentrations up to 50 % |
| products Lock de-icer. | Ouvers concentrations up to 30 /0 |
| products Lock de-icer. | covers use up to 365 day/year |
| | 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): 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 |
| | for each use event 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 50 % |
| | 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 in room size of 20 m3 |
| | for each use event 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 50 % |
| | 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 in room size of 20 m3 |
| | for each use event 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 50 % |
| | 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 0,17 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 in room size of 20 m3 |

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| | for each use event Covers exposure up to 2,20 hours/event | |
|-------------------------------|--|--|
| Coatings and paints, thin- | Covers concentrations up to 50 % | |
| ners, paint removers Aero- | от | |
| sol spray can. | | |
| | covers use up to 2 day/year | |
| | covers use up to 1 times/day of use | |
| | For each use event, covers amount up to 215 g | |
| | Covers use in a one car garage (34 m3) under typical ventila- | |
| | tion. | |
| | Covers use in room size of 34 m3 | |
| | for each use event Covers exposure up to 0,33 hours/event | |
| Coatings and paints, thin- | Covers concentrations up to 50 % | |
| ners, paint removers Re- | Solido de la dela de | |
| movers (paint-, glue-, wall | | |
| paper-, sealant-remover). | | |
| | covers use up to 3 day/year | |
| | covers use up to 1 times/day of use | |
| | covers skin contact area up to (cm2): 857,50 cm2 | |
| | for each use event, covers amount up to (g): 491 g | |
| | Covers use in room size of 20 m3 | |
| | for each use event Covers exposure up to 2,00 hours/event | |
| Fillers, Putties Fillers and | Covers concentrations up to 50 % | |
| putty. | · · | |
| 1 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 in room size of 20 m3 | |
| | for each use event Covers exposure up to 4,00 hours/event | |
| Fillers, Putties Plasters and | Covers concentrations up to 2 % | |
| floor equalizers. | · | |
| • | covers use up to 12 day/year | |
| | covers use up to 1 times/day of use | |
| | covers skin contact area up to (cm2): 857,50 cm2 | |
| | For each use event, covers amount up to 13.800 g | |
| | Covers use in room size of 20 m3 | |
| | for each use event Covers exposure up to 2,00 hours/event | |
| Fillers, Putties Modelling | Covers concentrations up to 10 % | |
| clay. | | |
| | covers use up to 365 day/year | |
| | covers use up to 1 times/day of use | |
| | covers skin contact area up to (cm2): 254,40 cm2 | |
| | For each use event, assumes swallowed amount of 1 g | |
| | Covers use in room size of 20 m3 | |
| Finger paints | 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): 254,40 cm2 | |
| | For each use event, assumes swallowed amount of 1,35 g | |
| | Covers use in room size of 20 m3 | |
| Non-metal-surface treat- | Covers concentrations up to 27,5 % | |

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| ment products Solvent rich, | |
|-------------------------------|---|
| high solid, water borne | |
| paint. | |
| pairit. | 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 2,20 hours/event |
| Non-metal-surface treat- | Covers concentrations up to 50 % |
| ment products Aerosol | Covere concentrations up to 50 % |
| spray can. | |
| -17 | 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 |
| | for each use event Covers exposure up to 0,33 hours/event |
| Non-metal-surface treat- | Covers concentrations up to 50 % |
| ment products Removers | , |
| (paint-, glue-, wall paper-, | |
| sealant-remover). | |
| , | covers use up to 3 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 857,50 cm2 |
| | For each use event, covers amount up to 491 g |
| | Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 2,00 hours/event |
| Ink and toners Inks and | Covers concentrations up to 50 % |
| toners. | · |
| | 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 in room size of 20 m3 |
| | for each use event 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 1,23 hours/event |
| Leather tanning, dye, finish- | Covers concentrations up to 50 % |
| ing, impregnation and care | |
| products Polishes, spray | |
| · · | |

