SAFETY DATA SHEET
According to EC No 1907/2006 as amended as at the date of this SDS

IPA Sustainable

Version	Revision Date:	SDS Number:	Date of last issue: 28.12.2023
1.4	09.10.2024	800010056443	Print Date 16.10.2024

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

1.1 Product identifier

Trade name	:	IPA Sustainable
Product code	:	S1160
Registration number EU	:	01-2119457558-25-0001, 01-2119457558-25-0002
CAS-No.	:	67-63-0
Index-No.	:	603-117-00-0
Other means of identification	:	IPA, Isopropanol, Propan-2-ol, Propanol, sec-, Propyl alcohol, sec-, Dimethyl carbinol
EC-No.	:	200-661-7

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

Use of the Substance/Mixture	:	Please refer to section 16 and/or the annexes for the registered uses under REACH. Industrial Solvent.
Uses advised against	:	This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier	:	**Shell Chemicals Europe B.V.** PO Box 2334 3000 CH Rotterdam Netherlands
Telephone	:	+31 (0)10 441 5137 / +31 (0)10 441 5191
Telefax	:	+31 (0)20 716 8316/ +31 (0)20 713 9230
Contact for Safety Data Sheet	:	sccmsds@shell.com

1.4 Emergency telephone number

+44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per week)
(In non-emergency situations, the number of the Poison Information Centre is 08-33 12 31)

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.
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.

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 air-vapour mixtures can occur.
Slightly irritating to respiratory system.

SECTION 3: Composition/information on ingredients

3.1 Substances

Components

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Not expected to be a health hazard when used under normal conditions.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

If inhaled : 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 water 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 treatment.

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

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.
No specific hazards under normal use conditions.
Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.
Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.
If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.
If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.

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 powder, 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 firefighting : 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 for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).
Specific extinguishing methods	:	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 unprotected 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 unprotected 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 bonding 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 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 storage 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 flammable.
Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Do NOT use compressed air for filling, discharging, or handling operations.

Product Transfer	:	Refer to guidance under Handling section.
Hygiene measures	:	Read in conjunction with the Exposure Scenario for your specific use contained in the Annex.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	The vapour is heavier than air. Beware of accumulation in pits 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)	:	Ensure that all local regulations regarding handling and storage 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

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Isopropyl alcohol	67-63-0	NGV	150 ppm 350 mg/m3	AFS 2023:14
Isopropyl alcohol		KGV	250 ppm 600 mg/m3	AFS 2023:14
	Further information: Indicative short term limit value shall be used as a recommended maximum value and should not be exceeded			

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

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 guidelines/limits.
Local exhaust ventilation is recommended.
Firewater monitors and deluge systems are recommended.
Eye washes and showers for emergency use.
Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.
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 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 use. For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure. If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant 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.

Colour : clear

Odour : characteristic

Odour Threshold : Data not available

Melting point/freezing point : -88 °C

Boiling point/boiling range : 82 - 83 °C

Flammability

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: Abel

Auto-ignition temperature : 425 °C
Method: ASTM D-2155

Decomposition temperature

Decomposition temperature : Data not available

pH : Not applicable

Viscosity

Viscosity, dynamic : 2,43 mPa.s
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	:	4,1 kPa (20 °C)
Relative density	:	0,78 - 0,79 (20 °C) Method: ASTM D4052
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

Evaporation rate	:	1,5 Method: ASTM D 3539, nBuAc=1
Conductivity	:	Electrical 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 accumulator.
Surface tension	:	22,7 mN/m, 20 °C
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.
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
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. 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 electricity.

Avoid heat, sparks, open flames and other ignition sources. Prevent vapour accumulation.
In certain circumstances product can ignite due to static electricity.

10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

Strong oxidising agents.

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.
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 : Exposure may occur via inhalation, ingestion, skin absorption, 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 narcotic 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
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-	:	This product does not meet the criteria for classification in

sessment | categories 1A/1B.

Carcinogenicity

Components:

Isopropyl alcohol:

Remarks : Not a carcinogen.

Carcinogenicity - Assessment : 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 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 - Assessment : 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 considered 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 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.

