

**SAFETY DATA SHEET**  
COMPLETELY DENATURED ALCOHOL (CDA)

**Revision Date:** 08/09/2022

**Revision No:** 2

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

**1.1. Product identifier**

**Product name** COMPLETELY DENATURED ALCOHOL (CDA) UNDYED

**Product number**

**REACH registration notes** ALL COMPONENTS HAVE BEEN REGISTERED

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

**Identified uses** Manufacture of substance. Use as an intermediate. Distribution of substance. Formulation & (re)packing of substances and mixtures. Uses in coatings. Cleaning agents. Use as a fuel. Use as a functional fluid Laboratory agents Other consumer uses. De-icing and anti-icing applications

**Uses advised against** This product is not recommended for any industrial, professional or consumer uses other than those identified above.

**1.3. Details of the supplier of the safety data sheet**

**Supplier** Vet Way Ltd  
Airfield Business Park  
Elvington  
York  
YO41 4EA

**Tel** +44 (0) 1904 607 600

**Email** info@vet-way.com

**Website** www.vet-way.com

**1.4. Emergency telephone number**

**Emergency telephone** +44 (0) 1904 607 600

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

**Classification (EC 1272/2008)**

**Physical hazards** Flam. Liq. 2 - H225

**Health hazards** Eye Irrit. 2 - H319

**Environmental hazards** Not Classified

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>Human health</b>	Irritating to eyes. May cause serious eye damage. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. May cause skin sensitisation or allergic reactions in sensitive individuals. In high concentrations, vapours may be irritating to the respiratory system. In high concentrations, vapours and spray mists are narcotic and may cause headache, fatigue, dizziness and nausea. In case of overexposure, organic solvents may depress the central nervous system causing dizziness and intoxication, and at very high concentrations unconsciousness and death. See Section 11 for additional information on health hazards.
<b>Environmental</b>	Not considered as an environmental hazard according to CLP criteria
<b>Physicochemical</b>	The product is highly flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember.

### 2.2. Label elements

#### Hazard pictograms



<b>Signal word</b>	Danger
<b>Hazard statements</b>	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation.
<b>Precautionary statements</b>	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/ container in accordance with national regulations.
<b>Contains</b>	ETHANOL
<b>Supplementary precautionary statements</b>	P233 Keep container tightly closed. P240 Ground and bond container and receiving equipment. P241 Use explosion-proof electrical equipment. P242 Use non-sparking tools. P243 Take action to prevent static discharges. P264 Wash contaminated skin thoroughly after handling. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P337+P313 If eye irritation persists: Get medical advice/ attention.

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>ETHANOL</b> <span style="float: right;"><b>94%</b></span>		
CAS number: 64-17-5	EC number: 200-578-6	REACH registration number: 01-2119457610-43-XXXX
<b>Classification</b> Flam. Liq. 2 - H225 Eye Irrit. 2 - H319		
<b>ISOPROPANOL</b> <span style="float: right;"><b>3.0%</b></span>		
CAS number: 67-63-0	EC number: 200-661-7	REACH registration number: 01-2119457558-25-XXXX
<b>Classification</b> Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336		
<b>METHYL ETHYL KETONE</b> <span style="float: right;"><b>3.0%</b></span>		
CAS number: 78-93-3	EC number: 201-159-0	REACH registration number: 01-2119457290-43-XXXX
<b>Classification</b> Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336	<b>Classification (67/548/EEC or 1999/45/EC)</b> Xi;R36. F;R11. R66,R67.	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	Keep affected person under observation. Effects may be delayed. If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Keep affected person under observation. Get medical attention if symptoms are severe or persist. Show this Safety Data Sheet to the medical personnel.
<b>Ingestion</b>	Get medical attention immediately. Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Keep affected person under observation. Show this Safety Data Sheet to the medical personnel.
<b>Skin contact</b>	Remove affected person from source of contamination. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

#### 4.2. Most important symptoms and effects, both acute and delayed

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>General information</b>	Get medical attention immediately. The casualty should be transferred to hospital as soon as possible.
<b>Inhalation</b>	Vapours/aerosol spray may irritate the respiratory system. In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Overexposure to organic solvents may depress the central nervous system, causing dizziness and intoxication and, at very high concentrations, unconsciousness and death.
<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Diarrhoea. Nausea, vomiting.
<b>Skin contact</b>	Prolonged contact may cause redness, irritation and dry skin. Product has a defatting effect on skin.
<b>Eye contact</b>	Causes serious eye irritation. Immediate first aid is imperative. Vapour or spray in the eyes may cause irritation and smarting.

### **4.3. Indication of any immediate medical attention and special treatment needed**

<b>Notes for the doctor</b>	No specific recommendations.
<b>Specific treatments</b>	No specific chemical antidote is known to be required after exposure to this product.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

<b>Suitable extinguishing media</b>	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire. Non-alcohol resistant foam

### **5.2. Special hazards arising from the substance or mixture**

<b>Specific hazards</b>	Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Solvent vapours may form explosive mixtures with air. May ignite at high temperature. Highly flammable liquid and vapour. Vapours may accumulate on the floor and in low-lying areas. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours may be ignited by a spark, a hot surface or an ember.
<b>Hazardous combustion products</b>	Oxides of carbon. Acrid smoke or fumes.

### **5.3. Advice for firefighters**

<b>Protective actions during firefighting</b>	Move containers from fire area if it can be done without risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Use protective equipment appropriate for surrounding materials.

## **SECTION 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

## COMPLETELY DENATURED ALCOHOL (CDA)

**Personal precautions** Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Take precautionary measures against static discharges. Take care as floors and other surfaces may become slippery. Follow precautions for safe handling described in this safety data sheet. For personal protection, see Section 8.

### 6.2. Environmental precautions

**Environmental precautions** Environmental Manager must be informed of all major spillages. Do not discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Stop leak if possible without risk. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Avoid the spillage or runoff entering drains, sewers or watercourses. Take care as floors and other surfaces may become slippery. Contain spillage with sand, earth or other suitable non-combustible material. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Dispose of contents/container in accordance with international regulations. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents.

### 6.4. Reference to other sections

**Reference to other sections** Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. Collect and dispose of spillage as indicated in Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** Keep away from heat, sparks and open flame. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours and spray/mists. Avoid spilling. Avoid release to the environment. Use explosion-proof electrical, ventilating and lighting equipment. Use only in well-ventilated areas. Use suitable respiratory protection if ventilation is inadequate. Take precautionary measures against static discharge. Earth container and transfer equipment to eliminate sparks from static electricity. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ( $\leq 10$  m/sec). AVOID splash filling Do not use compressed air for filling or discharging operations

**Advice on general occupational hygiene** Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Clean equipment and the work area every day. Contaminated clothing should be placed in a closed container for disposal or decontamination.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Keep away from oxidising materials, heat and flames. Store in tightly-closed, original container in a well-ventilated place. Bund storage facilities to prevent soil and water pollution in the event of spillage. Earth container and transfer equipment to eliminate sparks from static electricity. Storage tanks and other containers must be earthed. Keep away from food, drink and animal feeding stuffs. Only store in correctly labelled containers. Suitable container materials: Carbon steel. Mild steel. Stainless steel. Unsuitable containers: copper, zinc, aluminium, copper alloy, zinc alloy, aluminium alloy. May attack some plastics, rubber and coatings.

## COMPLETELY DENATURED ALCOHOL (CDA)

**Storage class** Flammable liquid storage.

### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

## SECTION 8: Exposure controls/Personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### ETHANOL

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL

##### ISOPROPANOL

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m<sup>3</sup>

##### METHYL ETHYL KETONE

Long-term exposure limit (8-hour TWA): WEL 200 ppm(Sk) 600 mg/m<sup>3</sup>(Sk)

Short-term exposure limit (15-minute): WEL 300 ppm(Sk) 899 mg/m<sup>3</sup>(Sk)

WEL = Workplace Exposure Limit.