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| (furniture, shoes). | |
|--|--|
| (runniture, snoes). | 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 (g): 56 g |
| | Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 0,33 hours/event |
| Lubricants, greases, re- | Covers concentrations up to 100 % |
| lease products Liquids. | Covers concentrations up to 100 % |
| | covers use up to 4 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 468,00 cm2 |
| | For each use event, covers amount up to 2.200 g |
| | Covers use in a one car garage (34 m3) under typical ventila- |
| | tion. |
| | Covers use in room size of 34 m3 |
| | for each use event Covers exposure up to 0,17 hours/event |
| Lubricants, greases, release products Pastes. | Covers concentrations up to 20 % |
| p | 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 use in room size of 20 m3 |
| Lubricants, greases, re- | Covers concentrations up to 50 % |
| lease products Sprays. | · |
| | 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 0,17 hours/event |
| Polishes and wax blends Polishes, wax / cream (floor, furniture, shoes). | Covers concentrations up to 50 % |
| (11001, Turrillare, Shoes). | covers use up to 20 day/year |
| | 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 in room size of 20 m3 |
| Dallahaa and a literat | for each use event 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 0,33 hours/event |
| Textile dyes, finishing and | Covers concentrations up to 10 % |

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| 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 |
| | For each use event, covers amount up to 115 g |
| | Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 1,00 hours/event |

| 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 be indicated. | peen used to estimate consumer exposures unless otherwise | |

Section 3.2 - Environment

No exposure assessment presented for the environment.

| 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 - Consumer

| 30000001015 | |
|------------------|---|
| 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 |
| Scope of process | Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|--|---|--------|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Consumer Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure > 10 Pa at S | STP |
| Concentration of the Sub- | Unless stated otherwise. | |
| stance in Mixture/Article | | |
| | Covers concentration up to (%): 100 | 1% |
| 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 (times/day of use): | | 1 |
| Exposure (hours/event): 4 | | 4 |
| Other Operational Condition | ons affecting Exposure | |
| Unless stated otherwise. | | |
| Covers use at ambient temp | eratures. | |

Covers use in room size of 20m3

| Product Categories | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|--|---|--|
| Air care products Air care, instant action (aerosol sprays). | Covers concentrations up to 50 % | |
| | covers use up to 365 day/year | |
| | covers use up to 4 times/day of use | |
| | for each use event, covers amount up to (g): 0,1 g | |
| | Covers use in room size of 20 m3 | |

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| | for each use event Covers exposure up to 0,25 hours/event | |
|--|--|--|
| Air care products Air care, | Covers use under typical household ventilation. | |
| continuous action (solid and | урган на постана на по | |
| liquid). | | |
| | Covers concentrations up to 100 % | |
| | covers use up to 365 day/year | |
| | covers use up to 2 times/day of use | |
| | covers skin contact area up to (cm2): 35,70 cm2 | |
| | For each use event, covers amount up to 12 g | |
| | Covers use in room size of 20 m3 | |
| | for each use event Covers exposure up to 12 hours/event | |
| Anti-Freeze and de-icing | Covers concentrations up to 50 % | |
| products Washing car window. | Covers concentrations up to 30 % | |
| dow. | 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 | |
| | for each use event Covers exposure up to 0,02 hours/event | |
| Anti-Freeze and de-icing | Covers concentrations up to 50 % | |
| products Pouring into radiator. | 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): 428,00 cm2 | |
| | For each use event, covers amount up to 2.000 g | |
| | Covers use in a one car garage (34 m3) under typical ventila- | |
| | tion. | |
| | Covers use in room size of 34 m3 | |
| | for each use event Covers exposure up to 0,17 hours/event | |
| Anti-Freeze and de-icing products Lock de-icer. | Covers concentrations up to 50 % | |
| products book de loci. | covers use up to 365 day/year | |
| | covers use up to 1 times/day of use | |
| | covers use up to 1 times/day of use covers 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 | |
| | | |
| Pionidal products (a a Dia | for each use event Covers exposure up to 0,25 hours/event Covers concentrations up to 50 % | |
| Biocidal products (e.g. Dis- infectants, pest control) (excipient only). Laundry | Covers concentrations up to 50 % | |
| and dish washing products. | povers use up to 265 day/yeer | |
| | 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 in room size of 20 m3 | |