Further information

Product:

Remarks	:	Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(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
Toxicity to daphnia and other aquatic invertebrates	:	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 toxicity) : Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chronic 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.

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 persistence, bioaccumulation and toxicity and hence is not considered 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 information : 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 information : Does not have ozone depletion potential.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
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.

Disposal, transport, storage and handling should be in accordance with SE regulation Avfallsförordning (2011:927).

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.

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.

Packing: Emptying: Place the package upside down, and tilt slightly, circa 10 degrees, to enable drainage in such a way that the lowest part of the package is at the exit orifice. On some packing an extra hole must be made. Drainage should be carried out at room temperature (at least 15 °C). Wait until the package is drip dry. Do not close package after draining. Please note the risks connected with emptying package and containers with flammable liquids. Emptied package should be ventilated in a safe place away from sparks and fire. Residues may be an explosion risk. Do not puncture, cut or weld in non-cleaned package, containers or drums.

Local legislation
Remarks : Suggestion for emptied package:
15 01 02: Plastic packaging
15 01 04 metallic packaging.
Packages containing any remaining product and which have not been emptied until drip dry,must be handled as dangerous waste and must be well sealed before disposal.
Suggestion for waste code:
15 01 10: Packaging containing residues of or contaminated by dangerous substances

SECTION 14: Transport information

14.1 UN number or ID number

ADR : 1219

RID : 1219

IMDG : 1219

IATA : 1219

14.2 UN proper shipping name

ADR : ISOPROPANOL

RID : ISOPROPANOL

IMDG : ISOPROPANOL

IATA : ISOPROPANOL

14.3 Transport hazard class(es)

ADR : 3

RID : 3

IMDG : 3

IATA : 3

14.4 Packing group

ADR

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

RID

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

IMDG

Packing group	:	II
Labels	:	3

IATA

Packing group	:	II
Labels	:	3

14.5 Environmental hazards

ADR

Environmentally hazardous	:	no

RID

Environmentally hazardous	:	no

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
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 Authorisation under REACH.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P5c	FLAMMABLE LIQUIDS

Other regulations:

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

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

AIIC	:	Listed
DSL	:	Listed
IECSC	:	Listed
ENCS	:	Listed
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

AFS 2023:14	:	Sweden. Occupational Exposure Limit Values, AFS 2023:14
AFS 2023:14 / NGV	:	Time Weighted Average
AFS 2023:14 / KGV	:	Short Term Exposure Limit

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

Further information

Training advice	:	Provide adequate information, instruction and training for operators.
Other information	:	For Industry guidance and tools on REACH please visit the CEFIC website at http://cefic.org/Industry-support. The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB. A vertical bar (|) in the left margin indicates an amendment from the previous version.
Sources of key data used to compile the Safety Data	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell

Sheet	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 evidence determination.
STOT SE 3	H336	Expert judgement and weight of evidence 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

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

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 laboratories
- Industrial

Uses - Worker
Title : Use in laboratories
- Professional

Uses - Worker
Title : Water treatment chemicals
- Industrial

Uses - Worker
Title : Water treatment chemicals
- Professional

Uses - Worker
Title : Use in Oil and Gas field drilling and production operations
- Industrial

Identified Uses according to the Use Descriptor System
Uses - Consumer
Title : Use in coatings
- Consumer

Uses - Consumer
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.

SE / EN

Exposure Scenario - Worker

300000000271	
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 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.
General exposures (closed systems)PROC1PROC2PROC3	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Process samplingPROC8b	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfers(open systems)PROC8b	No other specific measures identified.
Bulk transfers(closed systems)PROC8b	No other specific measures identified.

Equipment cleaning and maintenancePROC8a	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.

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.

Exposure Scenario - Worker

300000000272	
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 Sub-stance 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.	

Contributing Scenarios	**Risk Management Measures**
General measures (eye irri-tants).	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 sys-tems)PROC4	No other specific measures identified.
Process samplingPROC8a	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfers(open sys-tems)PROC8b	No other specific measures identified.
Bulk transfers(closed sys-tems)PROC8b	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.	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.

Exposure Scenario - Worker

300000000273	
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 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.
General exposures (closed systems)PROC1PROC2PROC3	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.