**Ingredient comments** WEL = Workplace Exposure Limits

#### ETHANOL (CAS: 64-17-5)

<b>Ingredient comments</b>	WEL = Workplace Exposure Limits
<b>DNEL</b>	Industry - Inhalation; Short term local effects: 1900 mg/m <sup>3</sup> Industry - Dermal; Long term systemic effects: 343 mg/kg/day Industry - Inhalation; Long term systemic effects: 950 mg/m <sup>3</sup> Consumer - Inhalation; Short term local effects: 950 mg/m <sup>3</sup> Consumer - Dermal; Long term systemic effects: 206 mg/kg/day Consumer - Inhalation; Long term systemic effects: 114 mg/m <sup>3</sup> Consumer - Oral; Long term systemic effects: 87 mg/kg/day
<b>PNEC</b>	Industry - Fresh water; Long term 0.96 mg/l Industry - marine water; Long term 0.79 mg/l Industry - Intermittent release; Long term 2.75 mg/l Industry - STP; Long term 580 mg/l Industry - Sediment (Freshwater); Long term 3.6 mg/kg Industry - Sediment (Marinewater); Long term 2.9 mg/kg Industry - Soil; Long term 0.63 mg/kg

#### ISOPROPANOL (CAS: 67-63-0)

<b>Ingredient comments</b>	WEL = Workplace Exposure Limits
<b>DNEL</b>	Industry - Dermal; Long term systemic effects: 888 mg/kg/day Industry - Inhalation; Long term systemic effects: 500 mg/m <sup>3</sup> Consumer - Dermal; Long term systemic effects: 319 mg/kg/day Consumer - Inhalation; Long term systemic effects: 89 mg/m <sup>3</sup> Consumer - Oral; Long term systemic effects: 26 mg/kg/day

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>PNEC</b>	Industry - Fresh water; Long term 140.9 mg/l
	Industry - marine water; Long term 140.9 mg/l
	Industry - Sediment (Freshwater); Long term 552 mg/kg
	Industry - Sediment (Marinewater); Long term 552 mg/kg
	Industry - Soil; Long term 28 mg/l

### METHYL ETHYL KETONE (CAS: 78-93-3)

<b>Ingredient comments</b>	WEL = Workplace Exposure Limits
<b>DNEL</b>	Industry - Dermal; Long term systemic effects: 1161 mg/kg/day
	Industry - Inhalation; Long term systemic effects: 600 mg/m <sup>3</sup>
	Consumer - Oral; Long term systemic effects: 31 mg/kg/day
	Consumer - Dermal; Long term systemic effects: 412 mg/kg/day
	Consumer - Inhalation; Long term systemic effects: 106 mg/kg/day
<b>PNEC</b>	Industry - Fresh water; Long term 55.8 mg/l
	Industry - marine water; Long term 55.8 mg/l
	Industry - Sediment (Freshwater); Long term 284.74 mg/kg
	Industry - Sediment (Marinewater); Long term 287.7 mg/kg
	Industry - Soil; Long term 22.5 mg/kg

## 8.2. Exposure controls

### Protective equipment



### Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Ensure the ventilation system is regularly maintained and tested. Use explosion-proof electrical, ventilating and lighting equipment. This product must not be handled in a confined space without adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

### Eye/face protection

Wear eye protection. If risk of splashing, wear safety goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

### Hand protection

Wear protective gloves. The selected gloves should have a breakthrough time of at least 8 hours. It is recommended that gloves are made of the following material: Butyl rubber. Polyethylene. Viton rubber (fluoro rubber). For short-term / splash protection the following are recommended Neoprene. To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

### Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Provide eyewash station and safety shower.

### Hygiene measures

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Contaminated clothing should be placed in a closed container for disposal or decontamination.

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>Respiratory protection</b>	If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapour filter. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Gas and combination filter cartridges should comply with European Standard EN14387. Change filter cartridge on respirator daily. Check that the respirator fits tightly and the filter is changed regularly. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator. When spraying, wear a suitable supplied-air respirator.
<b>Environmental exposure controls</b>	Keep container tightly sealed when not in use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Alcoholic
<b>Melting point</b>	- 114°C
<b>Initial boiling point and range</b>	78°C @ 1013 hPa
<b>Flash point</b>	12°C Closed cup.
<b>Evaporation rate</b>	3.4 BuAc=1
<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: 2.5 % V Upper flammable/explosive limit: 13.5 % V
<b>Vapour pressure</b>	5.8 kPa @ °C
<b>Vapour density</b>	1.03
<b>Bulk density</b>	0.79-0.82 @ 20°C kg/l
<b>Solubility(ies)</b>	Soluble in water. Miscible with the following materials: Organic solvents.
<b>Partition coefficient</b>	log Pow: - 0.35
<b>Auto-ignition temperature</b>	363°C
<b>Viscosity</b>	1.2 mPa s @ 20°C

#### 9.2. Other information

<b>Other information</b>	Not available.
<b>Volatile organic compound</b>	This product contains a maximum VOC content of 100% .

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

<b>Reactivity</b>	The following materials may react with the product: Strong oxidising agents. Acids.
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#### 10.2. Chemical stability

<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended.
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#### 10.3. Possibility of hazardous reactions

<b>Possibility of hazardous reactions</b>	Reacts with strong oxidising agents Reacts with strong acids
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## COMPLETELY DENATURED ALCOHOL (CDA)

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid heat, flames and other sources of ignition. Avoid heat. Avoid contact with the following materials: Strong oxidising agents. Avoid contact with acids.

### 10.5. Incompatible materials

**Materials to avoid** Strong oxidising agents. Strong acids. Alkali metals.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Oxides of carbon. Acrid smoke or fumes.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicological information on ingredients.

#### ETHANOL

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 10,470 mg/kg, Oral, Rat

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 17,100 mg/kg, Dermal, Rabbit

##### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> 124.7 mg/l/4hr/day, Inhalation, Rat

##### Skin corrosion/irritation

**Animal data** Not classified as irritating to skin

##### Serious eye damage/irritation

**Serious eye damage/irritation** Classified as irritating to eyes

##### Respiratory sensitisation

**Respiratory sensitisation** Not classified as a respiratory sensitiser

##### Skin sensitisation

**Skin sensitisation** Not classified as a skin sensitiser

##### Germ cell mutagenicity

**Genotoxicity - in vitro** Does not contain any substances known to be mutagenic.

##### Carcinogenicity

**Carcinogenicity** Does not contain any substances known to be carcinogenic.

##### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development**

This substance has no evidence of toxicity to reproduction.

##### Specific target organ toxicity - single exposure

**STOT - single exposure** Based on available data the classification criteria are not met.

##### Specific target organ toxicity - repeated exposure

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>STOT - repeated exposure</b>	Based on available data the classification criteria are not met.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
<b><u>General information</u></b>	
<b>General information</b>	Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.
<b><u>Inhalation</u></b>	
<b>Inhalation</b>	Vapours/aerosol spray may irritate the respiratory system. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation of high concentrations may damage respiratory system. Overexposure may depress the central nervous system, causing dizziness and intoxication. Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations.
<b><u>Ingestion</u></b>	
<b>Ingestion</b>	May cause discomfort if swallowed. Gastrointestinal symptoms, including upset stomach. May cause nausea, headache, dizziness and intoxication. Diarrhoea.
<b><u>Skin contact</u></b>	
<b>Skin contact</b>	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Product has a defatting effect on skin. May cause skin sensitisation or allergic reactions in sensitive individuals.
<b><u>Eye contact</u></b>	
<b>Eye contact</b>	Causes serious eye irritation. Repeated exposure may cause chronic eye irritation. Risk of serious damage to eyes.
<b><u>Acute and chronic health hazards</u></b>	
<b>Acute and chronic health hazards</b>	Irritating to eyes.
<b><u>Route of exposure</u></b>	
<b>Route of exposure</b>	Inhalation Ingestion Skin and/or eye contact
<b><u>Target organs</u></b>	
<b>Target organs</b>	Central nervous system Eyes Gastro-intestinal tract Skin
<b><u>Medical symptoms</u></b>	
<b>Medical symptoms</b>	Central nervous system depression. Confusion, agitation and/or excitation. Gastrointestinal symptoms, including upset stomach. Diarrhoea. Dizziness. Intoxication. Nausea, vomiting. Irritation of eyes and mucous membranes.
<b><u>Medical considerations</u></b>	
<b>Medical considerations</b>	History of alcoholism. Central nervous system depression. Splash in eye requires examination by eye specialist. Persons with rash are directed to skin expert for examination of allergic eczema.