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| | for each use event Covers exposure up to 0,50 hours/event |
|-------------------------------|--|
| Biocidal products (e.g. Dis- | Covers concentrations up to 50 % |
| infectants, pest control) | |
| (excipient only). 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 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 0,33 hours/event |
| Biocidal products (e.g. Dis- | Covers concentrations up to 50 % |
| infectants, pest control) | |
| (excipient only). Cleaners, | |
| trigger sprays (all purpose | |
| cleaners, sanitary products, | |
| glass cleaners). | |
| | covers use up to 128 day/year |
| | covers use up to 1 times/day of use covers skin contact area up to (cm2): 428,00 cm2 |
| | |
| | For each use event, covers amount up to 35 g Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 0,17 hours/event |
| Coatings and paints, thin- | Covers concentrations up to 50 % |
| ners, paint removers Wa- | Covere contentiations up to co // |
| 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 2,20 hours/event |
| Coatings and paints, thin- | Covers concentrations up to 27,5 % |
| ners, paint removers Sol- | |
| vent rich, high solid, water | |
| borne paint. | |
| | covers use up to 6 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 428,75 cm2 |
| | For each use event, covers amount up to 744 g |
| | Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 2,20 hours/event |
| Coatings and paints, thin- | Covers concentrations up to 50 % |
| ners, paint removers Aero- | |
| sol spray can. | |
| | covers use up to 2 day/year |
| | covers use up to 1 times/day of use |

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| | 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 |
| | for each use event Covers exposure up to 0,33 hours/event |
| Coatings and paints, thin- | Covers concentrations up to 50 % |
| ners, paint removers Re- | · |
| movers (paint-, glue-, wall | |
| paper-, sealant-remover). | |
| | covers use up to 3 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 857,50 cm2 |
| | For each use event, covers amount up to 491 g |
| | Covers use in room size of 20 m3 |
| | for each use event Covers exposure up to 2,00 hours/event |
| Lubricants, greases, re- | Covers concentrations up to 100 % |
| lease products Liquids. | |
| | 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 |
| | for each use event 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 use in room size of 20 m3 |
| 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 0,17 hours/event |
| Washing and cleaning products (including solvent based products) Laundry | Covers concentrations up to 70 % |
| and dish washing products. | 005 1 / |
| | 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 0,50 hours/event |
| Washing and cleaning | Covers concentrations up to 70 % |

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| 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 1 times/day of use | |
| | covers skin contact area up to (cm2): 857,50 cm2 | |
| F | For each use event, covers amount up to 27 g | |
| | Covers use in room size of 20 m3 | |
| f | for each use event Covers exposure up to 0,33 hours/event | |
| Washing and cleaning (| Covers concentrations up to 70 % | |
| products (including solvent | · | |
| based products) Cleaners, | | |
| trigger sprays (all purpose | | |
| cleaners,sanitary products, | | |
| glass cleaners). | | |
| | covers use up to 128 day/year | |
| | covers use up to 1 times/day of use | |
| | covers skin contact area up to (cm2): 428,00 cm2 | |
| F | For each use event, covers amount up to 35 g | |
| | Covers use in room size of 20 m3 | |
| f | for each use event Covers exposure up to 0,17 hours/event | |
| Welding and soldering (| Covers concentrations up to 50 % | |
| products (with flux coatings | | |
| or flux cores.), flux products | | |
| of flux cores.), flux products | | |
| | covers use up to 365 day/year | |
| | covers use up to 1 times/day of use | |
| C C | covers use up to 1 times/day of use For each use event, covers amount up to 12 g | |
| C C | covers use up to 1 times/day of use | |

| 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 consumer exposures unless otherwise indicated. | | |

| Section 3.2 -Environment |
|---|
| No exposure assessment presented for the environment. |

| 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

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Exposure Scenario - Consumer

| 30000001017 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Lubricants - Consumer |
| Use Descriptor | Sector of Use: SU21 Product Categories: PC1, PC24, PC31 Environmental Release Categories: ERC8a, ERC8d, ERC9a, ERC9b |
| Scope of process | Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|---|--------------------------|
| Additional Information | No exposure assessment presen | ted for the environment. |
| 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 | 100 % |
| Amounts Used | | |
| Unless stated otherwise. | | |
| for each use event, covers amount up to (g): | | 6.390 |
| covers skin contact area (cm2): | | 468 |
| Frequency and Duration o | f Use | |
| Unless stated otherwise. | | |
| covers use up to (times/day of use): | | 1 |
| Exposure (hours/event): 6 | | 6 |
| Other Operational Condition | ons affecting Exposure | |
| Unless stated atherwise | | |

