

# SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2020/878



## MEGACLEAN

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

#### 1.1. Product identifier

**Product name** : MEGACLEAN  
**Registration number REACH** : 01-2119457290-43  
**Product type REACH** : Substance/mono-constituent  
**CAS number** : 78-93-3  
**EC index number** : 606-002-00-3  
**EC number** : 201-159-0  
**Molecular mass** : 72.11 g/mol  
**Formula** : C4H8O

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

##### 1.2.1 Relevant identified uses

Exposure scenario title	Life cycle stage	Use descriptors (PROC or PC)	Use descriptors (ERC)
ES01 Manufacture of substance	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 1
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 4
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 1
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 4
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 1
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 4
ES02 Use as an intermediate	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 6a
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 6a
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 6a
ES03 Distribution of substance	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 1
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 2
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 3
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 4
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 5
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 6a
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 7
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 1
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 2
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 3
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 4
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 5
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 6a

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ES03 Distribution of substance	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 7
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 1
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 2
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 3
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 4
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 5
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 6a
	Industrial	PROC 1, PROC 15, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9	ERC 7
ES04 Formulation & (re)packing of substances and mixtures	Industrial	PROC 1, PROC 14, PROC 15, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9	ERC 2
	Industrial	PROC 1, PROC 14, PROC 15, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9	ERC 2
ES05 Use in coatings	Industrial	PROC 1, PROC 10, PROC 13, PROC 15, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b	ERC 4
ES06 Use in coatings	Professional	PROC 1, PROC 10, PROC 11, PROC 13, PROC 15, PROC 19, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b	ERC 8a
	Professional	PROC 1, PROC 10, PROC 11, PROC 13, PROC 15, PROC 19, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b	ERC 8d
ES07 Use in cleaning agents	Industrial	PROC 1, PROC 10, PROC 13, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b	ERC 4
ES08 Use in cleaning agents	Professional	PROC 1, PROC 10, PROC 11, PROC 13, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 8a
	Professional	PROC 1, PROC 10, PROC 11, PROC 13, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b	ERC 8b
ES09 Lubricants	Industrial	PROC 1, PROC 10, PROC 13, PROC 17, PROC 18, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 9	ERC 4
	Industrial	PROC 1, PROC 10, PROC 13, PROC 17, PROC 18, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 9	ERC 7
ES10 Metal working fluids/rolling oils	Industrial	PROC 1, PROC 10, PROC 13, PROC 17, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b, PROC 9	ERC 4
ES11 Use in agrochemicals	Professional	PROC 1, PROC 11, PROC 13, PROC 2, PROC 4, PROC 8a, PROC 8b	ERC 8a
	Professional	PROC 1, PROC 11, PROC 13, PROC 2, PROC 4, PROC 8a, PROC 8b	ERC 8d
ES12 Use as a fuel	Industrial	PROC 1, PROC 16, PROC 2, PROC 3, PROC 8a, PROC 8b	ERC 7
ES13 Use as a fuel	Professional	PROC 1, PROC 16, PROC 2, PROC 3, PROC 8a, PROC 8b	ERC 9a
	Professional	PROC 1, PROC 16, PROC 2, PROC 3, PROC 8a, PROC 8b	ERC 9b
ES14 Use in laboratories	Industrial	PROC 10, PROC 15	ERC 2
	Industrial	PROC 10, PROC 15	ERC 4
ES15 Use in laboratories	Professional	PROC 10, PROC 15	ERC 8a
ES16 Use in coatings	Consumer	PC 1, PC 15, PC 18, PC 23, PC 24, PC 31, PC 34, PC 4, PC 8, PC 9a, PC 9b	ERC 8a
	Consumer	PC 1, PC 15, PC 18, PC 23, PC 24, PC 31, PC 34, PC 4, PC 8, PC 9a, PC 9b	ERC 8d
ES17 Use in cleaning agents	Consumer	PC 24, PC 35, PC 9a, PC 9b	ERC 8a
	Consumer	PC 24, PC 35, PC 9a, PC 9b	ERC 8d
ES18 Lubricants	Consumer	PC 1, PC 24, PC 31	ERC 8a
	Consumer	PC 1, PC 24, PC 31	ERC 8d
	Consumer	PC 1, PC 24, PC 31	ERC 9a