### ISOPROPANOL

#### **Acute toxicity - oral**

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 5,045 mg/kg, Oral, Rat

#### **Acute toxicity - dermal**

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 12,800 mg/kg, Dermal, Rabbit

#### **Acute toxicity - inhalation**

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> > 20 mg/l/4hr/day, Inhalation, Rat

#### **Skin corrosion/irritation**

**Animal data** Based on available data the classification criteria are not met.

#### **Serious eye damage/irritation**

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>Serious eye damage/irritation</b>	Based on available data the classification criteria are not met.
<b><u>Respiratory sensitisation</u></b>	
<b>Respiratory sensitisation</b>	Based on available data the classification criteria are not met.
<b><u>Skin sensitisation</u></b>	
<b>Skin sensitisation</b>	Based on available data the classification criteria are not met.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Does not contain any substances known to be mutagenic.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	Does not contain any substances known to be carcinogenic.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Based on available data the classification criteria are not met.
<b>Reproductive toxicity - development</b>	This substance has no evidence of toxicity to reproduction.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	May cause drowsiness or dizziness.
<b>Target organs</b>	Brain Central nervous system
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	Based on available data the classification criteria are not met.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
<b><u>General information</u></b>	
<b>General information</b>	Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.
<b>Inhalation</b>	Vapours/aerosol spray may irritate the respiratory system. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation of high concentrations may damage respiratory system. Overexposure may depress the central nervous system, causing dizziness and intoxication. Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations.
<b>Ingestion</b>	May cause discomfort if swallowed. Gastrointestinal symptoms, including upset stomach. May cause nausea, headache, dizziness and intoxication. Diarrhoea.
<b>Skin contact</b>	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Product has a defatting effect on skin. May cause skin sensitisation or allergic reactions in sensitive individuals.
<b>Eye contact</b>	Causes serious eye irritation. Repeated exposure may cause chronic eye irritation. Risk of serious damage to eyes.
<b>Acute and chronic health hazards</b>	Irritating to eyes.

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>Route of exposure</b>	Inhalation Ingestion Skin and/or eye contact
<b>Target organs</b>	Central nervous system Eyes Gastro-intestinal tract Skin
<b>Medical symptoms</b>	Central nervous system depression. Confusion, agitation and/or excitation. Gastrointestinal symptoms, including upset stomach. Diarrhoea. Dizziness. Intoxication. Nausea, vomiting. Irritation of eyes and mucous membranes.
<b>Medical considerations</b>	Central nervous system depression. Splash in eye requires examination by eye specialist. Persons with rash are directed to skin expert for examination of allergic eczema.

### METHYL ETHYL KETONE

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> 2,600 - 5,400 mg/kg, Oral, Rat

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> 6,480 mg/kg, Dermal, Rabbit

#### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> 34 mg/l/4hr/day, Inhalation, Rat

#### Skin corrosion/irritation

**Animal data** Not classified as irritating to skin

#### Serious eye damage/irritation

**Serious eye damage/irritation** Classified as irritating to eyes

#### Respiratory sensitisation

**Respiratory sensitisation** Not classified as a respiratory sensitiser

#### Skin sensitisation

**Skin sensitisation** Not classified as a skin sensitiser

#### Germ cell mutagenicity

**Genotoxicity - in vitro** Does not contain any substances known to be mutagenic.

#### Carcinogenicity

**Carcinogenicity** Does not contain any substances known to be carcinogenic.

#### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met.

**Reproductive toxicity - development** This substance has no evidence of toxicity to reproduction.

#### Specific target organ toxicity - single exposure

**STOT - single exposure** May cause drowsiness or dizziness.

**Target organs** Brain Central nervous system

#### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Based on available data the classification criteria are not met.

#### Aspiration hazard

## COMPLETELY DENATURED ALCOHOL (CDA)

<b>Aspiration hazard</b>	Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
<b>General information</b>	Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.
<b>Inhalation</b>	Vapours/aerosol spray may irritate the respiratory system. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation of high concentrations may damage respiratory system. Overexposure may depress the central nervous system, causing dizziness and intoxication. Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations.
<b>Ingestion</b>	Gastrointestinal symptoms, including upset stomach. Diarrhoea. Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal
<b>Skin contact</b>	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Product has a defatting effect on skin. May cause skin sensitisation or allergic reactions in sensitive individuals.
<b>Eye contact</b>	Causes serious eye irritation. Repeated exposure may cause chronic eye irritation. Risk of serious damage to eyes.
<b>Acute and chronic health hazards</b>	Irritating to eyes.
<b>Route of exposure</b>	Inhalation Ingestion Skin and/or eye contact
<b>Target organs</b>	Central nervous system Eyes Gastro-intestinal tract Skin
<b>Medical symptoms</b>	Central nervous system depression. Confusion, agitation and/or excitation. Gastrointestinal symptoms, including upset stomach. Diarrhoea. Dizziness. Nausea, vomiting. Irritation of eyes and mucous membranes.
<b>Medical considerations</b>	Central nervous system depression. Splash in eye requires examination by eye specialist. Persons with rash are directed to skin expert for examination of allergic eczema.

### SECTION 12: Ecological information

#### Ecological information on ingredients.

##### ETHANOL

<b>Ecotoxicity</b>	The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.
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##### ISOPROPANOL

<b>Ecotoxicity</b>	The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.
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##### METHYL ETHYL KETONE

<b>Ecotoxicity</b>	The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.
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#### 12.1. Toxicity

## COMPLETELY DENATURED ALCOHOL (CDA)

### Ecological information on ingredients.

#### ETHANOL

##### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 13,000 mg/l, Oncorhynchus mykiss (Rainbow trout)

**Acute toxicity - aquatic invertebrates** LC<sub>50</sub>, 48 hours: 12,340 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 48 hours: 12,900 mg/l, Selenastrum capricornutum

**Acute toxicity - microorganisms** EC<sub>50</sub>, 4 hours: 5,800 mg/l, Activated sludge

##### Chronic aquatic toxicity

**Chronic toxicity - fish early life stage** NOEC, 24 days: > 0.08 mg/l, Pimephales promelas (Fat-head Minnow)

**Chronic toxicity - aquatic invertebrates** NOEC, 10 days: 9.6 mg/l, Daphnia magna

#### ISOPROPANOL

##### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 9640 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 24 hours: > 10000 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 7 days: 1800 mg/l, Selenastrum capricornutum

#### METHYL ETHYL KETONE

##### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 2993 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 308 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 96 hours: 1726 - 2278 mg/l, Scenedesmus subspicatus

### 12.2. Persistence and degradability

#### Ecological information on ingredients.

#### ETHANOL

**Persistence and degradability** The product is biodegradable. Oxidises rapidly by photochemical reactions in air.

**Biological oxygen demand** 1,000 mg/g

**Chemical oxygen demand** 1,900 mg/g

#### ISOPROPANOL

## COMPLETELY DENATURED ALCOHOL (CDA)

**Persistence and degradability** Expected to be readily biodegradable. Oxidises rapidly by photochemical reactions in air.

### METHYL ETHYL KETONE

**Persistence and degradability** Readily biodegradable Oxidises rapidly by photochemical reactions in air.

**Biological oxygen demand** g O<sub>2</sub>/g substance Duration of exposure was 5 days

### 12.3. Bioaccumulative potential

**Partition coefficient** log Pow: - 0.35

### Ecological information on ingredients.

#### ETHANOL

**Bioaccumulative potential** Does not bioaccumulate significantly

**Partition coefficient** log Pow: - 0.35

#### ISOPROPANOL

**Bioaccumulative potential** Based on available data the classification criteria are not met.

**Partition coefficient** log Pow: 0.05

#### METHYL ETHYL KETONE

**Bioaccumulative potential** Does not bioaccumulate significantly

**Partition coefficient** log Pow: 0.3

### 12.4. Mobility in soil

### Ecological information on ingredients.

#### ETHANOL

**Mobility** The product is water-soluble and may spread in water systems. Large volumes may penetrate soil and could contaminate groundwater If product enters soil it will be mobile and may contaminate groundwater.

**Henry's law constant** 3.3 x 10 exp -6 atm m<sup>3</sup>/mol @ °C

**Surface tension** 24.5 mN/m @ 20°C

#### ISOPROPANOL

**Mobility** The product is water-soluble and may spread in water systems.

**Surface tension** 22.7 mN/m @ 20°C

#### METHYL ETHYL KETONE

**Mobility** The product is water-soluble and may spread in water systems. Large volumes may penetrate soil and could contaminate groundwater If product enters soil it will be mobile and may contaminate groundwater.

**Surface tension** 24.8 mN/m @ °C @ 20°C

## COMPLETELY DENATURED ALCOHOL (CDA)

### 12.5. Results of PBT and vPvB assessment

#### Ecological information on ingredients.

##### ETHANOL

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

##### ISOPROPANOL

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

##### METHYL ETHYL KETONE

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

### 12.6. Other adverse effects

#### Ecological information on ingredients.

##### ETHANOL

**Other adverse effects** The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

##### ISOPROPANOL

**Other adverse effects** The product contains a substance or substances that will contribute to global warming (greenhouse effect). Not expected to have ozone depletion potential

##### METHYL ETHYL KETONE

**Other adverse effects** The product contains a substance or substances that will contribute to global warming (greenhouse effect). Not expected to have ozone depletion potential

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### **General information**

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. Contaminated packages must be completely emptied before sending away for laundering and re-use. When handling waste, the safety precautions applying to handling of the product should be considered.