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 in room size of 20 m3 |

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| | for each use event Covers exposure up to 4 hours/event |
|---|---|
| Adhesives, sealants Glues | Covers concentrations up to 30 % |
| DIY-use (carpet glue, tile | Govers domocritications up to 66 76 |
| glue, wood parquet glue). | |
| gide, weed parquet gide). | 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 6,00 hours/event |
| Adhesives, sealants Glue | Covers concentrations up to 30 % |
| from spray. | · |
| | covers use up to 6 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 35,73 cm2 |
| | For each use event, covers amount up to 85,05 g |
| | Covers use in room size of 20 m3 |
| | for each use event 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 1,00 hours/event |
| Lubricants, greases, re- lease products Liquids. | Covers concentrations up to 100 % |
| iodos producto Elquido. | 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 |
| | for each use event Covers exposure up to 0,17 hours/event |
| Lubricante graccas ra | |
| 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 use in room size of 20 m3 |
| 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 in room size of 20 m3 |
| | |

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| 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 in room size of 20 m3 |
| | for each use event 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 0,33 hours/event |

| Section 2.2 | Control of Environmental Exposure | |
|---|-----------------------------------|--|
| No exposure assessment presented for the environment. | | |

| SECTION 3 | EXPOSURE ESTIMATION |
|----------------------|---------------------|
| Section 3.1 - Health | |
| TI FORTOO TOA (II I | |

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

Section 3.2 - Environment

No exposure assessment presented for the environment.

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

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

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

Section 4.2 -Environment

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Exposure Scenario - Consumer

| Exposure Contains | | |
|-------------------|---|--|
| 30000001019 | | |
| SECTION 1 | EXPOSURE SCENARIO TITLE | |
| Title | Use in agrochemicals - Consumer | |
| Use Descriptor | Sector of Use: SU21 Product Categories: PC12, PC27 Environmental Release Categories: ERC8a, ERC8d | |
| Scope of process | Covers the consumer use in agrochemicals in liquid and solid forms. | |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|---|--------|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Consumer Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure > 10 Pa at STP | |
| Concentration of the Substance in Mixture/Article | Unless stated otherwise. | |
| | Covers concentration up to (%): 50 % | |
| Amounts Used | | |
| Unless stated otherwise. | | |
| for each use event, covers amount up to (g): | | 50 |
| covers skin contact area (cm2): 857,50 | | 857,50 |
| Frequency and Duration of Use | | |
| Unless stated otherwise. | | |
| covers use up to (times/day of use): | | 0 |
| Other Operational Conditions 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 | 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): 857,50 cm2 | |
| | For each use event, assumes swallowed amount of 0,3 g | |
| | Covers use in room size of 20 m3 | |
| Plant protection products | 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): 857,50 cm2 | |

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| For each use event, assumes swallowed amount of 0,3 g |
|---|
| Covers use in room size of 20 m3 |

| 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 consumer exposures unless otherwise indicated. | | | |

Section 3.2 -Environment

No exposure assessment presented for the environment.

| SECTION 4 | GUIDANCE TO CHECK COMPLIANCE WITH THE |
|--------------------|---------------------------------------|
| | EXPOSURE SCENARIO |
| Cootion 4.4 Hoolth | • |