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ES18 Lubricants	Consumer	PC 1, PC 24, PC 31	ERC 9b
ES19 Use in agrochemicals	Consumer	PC 12, PC 27	ERC 8a
	Consumer	PC 12, PC 27	ERC 8d
ES20 Use as a fuel	Consumer	PC 13	ERC 9a
	Consumer	PC 13	ERC 9b

## 1.2.2 Uses advised against

Group	Uses advised against	Use descriptors (PC)	Environmental release category (ERC)	Article (AC)
Industrial	No uses advised against			
Professional	No uses advised against			

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

### Supplier of the safety data sheet

Novatio\*  
Industrielaan 5B  
B-2250 Olen  
☎ +32 14 25 76 40  
☎ +32 14 22 02 66  
info@novatio.be  
\*NOVATIO is a registered trademark of Novatech International N.V.

### Manufacturer of the product

Novatech International N.V.  
Industrielaan 5B  
B-2250 Olen  
☎ +32 14 85 97 37  
☎ +32 14 85 97 38  
info@novatech.be

## 1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :  
+32 14 58 45 45 (BIG)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Flam. Liq.	category 2	H225: Highly flammable liquid and vapour.
Eye Irrit.	category 2	H319: Causes serious eye irritation.
STOT SE	category 3	H336: May cause drowsiness or dizziness.

### 2.2. Label elements



Contains: methyl ethyl ketone.

**Signal word** Danger

#### H-statements

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.

#### P-statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective gloves and eye protection/face protection.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
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.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

#### Supplemental information

EUH066 Repeated exposure may cause skin dryness or cracking.

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## 2.3. Other hazards

No other hazards known

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark	M-factors and ATE
methyl ethyl ketone 01-2119457290-43	78-93-3 201-159-0	C≤100%	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	(1)(2)(10)	Mono-constituent	

- (1) For H- and EUH-statements in full: see section 16  
(2) Substance with a Community workplace exposure limit  
(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General:

Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

#### After inhalation:

Remove victim into fresh air. In case of respiratory problems, consult a doctor/medical service.

#### After skin contact:

If possible, wipe up/dry remove chemical. Then rinse/shower immediately with (lukewarm) water. If irritation persists, consult a doctor/medical service.

#### After eye contact:

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

#### After ingestion:

Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

#### 4.2.1 Acute symptoms

##### After inhalation:

Dizziness. Drowsiness.

##### After skin contact:

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Cracking of the skin.

##### After eye contact:

Irritation of the eye tissue.

##### After ingestion:

No effects known.

#### 4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### 5.1.1 Suitable extinguishing media:

Small fire: Quick-acting ABC powder extinguisher, Quick-acting BC powder extinguisher, Quick-acting class B foam extinguisher, Quick-acting CO2 extinguisher.

Major fire: Class B foam (alcohol-resistant), Water spray if puddle cannot expand.

#### 5.1.2 Unsuitable extinguishing media:

Small fire: Water (quick-acting extinguisher, reel); risk of puddle expansion.

Major fire: Water; risk of puddle expansion.

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

Upon combustion: CO and CO2 are formed. On heating: peroxidation resulting in increased fire or explosion risk.

### 5.3. Advice for firefighters

#### 5.3.1 Instructions:

If exposed to fire cool the closed containers by spraying with water. Do not move the load if exposed to heat.

#### 5.3.2 Special protective equipment for fire-fighters:

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Gloves (EN 374). Protective goggles (EN 166). Protective clothing (EN 14605 or EN 13034). Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

## SECTION 6: Accidental release measures

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

Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment.