#### **Disposal methods**

Collect and place in suitable waste disposal containers and seal securely. Empty containers or liners may retain some product residues and hence be potentially hazardous. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. Confirm disposal procedures with environmental engineer and local regulations. Avoid the spillage or runoff entering drains, sewers or watercourses.

## SECTION 14: Transport information

### 14.1. UN number



## COMPLETELY DENATURED ALCOHOL (CDA)

UN No. (ADR/RID)	1170
UN No. (IMDG)	1170
UN No. (ICAO)	1170
UN No. (ADN)	1170

### 14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (IMDG)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (ICAO)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Proper shipping name (ADN)	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

### 14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

#### Transport labels



### 14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant  
No.

### 14.6. Special precautions for user

EmS	F-E, S-D
ADR transport category	2
Emergency Action Code	•2YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

## COMPLETELY DENATURED ALCOHOL (CDA)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Pollution category: Cat Z

### SECTION 15: Regulatory information

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

<b>National regulations</b>	Health and Safety at Work etc. Act 1974 (as amended). Control of Substances Hazardous to Health Regulations 2002 (as amended). Dangerous Substances and Explosive Atmospheres Regulations 2002. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
<b>EU legislation</b>	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments.
<b>Guidance</b>	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. Safety Data Sheets for Substances and Preparations.
<b>Authorisations (Annex XIV Regulation 1907/2006)</b>	No specific authorisations are known for this product.
<b>Restrictions (Annex XVII Regulation 1907/2006)</b>	No specific restrictions on use are known for this product.

#### 15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

#### Inventories

##### EU - EINECS/ELINCS

All the ingredients are listed or exempt.

##### Canada - DSL/NDSL

All the ingredients are listed or exempt.

##### US - TSCA

All the ingredients are listed or exempt.

##### US - TSCA 12(b) Export Notification

All the ingredients are listed or exempt.

##### Australia - AICS

All the ingredients are listed or exempt.

##### Japan - ENCS

All the ingredients are listed or exempt.

##### Korea - KECI

All the ingredients are listed or exempt.

## COMPLETELY DENATURED ALCOHOL (CDA)

### China - IECSC

All the ingredients are listed or exempt.

### Philippines – PICCS

All the ingredients are listed or exempt.

### New Zealand - NZIOC

All the ingredients are listed or exempt.

## SECTION 16: Other information

<b>Key literature references and sources for data</b>	Dangerous Properties of Industrial Materials Report, N.Sax et.al. ECHA Registry of Toxic Effects of Chemical Substances (RTECS).
<b>Risk phrases in full</b>	R11 Highly flammable. R36 Irritating to eyes. R66 Repeated exposure may cause skin dryness or cracking. R67 Vapours may cause drowsiness and dizziness.
<b>Hazard statements in full</b>	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Manufacture of substance - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3, SU8, SU9 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 <b>Environmental Release Categories:</b> ERC 1, ERC 4		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Process sampling	No other specific measures identified
Laboratory activities	No other specific measures identified
Bulk transfers (open systems)	No other specific measures identified

## Safety Data Sheet

Bulk transfers (closed systems)	No other specific measures identified
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>
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The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

<b>Section 3.2 -Environment</b>
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No exposure assessment presented for the environment.

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

<b>Section 4.2 -Environment</b>
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No exposure assessment presented for the environment.

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Use as an intermediate - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3, SU8, SU9 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 <b>Environmental Release Categories:</b> ERC 6A		
<b>Scope of process</b>	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).		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Process sampling	No other specific measures identified
Laboratory activities	No other specific measures identified
Bulk transfers (open systems)	No other specific measures identified

## Safety Data Sheet

Bulk transfers (closed systems)	No other specific measures identified
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Distribution of substance - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3, SU8, SU9 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15 <b>Environmental Release Categories:</b> ERC 1, ERC 2, ERC 3, ERC 4, ERC 5, ERC 6A, ERC 7		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Process sampling	No other specific measures identified
Laboratory activities	No other specific measures identified
Bulk transfers (open systems)	No other specific measures identified



## Safety Data Sheet

Bulk transfers (closed systems)	No other specific measures identified
Drum and small package filling	No other specific measures identified
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Formulation & (re)packing of substances and mixtures - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3, SU 10 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 15 <b>Environmental Release Categories:</b> ERC 2		
<b>Scope of process</b>	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Batch processes at elevated temperatures	No other specific measures identified
Process sampling	No other specific measures identified
Laboratory activities	No other specific measures identified

## Safety Data Sheet

Bulk transfers	No other specific measures identified
Mixing operations (open systems)	No other specific measures identified
Manual Transfer from/pouring from containers	No other specific measures identified
Drum/batch transfers	No other specific measures identified
Production or preparation of articles by tableting, compression, extrusion or pelletisation	No other specific measures identified
Drum and small package filling	No other specific measures identified
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Uses in Coatings - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13, PROC 15 <b>Environmental Release Categories:</b> ERC 4		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Film formation - force drying, stoving and other technologies.	No other specific measures identified

## Safety Data Sheet

Film formation - air drying	No other specific measures identified
Mixing operations (closed systems) General exposures (closed systems)	No other specific measures identified
Preparation of material for application Mixing operations (open systems)	No other specific measures identified
Spraying (automatic/robotic)	Carry out in a vented booth or extracted enclosure
Manual Spraying	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Roller, spreader, flow application	No other specific measures identified
Dipping, immersion and pouring	No other specific measures identified
Laboratory activities	No other specific measures identified
Material transfers Drum/batch transfers Transfer from/pouring from containers	No other specific measures identified
Production or preparation of articles by tableting, compression, extrusion or pelletisation	No other specific measures identified

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

<b>Section 3.2 -Environment</b>
No exposure assessment presented for the environment.

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

## Safety Data Sheet

Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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<b>Section 4.2 -Environment</b>
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No exposure assessment presented for the environment.
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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Uses in Coatings - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13, PROC 15, PROC 19 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
Filling / preparation of equipment from drums or containers.	No other specific measures identified
General exposures (open systems)	No other specific measures identified

## Safety Data Sheet

Preparation of material for application	No other specific measures identified
Film formation - air drying Outdoor	No other specific measures identified
Film formation - air drying Indoor	No other specific measures identified
Preparation of material for application Indoor	No other specific measures identified
Material transfers Drum/batch transfers	No other specific measures identified
Roller, spreader, flow application	No other specific measures identified
Manual Spraying Indoor	Carry out in a vented booth or extracted enclosure
Manual Spraying Outdoor	Wear a respirator conforming to EN140 with Type A filter or better.
Dipping, immersion and pouring	No other specific measures identified
Laboratory activities	No other specific measures identified
Hand application - fingerpaints, pastels, adhesives	No other specific measures identified

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

<b>Section 3.2 -Environment</b>
No exposure assessment presented for the environment.

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



## Safety Data Sheet

Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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<b>Section 4.2 -Environment</b>
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No exposure assessment presented for the environment.
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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Use in Cleaning Agents - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13 <b>Environmental Release Categories:</b> ERC 4		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers	Clear transfer lines prior to de-coupling
Automated process with (semi) closed systems. Use in contained systems	No other specific measures identified
Application of cleaning products in closed systems	No other specific measures identified
Filling / preparation of equipment from drums or	No other specific measures identified

## Safety Data Sheet

containers.	
Use in contained batch processes	No other specific measures identified
Degreasing small objects in cleaning station	No other specific measures identified
Cleaning with low-pressure washers	No other specific measures identified
Cleaning with high pressure washers	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Manual Surfaces Cleaning no spraying	No other specific measures identified
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>
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The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

<b>Section 3.2 -Environment</b>
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No exposure assessment presented for the environment.

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

<b>Section 4.2 -Environment</b>
---------------------------------

No exposure assessment presented for the environment.