Drum and small package filling PROC9	No other specific measures identified.
Equipment cleaning and maintenance PROC8a	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.	

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.

Exposure Scenario - Worker

300000000274	
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 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.	

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)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.

Mixing operations (open systems)PROC5	No other specific measures identified.
ManualTransfer from/pouring from containersPROC8a	No other specific measures identified.
Drum/batch transfersPROC8b	No other specific measures identified.
Production or preparation or articles by tabletting, compression, extrusion or pelletisationPROC14	No other specific measures identified.
Drum and small package fillingPROC9	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 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.

Exposure Scenario - Worker

300000000275	
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 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.
General exposures (closed systems)PROC1PROC2	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Film formation - force drying, stoving and other technologies.Use in contained systemsPROC2	No other specific measures identified.
Mixing operations (closed systems)General exposures (closed systems)PROC3	No other specific measures identified.

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

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

Exposure Scenario - Worker

300000000276	
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
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.	
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)PROC1PROC2PROC3	No other specific measures identified.
Filling/ preparation of equipment from drums or containers.Use in contained systemsPROC2	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Preparation of material for applicationUse in contained batch processesPROC3	No other specific measures identified.

Film formation - air dry-ingOutdoorPROC4	No other specific measures identified.
Film formation - air dryingIn-doorPROC4	No other specific measures identified.
Preparation of material for appli-cationIndoorPROC5	No other specific measures identified.
Material transfersDrum/batch transfersPROC8aPROC8b	No other specific measures identified.
Roller, spreader, flow applica-tionPROC10	No other specific measures identified.
ManualSprayingIndoorPROC11	Carry out in a vented booth or extracted enclosure.
ManualSprayingOutdoorPROC11	Wear a respirator conforming to EN140 with Type A filter or better.
Dipping, immersion and pour-ingPROC13	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Hand application - fingerpaints, pastels, adhesivesPROC19	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.

Exposure Scenario - Worker

300000000277	
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 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.	
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.

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
No exposure assessment presented for the environment.

Exposure Scenario - Worker

300000000278	
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 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.
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.

Cleaning with low-pressure washers-Rolling, Brushingno sprayingPROC10	No other specific measures identified.
Cleaning with high pressure washers-SprayingIndoorPROC11	Provide a good standard of controlled ventilation (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, Brush-ingPROC10	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.

Exposure Scenario - Worker

300000000294	
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 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)PROC1PROC2PROC3	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 equipment from drums or containers.PROC8aPROC8b	No other specific measures identified.
Initial factory fill of equipmentPROC9	No other specific measures identified.
Operation and lubrication of	Provide extraction ventilation at points where emissions oc-

high energy open equip-mentPROC17PROC18	cur. Restrict area of openings to equipment.
Manual applications e.g. brush-ing, 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. 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.

Exposure Scenario - Worker

300000000295	
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 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.	

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)PROC1PROC2PROC3	No other specific measures identified.
Operation of equipment containing engine oils and similar.PROC20	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Bulk transfersDedicated facilityPROC8b	No other specific measures identified.
Filling/ preparation of equipment from drums or containers.PROC8aPROC8b	No other specific measures identified.

Operation and lubrication of high energy open equipmentIn-doorPROC17PROC18	Restrict area of openings to equipment. 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 substance in the product up to 5%.PROC8a	Avoid carrying out activities involving exposure for more than 4 hours 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 pouringPROC13	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.

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.

Exposure Scenario - Worker

300000000296	
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	
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.	
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)PROC1PROC2PROC3	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Bulk transfersDrum/batch transfersPROC5PROC8bPROC9	No other specific measures identified.
Product sampling.PROC8b	No other specific measures identified.
Metal machining operationsPROC17	No other specific measures identified.

Treatment by dipping and pouringPROC13	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 rolling/formingelevated temperatureUse in contained systemsPROC2	No other specific measures identified.
Semi-automated metal rolling/formingelevated temperaturePROC17	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.

Exposure Scenario - Worker

300000000297	
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.

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.	
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)PROC1PROC2PROC3	No other specific measures identified.
Bulk transfersDedicated facilityPROC8b	Clear transfer lines prior to de-coupling.
Filling/ preparation of equipment from drums or containers.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.