Section 4.1 - Health

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

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

Section 4.2 - Environment

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Exposure Scenario - Consumer

| 30000001021 | | |
|------------------|---|--|
| 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 | |
| Scope of process | Covers consumer uses in liquid fuels. | |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | | |
|---|---|--|--|
| Additional Information | No exposure assessment presented for the environment. | | |
| Section 2.1 | Control of Consumer Exposure | 9 | |
| Product Characteristics | - | | |
| Physical form of product | Liquid, vapour pressure > 10 Pa | Liquid, vapour pressure > 10 Pa 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): | | 37.500 | |
| covers skin contact area (cr | n2): | 420 | |
| Frequency and Duration of | f Use | | |
| Unless stated otherwise. | | | |
| covers use up to (times/day of use): | | 0,143 | |
| Exposure (hours/event): 2 | | 2 | |
| Other Operational Conditi | one offecting Evnesure | | |

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 |
| | for each use event Covers exposure up to 0,05 hours/event |
| Fuels Liquid Scooter Refu- | Covers concentrations up to 100 % |

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| elling. | |
|--|---|
| <u></u> | covers use up to 52 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 210,00 cm2 |
| | For each use event, covers amount up to 3.750 g |
| | Covers outdoor use. |
| | Covers use in room size of 100 m3 |
| | for each use event Covers exposure up to 0,03 hours/event |
| Fuels Liquid, Garden | Covers concentrations up to 100 % |
| Equipment - Use. | |
| To Provide the Control of the Contro | 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 |
| | for each use event Covers exposure up to 2,00 hours/event |
| Fuels Liquid: Garden | Covers concentrations up to 100 % |
| Equipment - Refuelling. | |
| 1-1 | 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 |
| | for each use event Covers exposure up to 0,03 hours/event |
| Fuels Liquid: Home space | Covers concentrations up to 100 % |
| heater fuel. | anyone was up to 20 day/year |
| | 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 room size of 20 m3 |
| E de la calabana de | for each use event Covers exposure up to 8,00 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 in room size of 20 m3 |
| | for each use event Covers exposure up to 0,01 hours/event |

| 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 be indicated. | een used to estimate consumer exposures unless otherwise |

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Section 3.2 - Environment

No exposure assessment presented for the environment.

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

Section 4.1 - Health

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

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

Section 4.2 - Environment

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Exposure Scenario - Consumer

| Expoduro occinario oc | |
|-----------------------|--|
| 30000001023 | |
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Functional Fluids - Consumer |
| Use Descriptor | Sector of Use: SU21 Product Categories: PC16, PC17 Environmental Release Categories: ERC9a, ERC9b |
| Scope of process | Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|---|-------|
| Additional Information | No exposure assessment presented for the environment. | |
| Section 2.1 | Control of Consumer Exposure | |
| Product Characteristics | | |
| Physical form of product | Liquid, vapour pressure > 10 Pa at | STP |
| Concentration of the Substance in Mixture/Article | Unless stated otherwise. | |
| | Covers concentration up to (%): 10 | 0 % |
| Amounts Used | | |
| Unless stated otherwise. | | |
| for each use event, covers amount up to (g): | | 2.200 |
| covers skin contact area (cn | n2): | 468 |
| Frequency and Duration o | f Use | |
| Unless stated otherwise. | | |
| covers use up to (times/day | of use): | 0,010 |
| Exposure (hours/event): | | 0,167 |
| Other Operational Condition | ons 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 |
|-------------------------------|---|
| 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, assumes swallowed amount of 2.200 g |
| | Covers use in a one car garage (34 m3) under typical ventila- |
| | tion. |
| | Covers use in room size of 34 m3 |
| | for each use event Covers exposure up to 0,17 hours/event |

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

| 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 consumer exposures unless otherwise | |
| indicated. | |

Section 3.2 - Environment

No exposure assessment presented for the environment.