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Use in Cleaning Agents - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D		
<b>Scope of process</b>	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).		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
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.	No other specific measures identified
Automated process with (semi) closed systems. Use in contained systems	No other specific measures identified
Semi Automated process. (e.g.: Semi automatic application of floor care and maintenance products)	No other specific measures identified

## Safety Data Sheet

Manual Surfaces Cleaning Dipping, immersion and pouring	No other specific measures identified
Cleaning with low-pressure washers Rolling, Brushing no spraying	No other specific measures identified
Cleaning with high pressure washers Spraying Indoor	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Cleaning with high pressure washers Spraying Outdoor	Limit the substance content in the product to 1 % , or: Avoid carrying out activities involving exposure for more than 15 minutes
Manual Surfaces Cleaning Spraying	No other specific measures identified
Ad hoc manual application via trigger sprays, dipping, etc. Rolling, Brushing	No other specific measures identified
Application of cleaning products in closed systems Outdoor	No other specific measures identified
Cleaning of medical devices	No other specific measures identified
Storage	Store substance within a closed system

### Section 2.2

### Control of Environmental Exposure

## SECTION 3

## EXPOSURE ESTIMATION

### Section 3.1 - Health

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

### Section 3.2 -Environment

No exposure assessment presented for the environment.

## SECTION 4

## GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE

## Safety Data Sheet

	SCENARIO
<b>Section 4.1 - Health</b>	
	<p>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.</p>
<b>Section 4.2 -Environment</b>	
	<p>No exposure assessment presented for the environment.</p>

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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Lubricants - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 13, PROC 17, PROC 18 <b>Environmental Release Categories:</b> ERC 7, ERC 4		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Bulk transfers	Clear transfer lines prior to de-coupling
Filling / preparation of equipment from drums or containers.	No other specific measures identified

## Safety Data Sheet

Initial factory fill of equipment	No other specific measures identified
Operation and lubrication of high energy open equipment	Provide extract ventilation to points where emissions occur Restrict area of openings to equipment
Manual Rolling, Brushing	No other specific measures identified
Treatment by dipping and pouring	No other specific measures identified
Spraying	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	No other specific measures identified
Maintenance of small items	No other specific measures identified
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	



## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Lubricants - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 17, PROC 18, PROC 20 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D, ERC 9A, ERC 9B		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
Operation of equipment containing engine oils and similar	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Bulk transfers	No other specific measures identified

## Safety Data Sheet

Filling / preparation of equipment from drums or containers.	No other specific measures identified
Operation and lubrication of high energy open equipment Indoor	Restrict area of openings to equipment Provide extract ventilation to points where emissions occur
Operation and lubrication of high energy open equipment Outdoor	No other specific measures identified
Maintenance (of larger plant items) and machine set up elevated temperature	Provide extract ventilation to emission points when contact with warm (>50oC) lubricant is likely
Maintenance of small items elevated temperature Covers percentage substance in the product up to 5%.	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 service	No other specific measures identified
Manual Rolling, Brushing	No other specific measures identified
Spraying	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 pouring	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	Store substance within a closed system

### Section 2.2

### Control of Environmental Exposure

## SECTION 3

## EXPOSURE ESTIMATION

### Section 3.1 - Health

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

## Safety Data Sheet

<b>Section 3.2 -Environment</b>
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No exposure assessment presented for the environment.
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<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
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<b>Section 4.1 - Health</b>
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Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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<b>Section 4.2 -Environment</b>
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No exposure assessment presented for the environment.
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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Metal working fluids / rolling oils - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 13, PROC 17 <b>Environmental Release Categories:</b> ERC 4		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Bulk transfers Drum/batch transfers	No other specific measures identified
Product sampling	No other specific measures identified

## Safety Data Sheet

Metal machining operations	No other specific measures identified
Treatment by dipping and pouring	No other specific measures identified
Spraying	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Manual Rolling, Brushing	No other specific measures identified
Automated metal rolling/forming elevated temperature	No other specific measures identified
Semi-automated metal rolling/forming elevated temperature	Automate activity where possible No other specific measures identified
Equipment cleaning and maintenance	Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>
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The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

<b>Section 3.2 -Environment</b>
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No exposure assessment presented for the environment.

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

<b>Section 4.2 -Environment</b>
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No exposure assessment presented for the environment.

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Metal working fluids / rolling oils - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 11, PROC 13, PROC 17 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)	No other specific measures identified
Bulk transfers	Clear transfer lines prior to de-coupling
Filling / preparation of equipment from drums or containers.	No other specific measures identified
Product sampling	No other specific measures identified
Metal machining operations	Provide extract ventilation to points where emissions occur

## Safety Data Sheet

Roller, spreader, flow application	No other specific measures identified
Spraying	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 pouring	Allow time for product to drain from workpiece No other specific measures identified
Equipment cleaning and maintenance	Retain drain downs in sealed storage pending disposal or for subsequent recycle No other specific measures identified
Storage	Handle substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Use as binders and release agents - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 6, PROC 7, PROC 8b, PROC 10, PROC 14 <b>Environmental Release Categories:</b> ERC 4		
<b>Scope of process</b>	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.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers	Clear transfer lines prior to de-coupling
Drum/batch transfers	No other specific measures identified
Mixing operations (closed systems)	No other specific measures identified
Mixing operations (open systems)	No other specific measures identified
Mould forming	No other specific measures identified
Casting operations (open systems)	Provide extract ventilation to points where emissions occur



## Safety Data Sheet

elevated temperature	
Spraying (automatic/robotic)	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Spraying Manual	Carry out in a vented booth or extracted enclosure
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

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

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Use as binders and release agents - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 6, PROC 8b, PROC 10, PROC 11, PROC 14 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D		
<b>Scope of process</b>	Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers	No other specific measures identified
Drum/batch transfers	No other specific measures identified
Mixing operations (closed systems)	No other specific measures identified
Mixing operations (open systems)	No other specific measures identified
Mould forming	No other specific measures identified
Casting operations (open systems)	Provide extract ventilation to points where emissions occur

## Safety Data Sheet

elevated temperature	
Machine Spraying	Carry out in a vented booth or extracted enclosure Segregate the activity away from other operations
Roller, spreader, flow application	No other specific measures identified
Manual Spraying	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
Batch process	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenario - Worker

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Use in Agrochemicals uses - Professional
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 4, PROC 8a, PROC 8b, PROC 11, PROC 13 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D
<b>Scope of process</b>	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
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Worker Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP
<b>Concentration of substance in product</b>	Covers use of substance/product up to 100% (unless stated differently).;
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently)	
<b>Other Operational Conditions affecting worker Exposure.</b>	
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 containers	No other specific measures identified
Mixing operations (open systems)	No other specific measures identified
Spraying/fogging by manual application	Limit the substance content in the product to 25 % Avoid carrying out activities involving exposure for more than 4 hours
Spraying/fogging by machine application.	Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of >20
Ad hoc manual application	No other specific measures identified

## Safety Data Sheet

via trigger sprays, dipping, etc.	
Equipment cleaning and maintenance	Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>	
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The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

<b>Section 3.2 -Environment</b>	
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No exposure assessment presented for the environment.

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

<b>Section 4.2 -Environment</b>	
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No exposure assessment presented for the environment.

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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Use as a fuel - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 <b>Environmental Release Categories:</b> ERC 7		
<b>Scope of process</b>	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers	Transfer via enclosed lines Clear transfer lines prior to de-coupling
Drum/batch transfers	Use drum pumps or carefully pour from container
General exposures (closed systems)	No other specific measures identified
Use as a fuel (closed systems)	No other specific measures identified
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance Retain drain downs in sealed storage pending disposal or for subsequent recycle

## Safety Data Sheet

Storage	Store substance within a closed system
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<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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**Section 3.1 - Health**

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

**Section 3.2 -Environment**

No exposure assessment presented for the environment.

**SECTION 4**

**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**

**Section 4.1 - Health**

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

**Section 4.2 -Environment**

No exposure assessment presented for the environment.