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.

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.

Exposure Scenario - Worker

300000000298	
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 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.	

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 transfersPROC8aPROC8b	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 temperaturePROC6	Provide extraction ventilation at points where emissions occur.

Treatment by dipping and pour-ingPROC13	No other specific measures identified.
Spraying (automat-ic/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.

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.

Exposure Scenario - Worker

300000000299	
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	
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.	

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 transfersPROC8aPROC8b	No other specific measures identified.
Mixing operations (open systems)PROC4	No other specific measures identified.
Mixing operations (closed systems)PROC3	No other specific measures identified.
Mold formingPROC14	No other specific measures identified.
Casting operations(open systems)elevated temperaturePROC6	Provide extraction ventilation at points where emissions occur.

MachineSprayingPROC11	Carry out in a vented booth or extracted enclosure. Segregate the activity away from other operations.
Roller, spreader, flow applica-tionPROC10	No other specific measures identified.
ManualSprayingPROC11	Carry out in a vented booth or extracted enclosure. , or: Wear a respirator conforming to EN140 with Type A/P2 filter or better. Segregate the activity away from other operations.
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.

Exposure Scenario - Worker

300000000300	
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 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.
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.

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

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

Exposure Scenario - Worker

300000000301	
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 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 transfersDedicated facilityPROC8b	Transfer via enclosed lines. Clear transfer lines prior to de-coupling.
Drum/batch transfersDedicated facilityPROC8b	Use drum pumps or carefully pour from container.
General exposures (closed systems)PROC1PROC2PROC3	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.

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.

Exposure Scenario - Worker

300000000302	
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 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.	

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 transfersDedicated facilityPROC8b	Avoid spillage when withdrawing pump.
Refueling.Dedicated facilityPROC8b	Avoid spillage when withdrawing pump.
Use as a fuel(closed systems)PROC16	No other specific measures identified.
General exposures (closed systems)PROC1PROC2PROC3	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	Retain drain downs in sealed storage pending disposal or for subsequent recycle.

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.

Exposure Scenario - Worker

300000000303	
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	
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.	
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 articles/equipmentUse of closed filling equipment.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.

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

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

Exposure Scenario - Worker

300000000305	
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 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.	
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 containersPROC9	No other specific measures identified.
ManualFilling of articles/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)PROC1PROC2PROC3	No other specific measures identified.
Remanufacture of reject articlesPROC9	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 should ensure that risks are managed to at least equivalent levels.	

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

Exposure Scenario - Worker

300000000306	
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 Sub-stance 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.	
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 ma-chine 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.

maintenancePROC8a	
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.

Exposure Scenario - Worker

300000000310	
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 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.	
Contributing Scenarios	**Risk Management Measures**
General measures (eye irritants).	Use suitable eye protection. 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**
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.

Exposure Scenario - Worker

300000000311	
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 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.	
Contributing Scenarios	**Risk Management Measures**
General measures (eye irritants).	Use suitable eye protection. 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**
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.

Exposure Scenario - Worker

300000000312	
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	
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)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.
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.

Exposure Scenario - Worker

300000000313	
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 Sub-stance 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.	
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.
Equipment cleaning and maintenancePROC8a	Retain drain downs in sealed storage pending disposal or for subsequent recycle.
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.

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, on-site 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 Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration of Use	
No specific measures identified.	
Other Operational Conditions affecting Exposure	
Assumes use at not more than 20°C above ambient temperature (unless stated differently). Assumes a good basic standard of occupational hygiene is implemented.	
Contributing Scenarios	**Risk Management Measures**
Bulk transfers 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 contained batch processesPROC3	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.

equipment - aerosol exposuresPROC4	
Cleaning of solids filtering equipmentPROC8a	No other specific measures identified.
Treatment and disposal of filtered solidsPROC3	No other specific measures identified.
Process samplingPROC3	No other specific measures identified.
General exposures (closed systems)PROC1	No other specific measures identified.
Pouring from small containersPROC8a	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	No other specific measures identified.
Storage.PROC1PROC2	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.