#### 6.1.1 Protective equipment for non-emergency personnel

See section 8.2

#### 6.1.2 Protective equipment for emergency responders

Gloves (EN 374). Protective goggles (EN 166). Protective clothing (EN 14605 or EN 13034).

Suitable protective clothing

See section 8.2

### 6.2. Environmental precautions

Contain released product. Dam up the liquid spill. Try to reduce evaporation. Prevent spreading in sewers.

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

Take up liquid spill into inert absorbent material. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

### 6.4. Reference to other sections

See section 13.

## SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 7.1. Precautions for safe handling

Keep away from naked flames/heat. Insufficient ventilation: take precautions against electrostatic charges. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: keep naked flames/sparks away. Gas/vapour heavier than air at 20°C. Observe normal hygiene standards. Remove contaminated clothing immediately. Before use: check for peroxides and eliminate them. Keep container tightly closed. Do not discharge the waste into the drain.

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

#### 7.2.1 Safe storage requirements:

Meet the legal requirements. Store in a dark area. Keep container in a well-ventilated place. Fireproof storeroom. Provide the tank with earthing. Protect against frost. Keep out of direct sunlight.

#### 7.2.2 Keep away from:

Heat sources, ignition sources.

#### 7.2.3 Suitable packaging material:

No data available

#### 7.2.4 Non suitable packaging material:

No data available

### 7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 Occupational exposure

##### a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

#### EU

Butanone	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	200 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	600 mg/m <sup>3</sup>
	Short time value (Indicative occupational exposure limit value)	300 ppm
	Short time value (Indicative occupational exposure limit value)	900 mg/m <sup>3</sup>

#### Belgium

2-Butanone	Time-weighted average exposure limit 8 h	200 ppm
	Time-weighted average exposure limit 8 h	600 mg/m <sup>3</sup>
	Short time value	300 ppm
	Short time value	900 mg/m <sup>3</sup>

#### The Netherlands

2-Butanon	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	197 ppm
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2-Butanon	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	590 mg/m <sup>3</sup>
	Short time value (Public occupational exposure limit value)	300 ppm
	Short time value (Public occupational exposure limit value)	900 mg/m <sup>3</sup>

## France

Méthyléthylcétone	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	200 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	600 mg/m <sup>3</sup>
	Short time value (VRC: Valeur réglementaire contraignante)	300 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	900 mg/m <sup>3</sup>

## Germany

Butanon	Time-weighted average exposure limit 8 h (TRGS 900)	200 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	600 mg/m <sup>3</sup>

## Austria

Butanon	Tagesmittelwert (MAK)	100 ppm
	Tagesmittelwert (MAK)	295 mg/m <sup>3</sup>
	Kurzzeitwert 30(Miw) 4x (MAK)	200 ppm
	Kurzzeitwert 30(Miw) 4x (MAK)	590 mg/m <sup>3</sup>

## UK

Butan-2-one (methyl ethyl ketone)	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	200 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	600 mg/m <sup>3</sup>
	Short time value (Workplace exposure limit (EH40/2005))	300 ppm
	Short time value (Workplace exposure limit (EH40/2005))	899 mg/m <sup>3</sup>

## USA (TLV-ACGIH)

Methyl ethyl ketone	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	200 ppm
	Short time value (TLV - Adopted Value)	300 ppm

## b) National biological limit values

If limit values are applicable and available these will be listed below.

### Germany

2-Butanon (Methylethylketon) (2-Butanon)	Urin: expositionsende, bzw. schichtende	2 mg/l	
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### UK

Butan-2-one (butan-2-one)	Urine: post shift	70 µmol/L	
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### USA (BEI-ACGIH)

Methyl ethyl ketone (Methyl ethyl ketone)	urine: end of shift	2 mg/L	Nonspecific
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## 8.1.2 Sampling methods