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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Use as a fuel - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 16 <b>Environmental Release Categories:</b> ERC 9A, ERC 9B		
<b>Scope of process</b>	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers	Transfer via enclosed lines Clear transfer lines prior to de-coupling
Drum/batch transfers	Use drum pumps or carefully pour from container Avoid spillage when withdrawing pump
Refuelling	Avoid spillage when withdrawing pump
Use as a fuel (closed systems)	No other specific measures identified
General exposures (closed systems)	No other specific measures identified



## Safety Data Sheet

Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenario - Worker

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Functional Fluids - Industrial
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 4, PROC 8b, PROC 9 <b>Environmental Release Categories:</b> ERC 7
<b>Scope of process</b>	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
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Worker Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP
<b>Concentration of substance in product</b>	Covers use of substance/product up to 100% (unless stated differently).;
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently)	
<b>Other Operational Conditions affecting worker Exposure.</b>	
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	Clear transfer lines prior to de-coupling
Drum/batch transfers	No other specific measures identified
Filling of articles/equipment Use of closed filling equipment;	No other specific measures identified
Manual Filling of articles/equipment	Carefully pour from containers.
Use of sealed items containing functional fluids e.g. transfer oils, hydraulic	No other specific measures identified

## Safety Data Sheet

fluids, refrigerants.	
General exposures (open systems)	No other specific measures identified
Equipment cleaning and maintenance	Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

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

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Functional Fluids - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 8a, PROC 9, PROC 20 <b>Environmental Release Categories:</b> ERC 9A, ERC 9B		
<b>Scope of process</b>	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material transfers.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Drum/batch transfers	No other specific measures identified
Transfer from/pouring from containers	No other specific measures identified
Manual Filling of articles/equipment	Carefully pour from containers.
Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.	No other specific measures identified
General exposures (open	No other specific measures identified

## Safety Data Sheet

systems)	
Equipment cleaning and maintenance	Retain drain downs in sealed storage pending disposal or for subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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### Section 3.1 - Health

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

### Section 3.2 -Environment

No exposure assessment presented for the environment.

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
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### Section 4.1 - Health

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

### Section 4.2 -Environment

No exposure assessment presented for the environment.

## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	De-icing and anti-icing applications - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 2, PROC 8a, PROC 8b, PROC 11 <b>Environmental Release Categories:</b> ERC 8D		
<b>Scope of process</b>	Ice prevention and de-icing of vehicles, aircraft and other equipment by spraying.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers	Clear transfer lines prior to de-coupling
Drum/batch transfers	No other specific measures identified
Spraying/fogging by machine application. elevated temperature	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.	No other specific measures identified
Equipment cleaning and maintenance	No other specific measures identified

## Safety Data Sheet

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<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>
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The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
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<b>Section 3.2 -Environment</b>
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No exposure assessment presented for the environment.
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<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
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<b>Section 4.1 - Health</b>
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Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
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Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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<b>Section 4.2 -Environment</b>
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No exposure assessment presented for the environment.
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## Safety Data Sheet

### Exposure Scenario - Worker

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Use in laboratories - Industrial
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 10, PROC 15 <b>Environmental Release Categories:</b> ERC 2, ERC 4
<b>Scope of process</b>	Use of the substance within laboratory settings, including material transfers and equipment cleaning.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Worker Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure 0.5 - 10 kPa at STP
<b>Concentration of substance in product</b>	Covers use of substance/product up to 100% (unless stated differently).;
<b>Frequency and Duration of Use</b>	
Covers daily exposures up to 8 hours (unless stated differently)	
<b>Other Operational Conditions affecting worker Exposure.</b>	
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 activities	No other specific measures identified
Cleaning	No other specific measures identified

Section 2.2	Control of Environmental Exposure

SECTION 3	EXPOSURE ESTIMATION
<b>Section 3.1 - Health</b>	
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.



## Safety Data Sheet

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	
<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Use in laboratories - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 10, PROC 15 <b>Environmental Release Categories:</b> ERC 8A		
<b>Scope of process</b>	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>		<b>Risk Management Measures</b>	
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.		
Laboratory activities	No other specific measures identified		
Cleaning	No other specific measures identified		

<b>Section 2.2</b>		<b>Control of Environmental Exposure</b>	

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

<b>Section 3.2 -Environment</b>			
No exposure assessment presented for the environment.			

## Safety Data Sheet

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	
<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Water treatment chemicals - Industrial		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 3 <b>Process Categories:</b> PROC 1, PROC 2, PROC 3, PROC 4, PROC 8b, PROC 13 <b>Environmental Release Categories:</b> ERC 3, ERC 4		
<b>Scope of process</b>	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers	Clear transfer lines prior to de-coupling
Drum/batch transfers	Use drum pumps or carefully pour from container
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Manual Pouring from small containers	Carefully pour from containers.
Equipment cleaning and	Retain drain downs in sealed storage pending disposal or for

## Safety Data Sheet

maintenance	subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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<b>Section 3.1 - Health</b>
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The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

<b>Section 3.2 -Environment</b>
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No exposure assessment presented for the environment.

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

<b>Section 4.2 -Environment</b>
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No exposure assessment presented for the environment.

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## Safety Data Sheet

### Exposure Scenario - Worker

<b>SECTION 1</b>		<b>EXPOSURE SCENARIO TITLE</b>	
<b>Title</b>	Water treatment chemicals - Professional		
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 22 <b>Process Categories:</b> PROC 1, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 13 <b>Environmental Release Categories:</b> ERC 8F		
<b>Scope of process</b>	Covers the use of the substance for the treatment of water in open and closed systems.		

<b>SECTION 2</b>		<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>	
<b>Additional Information</b>	No exposure assessment presented for the environment.		

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

<b>Contributing scenarios</b>	<b>Risk Management Measures</b>
General measures (eye irritants).	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers	Clear transfer lines prior to de-coupling
Drum/batch transfers	Use drum pumps or carefully pour from container
General exposures (closed systems)	No other specific measures identified
General exposures (open systems)	No other specific measures identified
Manual Pouring from small containers	Carefully pour from containers.
Equipment cleaning and	Retain drain downs in sealed storage pending disposal or for

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maintenance	subsequent recycle
Storage	Store substance within a closed system

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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### Section 3.1 - Health

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

### Section 3.2 -Environment

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.

## Safety Data Sheet

### Exposure Scenarios - Consumer

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Uses in Coatings - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC1, PC4, PC8 (excipient only), PC9a, PC9b, PC9c, PC15, PC18, PC23, PC24, PC31, PC34 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D
<b>Scope of process</b>	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
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Consumer Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product</b>	Unless otherwise stated:
	Covers concentration up to (%): 100 %
<b>Amounts used</b>	
Unless otherwise stated:	
For each use event, covers amount up to (g):	13,800
covers skin contact area (cm <sup>2</sup> ):	857.5
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
Covers use up to (times/day of use):	1
Covers use up to (hours/event):	6
<b>Other Operational Conditions affecting consumer Exposure</b>	
Unless otherwise stated: Covers use at ambient temperatures. Covers use in room size of 20m <sup>3</sup> 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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers amount up to 9 g
	Covers use in room size of 20 m <sup>3</sup>



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	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 110.00 cm <sup>2</sup>
	For each use event, covers amount up to 6,390 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 6.00 hours/event
Adhesives, Sealants. Glue from spray	Covers concentrations up to 30 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers amount up to 85.05 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 4.00 hours/event
Adhesives, Sealants. Sealants.	Covers concentrations up to 30 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers amount up to 75 g
	Covers use in room size of 20 m <sup>3</sup>
	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 days/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 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.00 cm <sup>2</sup>
	For each use event, covers amount up to 2,000 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 214.40 cm <sup>2</sup>
	For each use event, covers amount up to 4 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.

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	Covers use in room size of 34 m3
	Covers exposure up to 0.25 hours/event
Biocidal Products (e.g. Disinfectants, pestcontrol) (excipient only). Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	Covers concentrations up to 5 %
	Covers use up to 128 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm2
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m3
	Covers exposure up to 0.33 hours/event
Biocidal Products (e.g. Disinfectants, pestcontrol) (excipient only). Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners).	Covers concentrations up to 15 %
	Covers use up to 128 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.00 cm2
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m3
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.20 hours/event
Coatings and Paints, Thinners, paint removers Aerosol spray can.	Covers concentrations up to 50 %
	Covers use up to 2 days/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0.33 hours/event
Coatings and Paints, Thinners, paint removers Removers (paint-, glue-, wall paper-, sealant-remover).	Covers concentrations up to 50 %

## Safety Data Sheet

	Covers use up to 3 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers amount up to (g): 491 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
Fillers, Putties. Fillers and putty.	Covers concentrations up to 2 %
	Covers use up to 12 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers amount up to 85 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 4.00 hours/event
Fillers, Putties. Plasters and floor equalizers.	Covers concentrations up to 2 %
	Covers use up to 12 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers amount up to 13,800 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
Fillers, Putties. Modelling clay.	Covers concentrations up to 10 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 254.40 cm <sup>2</sup>
	For each use event, assumes swallowed amount of 1 g
	Covers use in room size of 20 m <sup>3</sup>
Finger paints Finger paints	Covers concentrations up to 15 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 254.40 cm <sup>2</sup>
	For each use event, assumes swallowed amount of 1.35 g
	Covers use in room size of 20 m <sup>3</sup>
Non-metal-surface treatment products. Solvent rich, high solid, water borne paint.	Covers concentrations up to 27.5 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m <sup>3</sup>
	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 days/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 m <sup>3</sup> ) under typical ventilation.