Exposure Scenario - Consumer

300000001013	
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 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 (%): 100 %

Amounts Used	
Unless stated otherwise.	
for each use event, covers amount up to (g):	13.800
covers skin contact area (cm2):	857,5
Frequency and Duration of Use	
Unless stated otherwise.	
covers use up to (times/day of use):	1
Exposure (hours/event):	6
Other Operational Conditions affecting Exposure	
Unless stated otherwise. Covers use at ambient temperatures. Covers use in room size of 20m3 Covers use under typical household ventilation.	

Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Adhesives, sealants Glues, hobby use.	Covers concentrations up to 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

	for each use event Covers exposure up to 4 hours/event
Adhesives, sealants Glues DIY-use (carpet glue, tile glue, wood parquet glue).	Covers concentrations up to 50 %
	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 from spray.	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): 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 window.	Covers concentrations up to 50 %
	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 ventilation.
	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 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. Disinfectants, 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. Disinfectants, pest control) (excipient only). Cleaners, liquids (all purpose cleaners, 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. Disinfectants, 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, thinners, paint removers Solvent rich, high solid, water borne paint.	Covers concentrations up to 27,5 %
	covers use up to 6 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3

	for each use event Covers exposure up to 2,20 hours/event
Coatings and paints, thinners, paint removers Aerosol spray can.	Covers concentrations up to 50 %
	covers use up to 2 day/year
	covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 0,33 hours/event
Coatings and paints, thinners, paint removers Removers (paint-, glue-, wall paper-, sealant-remover).	Covers concentrations up to 50 %
	covers use up to 3 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	for each use event, covers amount up to (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 putty.	Covers concentrations up to 50 %
	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 floor equalizers.	Covers concentrations up to 2 %
	covers use up to 12 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 13.800 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2,00 hours/event
Fillers, Putties Modelling clay.	Covers concentrations up to 10 %
	covers use up to 365 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 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 %

ment products Solvent rich, high solid, water borne paint.	
	covers use up to 6 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2,20 hours/event
Non-metal-surface treatment products Aerosol spray can.	Covers concentrations up to 50 %
	covers use up to 2 day/year
	covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 0,33 hours/event
Non-metal-surface treatment products Removers (paint-, glue-, wall paper-, sealant-remover).	Covers concentrations up to 50 %
	covers use up to 3 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2,00 hours/event
Ink and toners Inks and toners.	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): 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, finishing, impregnation and care products 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 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, finishing, impregnation and care products Polishes, spray	Covers concentrations up to 50 %

(furniture, shoes).	
	covers use up to 8 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430,00 cm2
	for each use event, covers amount up to (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, release products Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	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
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
Textile dyes, finishing and	Covers concentrations up to 10 %

impregnating products; including bleaches and other processing aids	
	covers use up to 365 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	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 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.

Exposure Scenario - Consumer

300000001015	
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 STP
Concentration of the Substance in Mixture/Article	Unless stated otherwise.
	Covers concentration up to (%): 100 %

Amounts Used	
Unless stated otherwise.	
for each use event, covers amount up to (g):	13.800
covers skin contact area (cm2):	857,5
Frequency and Duration of Use	
Unless stated otherwise.	
covers use up to (times/day of use):	1
Exposure (hours/event):	4
Other Operational Conditions affecting Exposure	
Unless stated otherwise. Covers use at ambient temperatures. Covers use in room size of 20m3 Covers use under typical household ventilation.	

Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
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

	for each use event Covers exposure up to 0,25 hours/event
Air care products Air care, continuous action (solid and liquid).	Covers use under typical household ventilation.
	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 products Washing car window.	Covers concentrations up to 50 %
	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 ventilation.
	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 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. Disinfectants, 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. Disinfectants, pest control) (excipient only). Cleaners, liquids (all purpose cleaners, 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. Disinfectants, 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, thinners, paint removers Waterborne latex wall paint.	Covers concentrations up to 50 %
	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, thinners, paint removers Solvent rich, high solid, water borne paint.	Covers concentrations up to 27,5 %
	covers use up to 6 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2,20 hours/event
Coatings and paints, thinners, paint removers Aerosol spray can.	Covers concentrations up to 50 %
	covers use up to 2 day/year
	covers use up to 1 times/day of use