Product name	Test	Number
2-Butanone (MEK) (Methyl ethyl ketone)	NIOSH	2500
2-Butanone (Methyl ethyl ketone)	OSHA	84
2-Butanone (organic and inorganic gases by Extractive FTIR)	NIOSH	3800
2-Butanone (Volatile Organic compounds)	NIOSH	2549
2-Butanone	OSHA	1004
2-Butanone	OSHA	13
ACETONE and METHYL ETHYL KETONE in urine	NIOSH	8319
MEK	NIOSH	8002
Methyl Ethyl Ketone (ketones I)	NIOSH	2555
Methyl Ethyl Ketone	OSHA	16

## 8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

## 8.1.4 Threshold values

### DNEL/DMEL - Workers

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Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	600 mg/m <sup>3</sup>	
	Long-term systemic effects dermal	1161 mg/kg bw/day	

### DNEL/DMEL - General population

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Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	106 mg/m <sup>3</sup>	
	Long-term systemic effects dermal	412 mg/kg bw/day	
	Long-term systemic effects oral	31 mg/kg bw/day	

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## 8.1.5 Control banding

If applicable and available it will be listed below.

## 8.2. Exposure controls

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. Insufficient ventilation: take precautions against electrostatic charges. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: keep naked flames/sparks away. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

### 8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

#### a) Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit.

#### b) Hand protection:

Protective gloves against chemicals (EN 374).

Materials	Measured breakthrough time	Thickness	Protection index	Remark
nitrile rubber	> 480 minutes	0.35 mm	Class 6	

#### c) Eye protection:

Protective goggles (EN 166).

#### d) Skin protection:

Protective clothing (EN 14605 or EN 13034). Head/neck protection.

### 8.2.3 Environmental exposure controls:

See sections 6.2, 6.3 and 13

## SECTION 9: Physical and chemical properties

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

Physical form	Liquid
Odour	Characteristic odour
Odour threshold	6 mg/m <sup>3</sup> - 251 mg/m <sup>3</sup> 2 ppm - 85 ppm
Colour	No data available on colour
Translucency	Clear
Particle size	Not applicable (liquid)
Explosion limits	1.8 - 11.5 vol %
Flammability	Highly flammable liquid and vapour.
Log Kow	0.3 ; Experimental value ; OECD 117 ; 40 °C
Dynamic viscosity	0.405 mPa.s ; 25 °C 0.315 mPa.s ; 50 °C
Kinematic viscosity	No data available in the literature
Melting point	-87 °C ; 1013 hPa
Boiling point	80 °C ; 1013 hPa
Relative vapour density	2.50 ; Calculated
Vapour pressure	104 hPa ; 20 °C 370 hPa ; 50 °C
Solubility	Water ; complete Ethanol ; complete Acetone ; complete Ether ; complete
Relative density	0.81 ; 20 °C
Absolute density	805 kg/m <sup>3</sup> ; 20 °C
Decomposition temperature	No data available in the literature
Auto-ignition temperature	404 °C ; 1010 hPa
Flash point	-4 °C
pH	No data available in the literature

### 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

May be ignited by sparks.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

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Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with many compounds e.g.: with (some) halogens compounds, alcohols and with (some) acids/bases. Prolonged storage: peroxidation resulting in increased fire or explosion risk

## 10.4. Conditions to avoid

### Precautionary measures

Keep away from naked flames/heat. Insufficient ventilation: take precautions against electrostatic charges. Insufficient ventilation: use spark-/explosionproof appliances and lighting system. Insufficient ventilation: keep naked flames/sparks away.

## 10.5. Incompatible materials

No data available.

## 10.6. Hazardous decomposition products

Upon combustion: CO and CO<sub>2</sub> are formed.

## SECTION 11: Toxicological information

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

#### 11.1.1 Test results

#### Acute toxicity

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Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 423	2193 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	Equivalent to OECD 402	> 8100 mg/kg bw/day	24 h	Rabbit (male)	Experimental value	
Inhalation						Data waiving	

#### Conclusion

Not classified for acute toxicity

#### Corrosion/irritation

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Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Irritating	Equivalent to OECD 405		24; 72 hours	Rabbit	Experimental value	Single treatment without rinsing
Skin	Not irritating	OECD 404	4 h	4; 24; 48; 72 hours	Rabbit	Read-across	

#### Conclusion

Causes serious eye irritation.