## Safety Data Sheet

	Covers use in room size of 34 m3
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
	Covers exposure up to 2.00 hours/event
Ink and Toners Inks and toners.	Covers concentrations up to 10 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 71.40 cm2
	For each use event, covers amount up to 40 g
	Covers use in room size of 20 m3
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 430.00 cm2
	For each use event, covers amount up to 56 g
	Covers use in room size of 20 m3
	Covers exposure up to 1.23 hours/event
Leather tanning, dye, finishing, impregnation and care products. Polishes, spray (furniture, shoes).	Covers concentrations up to 50 %
	Covers use up to 8 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 430.00 cm2
	For each use event, covers amount up to (g): 56 g
	Covers use in room size of 20 m3
	Covers exposure up to 0.33 hours/event
Lubricants, Greases and Release Products Liquids.	Covers concentrations up to 100 %
	Covers use up to 4 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 468.00 cm2
	For each use event, covers amount up to 2,200 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0.17 hours/event
Lubricants, Greases and	Covers concentrations up to 20 %

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Release Products Pastes.	Covers use up to 10 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, covers amount up to 34 g
	Covers use in room size of 20 m <sup>3</sup>
Lubricants, Greases and Release Products Sprays.	Covers concentrations up to 50 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers amount up to 73 g
	Covers use in room size of 20 m <sup>3</sup>
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers amount up to 142 g
	Covers use in room size of 20 m <sup>3</sup>
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.33 hours/event
Textile dyes, finishing and impregnating products; including bleaches and other processing aids	Covers concentrations up to 10 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers amount up to 115 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 1.00 hours/event

### Section 2.2

### Control of Environmental Exposure

## 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

## Safety Data Sheet

No exposure assessment presented for the environment.
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<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
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<b>Section 4.1 - Health</b>
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Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
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<b>Section 4.2 -Environment</b>
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No exposure assessment presented for the environment.
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## Safety Data Sheet

### Exposure Scenarios - Consumer

<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Use in Cleaning Agents - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC3, PC4, PC8 (excipient only), PC9a, PC24, PC35, PC38 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D
<b>Scope of process</b>	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.

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
<b>Additional Information</b>	No exposure assessment presented for the environment.

<b>Section 2.1</b>	<b>Control of Consumer Exposure</b>
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product</b>	Unless otherwise stated:
	Covers concentration up to (%): 100 %
<b>Amounts used</b>	
Unless otherwise stated:	
For each use event, covers amount up to (g):	13,800
covers skin contact area (cm <sup>2</sup> ):	857.5
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
Covers use up to (times/day of use):	1
Covers use up to (hours/event):	4
<b>Other Operational Conditions affecting consumer Exposure</b>	
Unless otherwise stated: Covers use at ambient temperatures. Covers use in room size of 20m <sup>3</sup> Covers use under typical household ventilation.	

<b>Product Categories</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
Air care products. Air care, instant action (aerosol sprays).	Covers concentrations up to 50 %
	Covers use up to 365 days/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 m <sup>3</sup>
	Covers exposure up to 0.25 hours/event

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Air care products. Air care, instant action (aerosol sprays). Biocidal Products (e.g. Disinfectants, pestcontrol) (excipient only).	Covers concentrations up to 50 %
	Covers use up to 365 days/year
	Covers use up to 4 times/day of use
	Covers skin contact area up to 428.00 cm <sup>2</sup>
	For each use event, covers amount up to 0.1 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.25 hours/event
Air care products. Air care, continuous action (solid and liquid). Biocidal Products (e.g. Disinfectants, pestcontrol) (excipient only).	Covers concentrations up to 50 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.70 cm <sup>2</sup>
	For each use event, covers amount up to 0.48 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 8.00 hours/event
Air care products. Air care, continuous action (solid and liquid).	Covers concentrations up to 50 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.70 cm <sup>2</sup>
	For each use event, covers amount up to 0.48 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 8.00 hours/event
Anti-Freeze and De-icing products Washing car window.	Covers concentrations up to 50 %
	Covers use up to 365 days/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 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.00 cm <sup>2</sup>
	For each use event, covers amount up to 2,000 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event
Anti-Freeze and De-icing products Lock de-icer.	Covers concentrations up to 50 %



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	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 214.40 cm <sup>2</sup>
	For each use event, covers amount up to 4 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.25 hours/event
Biocidal Products (e.g. Disinfectants, pestcontrol) (excipient only). Laundry and dish washing products.	Covers concentrations up to 50 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers amount up to 15 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.50 hours/event
Biocidal Products (e.g. Disinfectants, pestcontrol) (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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.33 hours/event
Biocidal Products (e.g. Disinfectants, pestcontrol) (excipient only). Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners).	Covers concentrations up to 50 %
	Covers use up to 128 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.00 cm <sup>2</sup>
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m <sup>3</sup>
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m <sup>3</sup>

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	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 days/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 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
Lubricants, Greases and Release Products Liquids.	Covers concentrations up to 100 %
	Covers use up to 4 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, covers amount up to 2,200 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event
Lubricants, Greases and Release Products Pastes.	Covers concentrations up to 20 %
	Covers use up to 10 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, covers amount up to 34 g
	Covers use in room size of 20 m <sup>3</sup>
Lubricants, Greases and Release Products Sprays.	Covers concentrations up to 50 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers amount up to 73 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event
Washing and Cleaning Products (including solvent based products). Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal	Covers concentrations up to 5 %

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cleaners).	
	Covers use up to 128 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.33 hours/event
Washing and Cleaning Products (including solvent based products). Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners).	Covers concentrations up to 15 %
	Covers use up to 128 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.00 cm <sup>2</sup>
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event
Welding and soldering products, flux products.	Covers concentrations up to 50 %
	Covers use up to 365 days/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 m <sup>3</sup>
	Covers exposure up to 1.00 hours/event

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>
No exposure assessment presented for the environment.

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>
No exposure assessment presented for the environment.

## Safety Data Sheet

### Exposure Scenarios - Consumer

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Lubricants - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC1, PC24, PC31 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D, ERC 9A, ERC 9B
<b>Scope of process</b>	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
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Consumer Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product</b>	Unless otherwise stated:
	Covers concentration up to (%): 100 %
<b>Amounts used</b>	
Unless otherwise stated:	
For each use event, covers amount up to (g):	6,390
covers skin contact area (cm <sup>2</sup> ):	468
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
Covers use up to (times/day of use):	1
Covers use up to (hours/event):	6
<b>Other Operational Conditions affecting consumer Exposure</b>	
Unless otherwise stated: Covers use at ambient temperatures. Covers use in room size of 20m <sup>3</sup> 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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers amount up to 9 g
	Covers use in room size of 20 m <sup>3</sup>

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	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 110.00 cm <sup>2</sup>
	For each use event, covers amount up to 6,390 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 6.00 hours/event
Adhesives, Sealants. Glue from spray	Covers concentrations up to 30 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers amount up to 85.05 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 4.00 hours/event
Adhesives, Sealants. Sealants.	Covers concentrations up to 30 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers amount up to 75 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 1.00 hours/event
Lubricants, Greases and Release Products Liquids.	Covers concentrations up to 100 %
	Covers use up to 4 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, covers amount up to 2,200 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event
Lubricants, Greases and Release Products Pastes.	Covers concentrations up to 20 %
	Covers use up to 10 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, covers amount up to 34 g
	Covers use in room size of 20 m <sup>3</sup>
Lubricants, Greases and Release Products Sprays.	Covers concentrations up to 50 %
	Covers use up to 6 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers amount up to 73 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event
Polishes and Wax Blends Polishes, wax / cream (floor,	Covers concentrations up to 50 %

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furniture, shoes).	
	Covers use up to 29 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers amount up to 142 g
	Covers use in room size of 20 m <sup>3</sup>
	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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.33 hours/event

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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### Section 3.1 - Health

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

### Section 3.2 -Environment

No exposure assessment presented for the environment.

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
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### Section 4.1 - Health

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

### Section 4.2 -Environment

No exposure assessment presented for the environment.