| 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 - Consumer

| 30000001024 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Use in de-icing and anti-icing fluids - Consumer |
| Use Descriptor | Sector of Use: SU21 Product Categories: PC4 Environmental Release Categories: ERC8d |
| Scope of process | De-icing of vehicles and similar equipment by spraying. |

| SECTION 2 | OPERATIONAL CONDITIONS A | AND RISK MANAGEMENT |
|---|---------------------------------|---------------------------|
| Additional Information | No exposure assessment preser | nted for the environment. |
| Section 2.1 | Control of Consumer Exposur | e |
| Product Characteristics | - | |
| Physical form of product | Liquid, vapour pressure > 10 Pa | at STP |
| Concentration of the Substance in Mixture/Article | Unless stated otherwise. | |
| | Covers concentration up to (%): | 40 % |
| Amounts Used | | |
| Unless stated otherwise. | | |
| for each use event, covers a | amount up to (g): | 2.000 |
| covers skin contact area (cm2): | | 428 |
| Frequency and Duration of | f Use | |
| Unless stated otherwise. | | |
| covers use up to (times/day | of use): | 1 |
| Covers exposure up to (hours/event): 0,25 | | 0,25 |
| Other Operational Canditi | one official 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 |
|---|---|
| Anti-Freeze and de-icing products Washing car window. | 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 0,5 g |
| | Covers use in a one car garage (34 m3) under typical ventilation. |
| | Covers use in room size of 34 m3 |
| | for each use event Covers exposure up to 0,02 hours/event |
| Anti-Freeze and de-icing | Covers concentrations up to 20 % |

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| products Pouring into radia- | |
|---|---|
| tor. | |
| | covers use up to 365 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 428,00 cm2 |
| | For each use event, covers amount up to 2.000 g |
| | Covers use in a one car garage (34 m3) under typical ventila- |
| | tion. |
| | Covers use in room size of 34 m3 |
| | for each use event 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 ventila- |
| | tion. |
| | Covers use in room size of 34 m3 |
| | for each use event Covers exposure up to 0,25 hours/event |

| 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 consumer exposures unless otherwise | |
| indicated | |

Section 3.2 - Environment

No exposure assessment presented for the environment.

| 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 Condit | ions 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 - Consumer

| 30000001025 | |
|------------------|---|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Other Consumer Uses - Consumer |
| Use Descriptor | Sector of Use: SU21 Product Categories: PC28, PC39 Environmental Release Categories: ERC8a, ERC8d |
| Scope of process | Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation. |

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

| Section 2.2 Control of Environmental Exposure | |
|---|--|
|---|--|

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

Section 3.2 -Environment

| SECTION 4 | GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO |
|--|---|
| Section 4.1 - Health | |
| No exposure assessment presented for human health. | |

| Section 4.2 -Environment | |
|---|--|
| No exposure assessment presented for the environment. | |

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Exposure Scenario - Consumer

| 30000001026 | |
|------------------|--|
| SECTION 1 | EXPOSURE SCENARIO TITLE |
| Title | Water treatment chemicals - Consumer |
| Use Descriptor | Sector of Use: SU21 Product Categories: PC36, PC37 Environmental Release Categories: ERC8f |
| Scope of process | Covers the use of the substance for the treatment of water in open and closed systems. |

| SECTION 2 | OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES | |
|---|---|--------------------------|
| Additional Information | No exposure assessment present | ted for the environment. |
| 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 (%): 2 | 20 % |
| Amounts Used | | |
| Unless stated otherwise. | | |
| for each use event, covers amount up to (g): | | 10 |
| covers skin contact area (cm2): | | 6.600 |
| Frequency and Duration o | f Use | |
| Unless stated otherwise. | | |
| covers use up to (times/day of use): | | 1 |
| Other Operational Condition | 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 |
|---------------------------|---|
| Water softeners | Covers concentrations up to 20 % |
| | covers use up to 365 day/year |
| | covers use up to 1 times/day of use |
| | covers skin contact area up to (cm2): 6.600 cm2 |
| | For each use event, assumes swallowed amount of 0,02 mg |
| | For each use event, covers amount up to 10 g |
| | Covers use in room size of 20 m3 |
| Water treatment chemicals | Covers concentrations up to 20 % |
| | 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): 6.600 cm2 |
|---|
| For each use event, assumes swallowed amount of 0,15 mg |
| For each use event, covers amount up to 10 g |
| Covers use in room size of 20 m3 |

| 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 consumer exposures unless otherwise | |

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

Section 3.2 -Environment No exposure assessment presented for the environment.

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