Not classified as irritating to the skin

Not classified as irritating to the respiratory system

#### Respiratory or skin sensitisation

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Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406			Guinea pig (female)	Experimental value	

#### Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

#### Specific target organ toxicity

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Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral								Data waiving
Dermal								Data waiving
Inhalation (vapours)	NOAEC	Equivalent to OECD 413	5041 ppm		No effect	13 weeks (6h / day, 5 days / week)	Rat (male / female)	Experimental value
Inhalation (vapours)			STOT SE cat.3		Drowsiness, dizziness			Annex VI

#### Conclusion

May cause drowsiness or dizziness.

Not classified for subchronic toxicity

#### Mutagenicity (in vitro)

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Result	Method	Test substrate	Effect	Value determination	Remark
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 473	Rat liver cells	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 476	Mouse (lymphoma L5178Y cells)	No effect	Experimental value	
Negative with metabolic activation, negative without metabolic activation	Equivalent to OECD 471	Bacteria (S.typhimurium)	No effect	Experimental value	

## Mutagenicity (in vivo)

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Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative (Intraperitoneal)	Equivalent to OECD 474		Mouse (male / female)		Experimental value

#### Conclusion

Not classified for mutagenic or genotoxic toxicity

## Carcinogenicity

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No (test) data available

#### Conclusion

Not classified for carcinogenicity

## Reproductive toxicity

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	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Inhalation)	NOAEC	Equivalent to OECD 414	1002 ppm	10 days (7h / day)	Rat	No effect	Foetus	Experimental value
Maternal toxicity (Inhalation)	NOAEC	Equivalent to OECD 414	1002 ppm	10 days (7h / day)	Rat (female)	No effect		Experimental value
Effects on fertility (Oral (drinking water))	NOAEL	Equivalent to OECD 416	1644 mg/kg bw/day - 1771 mg/kg bw/day		Rat (male / female)	No effect		Experimental value

#### Conclusion

Not classified for reprotoxic or developmental toxicity

## Toxicity other effects

### MEGACLEAN

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Skin				Skin	Skin dryness or cracking			Literature study

#### Conclusion

Repeated exposure may cause skin dryness or cracking.

## Chronic effects from short and long-term exposure

### MEGACLEAN

No effects known.

## 11.2. Information on other hazards

No evidence of endocrine disrupting properties

## SECTION 12: Ecological information

### 12.1. Toxicity

#### MEGACLEAN

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	2993 mg/l	96 h	Pimephales promelas	Static system	Fresh water	Experimental value

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Acute toxicity crustacea	EC50	OECD 202	308 mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	ErC50	OECD 201	1972 mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value
Toxicity aquatic micro-organisms	Toxicity threshold	Equivalent to DIN 38412/8	1150 mg/l	16 h	Pseudomonas putida	Static system	Fresh water	Experimental value

## Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

## 12.2. Persistence and degradability

### MEGACLEAN

#### Biodegradation water

Method	Value	Duration	Value determination
OECD 301D	98 %; Oxygen consumption	28 day(s)	Experimental value

## Conclusion

### Water

Readily biodegradable in water

## 12.3. Bioaccumulative potential

### MEGACLEAN

#### Log Kow

Method	Remark	Value	Temperature	Value determination
OECD 117		0.3	40 °C	Experimental value

## Conclusion

Low potential for bioaccumulation (Log Kow < 4)

## 12.4. Mobility in soil

### MEGACLEAN

#### (log) Koc

Parameter	Method	Value	Value determination
log Koc	SRC PKOCWIN v2.0	0.654 - 1.281	Calculated value

## Conclusion

Highly mobile in soil

## 12.5. Results of PBT and vPvB assessment

Substance does not meet the criteria of PBT, nor the criteria of vPvB according to Annex XIII of Regulation (EC) No 1907/2006, so is neither PBT nor vPvB.