## Safety Data Sheet

### Exposure Scenarios - Consumer

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Use in Agrochemicals uses - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC12, PC27 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D
<b>Scope of process</b>	Covers the consumer use in agrochemicals in liquid and solid forms.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Consumer Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product</b>	Unless otherwise stated:
	Covers concentration up to (%): 50 %
<b>Amounts used</b>	
Unless otherwise stated:	
For each use event, covers amount up to (g):	50
covers skin contact area (cm <sup>2</sup> ):	875.50
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
Covers use up to (times/day of use):	0
<b>Other Operational Conditions affecting consumer Exposure</b>	
Unless otherwise stated: Covers use at ambient temperatures. Covers use in room size of 20m <sup>3</sup> 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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, assumes swallowed amount of 0.3 g
	Covers use in room size of 20 m <sup>3</sup>
Plant Protection Products.	Covers concentrations up to 50 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 857.50 cm <sup>2</sup>

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	For each use event, assumes swallowed amount of 0.3 g
	Covers use in room size of 20 m <sup>3</sup>

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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### Section 3.1 - Health

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

### Section 3.2 -Environment

No exposure assessment presented for the environment.

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
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### Section 4.1 - Health

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

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

### Section 4.2 -Environment

No exposure assessment presented for the environment.

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## Safety Data Sheet

### Exposure Scenarios - Consumer

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Use as a fuel - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC13 <b>Environmental Release Categories:</b> ERC 9A, ERC 9B
<b>Scope of process</b>	Covers consumer uses in liquid fuels.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Consumer Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product</b>	Unless otherwise stated:
	Covers concentration up to (%): 100 %
<b>Amounts used</b>	
Unless otherwise stated:	
For each use event, covers amount up to (l):	37,500
covers skin contact area (cm <sup>2</sup> ):	420
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
Covers use up to (times/day of use):	0.143
Covers use up to (hours/event):	2
<b>Other Operational Conditions affecting consumer Exposure</b>	
Unless otherwise stated: Covers use at ambient temperatures. Covers use in room size of 20m <sup>3</sup> 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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 210.00 cm <sup>2</sup>
	For each use event, covers amount up to 37,500 g
	Covers outdoor use.
	Covers use in room size of 100 m <sup>3</sup>
	Covers exposure up to 0.05 hours/event
Fuels. Liquid Scooter	Covers concentrations up to 100 %

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Refuelling.	
	Covers use up to 52 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 210.00 cm <sup>2</sup>
	For each use event, covers amount up to 3,750 g
	Covers outdoor use.
	Covers use in room size of 100 m <sup>3</sup>
	Covers exposure up to 0.03 hours/event
Fuels. Liquid Garden Equipment - Use.	Covers concentrations up to 100 %
	Covers use up to 26 days/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 m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
Fuels. Liquid: Garden Equipment - Refuelling.	Covers concentrations up to 100 %
	Covers use up to 26 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 420.00 cm <sup>2</sup>
	For each use event, covers amount up to 750 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.03 hours/event
Fuels. Liquid: Home space heater fuel.	Covers concentrations up to 100 %
	Covers use up to 26 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 420.00 cm <sup>2</sup>
	For each use event, covers amount up to 750 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 8.00 hours/event
Fuels. Liquid: Lamp oil.	Covers concentrations up to 100 %
	Covers use up to 52 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 210.00 cm <sup>2</sup>
	For each use event, covers amount up to 100 g
	Covers use in room size of 20 m <sup>3</sup>
	Covers exposure up to 0.01 hours/event

### Section 2.2

### Control of Environmental Exposure

## 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.

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<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	
<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenarios - Consumer

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Functional Fluids - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC16, PC17 <b>Environmental Release Categories:</b> ERC 9A, ERC 9B
<b>Scope of process</b>	Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Consumer Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product</b>	Unless otherwise stated:
	Covers concentration up to (%): 100 %
<b>Amounts used</b>	
Unless otherwise stated:	
For each use event, covers amount up to (g):	2,200
covers skin contact area (cm <sup>2</sup> ):	468
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
Covers use up to (times/day of use):	0.010
Covers use up to (hours/event):	0.167
<b>Other Operational Conditions affecting consumer Exposure</b>	
Unless otherwise stated: Covers use at ambient temperatures. Covers use in room size of 20m <sup>3</sup> 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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, assumes swallowed amount of 2,200 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event

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Hydraulic Fluids. Liquids.	Covers concentrations up to 100 %
	Covers use up to 4 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, covers amount up to 2,200 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenarios - Consumer

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	De-icing and anti-icing applications - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC4 <b>Environmental Release Categories:</b> ERC 8D
<b>Scope of process</b>	De-icing of vehicles and similar equipment by spraying.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Consumer Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product</b>	Unless otherwise stated:
	Covers concentration up to (%): 40 %
<b>Amounts used</b>	
Unless otherwise stated:	
For each use event, covers amount up to (g):	2,000
covers skin contact area (cm <sup>2</sup> ):	428
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
Covers use up to (times/day of use):	1
Covers use up to (hours/event):	0.25
<b>Other Operational Conditions affecting consumer Exposure</b>	
Unless otherwise stated: Covers use at ambient temperatures. Covers use in room size of 20m <sup>3</sup> 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 1 %
	Covers use up to 365 days/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 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.02 hours/event
Anti-Freeze and De-icing products Pouring into	Covers concentrations up to 10 %

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radiator	
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 428.00 cm <sup>2</sup>
	For each use event, covers amount up to 2,000 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event
Anti-Freeze and De-icing products Lock de-icer.	Covers concentrations up to 40 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 214.40 cm <sup>2</sup>
	For each use event, covers amount up to 4 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation.
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.25 hours/event

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated.	

<b>Section 3.2 -Environment</b>	
No exposure assessment presented for the environment.	

<b>SECTION 4</b>	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO</b>
<b>Section 4.1 - Health</b>	
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.	

<b>Section 4.2 -Environment</b>	
No exposure assessment presented for the environment.	

## Safety Data Sheet

### Exposure Scenarios - Consumer

<b>SECTION 1</b>	<b>EXPOSURE SCENARIO TITLE</b>
<b>Title</b>	Other Consumer Uses - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC28, PC39 <b>Environmental Release Categories:</b> ERC 8A, ERC 8D
<b>Scope of process</b>	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.

<b>SECTION 2</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>
<b>Additional Information</b>	No exposure assessment presented for human health. No exposure assessment presented for the environment.

<b>Section 2.1</b>	<b>Control of Consumer Exposure</b>
<b>Product Characteristics</b>	

<b>Product Categories</b>	<b>OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES</b>

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>

<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
<b>Section 3.1 - Health</b>	
	No exposure assessment presented for human health.

<b>Section 3.2 -Environment</b>	
	No exposure assessment presented for the environment.

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

<b>Section 4.2 -Environment</b>	
	No exposure assessment presented for the environment.



## Safety Data Sheet

### Exposure Scenarios - Consumer

SECTION 1	EXPOSURE SCENARIO TITLE
<b>Title</b>	Water treatment chemicals - Consumer
<b>Use Descriptor</b>	<b>Sector of Use:</b> SU 21 <b>Product Categories:</b> PC36, PC37 <b>Environmental Release Categories:</b> ERC 8F
<b>Scope of process</b>	Covers the use of the substance for the treatment of water in open and closed systems.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
<b>Additional Information</b>	No exposure assessment presented for the environment.

Section 2.1	Control of Consumer Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product</b>	Unless otherwise stated:
	Covers concentration up to (%): 20 %
<b>Amounts used</b>	
Unless otherwise stated:	
For each use event, covers amount up to (g):	10
covers skin contact area (cm <sup>2</sup> ):	6,600
<b>Frequency and Duration of Use</b>	
Unless otherwise stated:	
Covers use up to (times/day of use):	1
<b>Other Operational Conditions affecting consumer Exposure</b>	
Unless otherwise stated: Covers use at ambient temperatures. Covers use in room size of 20m <sup>3</sup> 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 days/year
	Covers use up to 1 times/day of use
	Covers skin contact area up to 6,600.00 cm <sup>2</sup>
	For each use event, assumes swallowed amount of 0.02 mg
	For each use event, covers amount up to 10 g
Water treatment chemicals.	Covers use in room size of 20 m <sup>3</sup>
	Covers concentrations up to 20 %
	Covers use up to 365 days/year
	Covers use up to 1 times/day of use

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	Covers skin contact area up to 6,600.00 cm <sup>2</sup>
	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 m <sup>3</sup>

<b>Section 2.2</b>	<b>Control of Environmental Exposure</b>
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<b>SECTION 3</b>	<b>EXPOSURE ESTIMATION</b>
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### Section 3.1 - Health

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

### Section 3.2 -Environment

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.