	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 0,33 hours/event
Coatings and paints, thinners, paint removers Removers (paint-, glue-, wall paper-, sealant-remover).	Covers concentrations up to 50 %
	covers use up to 3 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2,00 hours/event
Lubricants, greases, release products Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	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 and dish washing products.	Covers concentrations up to 70 %
	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 %

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

Exposure Scenario - Consumer

300000001017	
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 presented 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 (%): 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 of Use	
Unless stated otherwise.	
covers use up to (times/day of use):	1
Exposure (hours/event):	6
Other Operational Conditions affecting Exposure	
Unless stated otherwise. Covers use at ambient temperatures. Covers use in room size of 20m3 Covers use under typical household ventilation.	

Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Adhesives, sealants Glues, hobby use.	Covers concentrations up to 30 %
	covers use up to 365 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 9 g
	Covers use in room size of 20 m3

	for each use event Covers exposure up to 4 hours/event
Adhesives, sealants Glues DIY-use (carpet glue, tile glue, wood parquet glue).	Covers concentrations up to 30 %
	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 from spray.	Covers concentrations up to 30 %
	covers use up to 6 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 85,05 g
	Covers use 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, release products Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	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

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	
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.

Exposure Scenario - Consumer

300000001019	
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 Sub-stance 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
Frequency and Duration of Use	
Unless stated otherwise.	
covers use up to (times/day of use):	0
Other Operational Conditions affecting Exposure	
Unless stated otherwise. Covers use at ambient temperatures. Covers use in room size of 20m3 Covers use under typical household ventilation.	
Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
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

	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**
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.

Exposure Scenario - Consumer

300000001021	
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**
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):	37.500
covers skin contact area (cm2):	420
Frequency and Duration of Use	
Unless stated otherwise.	
covers use up to (times/day of use):	0,143
Exposure (hours/event):	2
Other Operational Conditions affecting Exposure	
Unless stated otherwise. Covers use at ambient temperatures. Covers use in room size of 20m3 Covers use under typical household ventilation.	
Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
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 %

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

Exposure Scenario - Consumer

300000001023	
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 Sub-stance in Mixture/Article	Unless stated otherwise.
	Covers concentration up to (%): 100 %
Amounts Used	
Unless stated otherwise.	
for each use event, covers amount up to (g):	2.200
covers skin contact area (cm2):	468
Frequency and Duration of Use	
Unless stated otherwise.	
covers use up to (times/day of use):	0,010
Exposure (hours/event):	0,167
Other Operational Conditions affecting Exposure	
Unless stated otherwise. Covers use at ambient temperatures. Covers use in room size of 20m3 Covers use under typical household ventilation.	
Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
Heat transfer fluids Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468,00 cm2
	For each use event, 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

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 ventilation.
	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.

Exposure Scenario - Consumer

300000001024	
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 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 (%): 40 %	
Amounts Used		
Unless stated otherwise.		
for each use event, covers amount up to (g):		2.000
covers skin contact area (cm2):		428
Frequency and Duration of Use		
Unless stated otherwise.		
covers use up to (times/day of use):		1
Covers exposure up to (hours/event):		0,25
Other Operational Conditions affecting Exposure		
Unless stated otherwise. Covers use at ambient temperatures. Covers use in room size of 20m3 Covers use under typical household ventilation.		
Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**	
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 %	

products Pouring into radiator.	
	covers use up to 365 day/year
	covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,00 cm2
	For each use event, covers amount up to 2.000 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	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 ventilation.
	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 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.

Exposure Scenario - Consumer

300000001025	
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
No exposure assessment presented for the 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.

Exposure Scenario - Consumer

300000001026	
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 presented for the environment.
Section 2.1	**Control of Consumer Exposure**
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 Pa
Concentration of the Sub-stance in Mixture/Article	Unless stated otherwise.
	Covers concentration up to (%): 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 of Use	
Unless stated otherwise.	
covers use up to (times/day of use):	1
Other Operational Conditions affecting Exposure	
Unless stated otherwise. Covers use at ambient temperatures. Covers use in room size of 20m3 Covers use under typical household ventilation.	

Product Categories	**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**
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

	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 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.