## 12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties

## 12.7. Other adverse effects

### MEGACLEAN

#### Greenhouse gases

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

#### Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

#### Groundwater

Groundwater pollutant

## SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 13.1. Waste treatment methods

#### 13.1.1 Provisions relating to waste

##### European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997. The waste code must be assigned by the user, preferably in consultation with the (environmental) authorities concerned.

#### 13.1.2 Disposal methods

Should not be landfilled with household waste. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste.

Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove waste in accordance with local and/or national regulations. Do not discharge into drains or the environment. Dispose of at authorized waste collection point.

#### 13.1.3 Packaging/Container

##### European Union

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Waste material code packaging (Directive 2008/98/EC).  
15 01 10\* (packaging containing residues of or contaminated by dangerous substances).

## SECTION 14: Transport information

### Road (ADR)

14.1. UN number	UN number	1193
14.2. UN proper shipping name	Proper shipping name	ethyl methyl ketone (methyl ethyl ketone)
14.3. Transport hazard class(es)	Hazard identification number	33
	Class	3
	Classification code	F1
14.4. Packing group	Packing group	II
	Labels	3
14.5. Environmental hazards	Environmentally hazardous substance mark	no
14.6. Special precautions for user	Special provisions	
	Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

### Rail (RID)

14.1. UN number	UN number	1193
14.2. UN proper shipping name	Proper shipping name	ethyl methyl ketone (methyl ethyl ketone)
14.3. Transport hazard class(es)	Hazard identification number	33
	Class	3
	Classification code	F1
14.4. Packing group	Packing group	II
	Labels	3
14.5. Environmental hazards	Environmentally hazardous substance mark	no
14.6. Special precautions for user	Special provisions	
	Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

### Inland waterways (ADN)

14.1. UN number	UN number	1193
14.2. UN proper shipping name	Proper shipping name	ethyl methyl ketone (methyl ethyl ketone)
14.3. Transport hazard class(es)	Class	3
	Classification code	F1
14.4. Packing group	Packing group	II
	Labels	3
14.5. Environmental hazards	Environmentally hazardous substance mark	no
14.6. Special precautions for user	Special provisions	
	Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

### Sea (IMDG/IMSBC)

14.1. UN number	UN number	1193
14.2. UN proper shipping name	Proper shipping name	ethyl methyl ketone (methyl ethyl ketone)
14.3. Transport hazard class(es)	Class	3
14.4. Packing group	Packing group	II
	Labels	3
14.5. Environmental hazards		

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Marine pollutant	-
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	
Limited quantities	Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)
14.7. Maritime transport in bulk according to IMO instruments	
Annex II of MARPOL 73/78	Not applicable, based on available data

## Air (ICAO-TI/IATA-DGR)

14.1. UN number	
UN number	1193
14.2. UN proper shipping name	
Proper shipping name	ethyl methyl ketone
14.3. Transport hazard class(es)	
Class	3
14.4. Packing group	
Packing group	II
Labels	3
14.5. Environmental hazards	
Environmentally hazardous substance mark	no
14.6. Special precautions for user	
Special provisions	
Passenger and cargo transport	
Limited quantities: maximum net quantity per packaging	1 L

## SECTION 15: Regulatory information

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

#### European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
100 %	

Directive 2012/18/EU (Seveso III)

Threshold values under special circumstances

Substance or category	Special circumstances	Low tier (tonnes)	Top tier (tonnes)	Group	For this substance or mixture the summation rule has to be applied for:
P5a FLAMMABLE LIQUIDS	Maintained at a temperature above the boiling point	10	50	None	Flammability
P5b FLAMMABLE LIQUIDS	Particular processing conditions, such as high pressure or high temperature, may create major-accident hazards	50	200	None	Flammability

Threshold values under normal circumstances

Substance or category	Low tier (tonnes)	Top tier (tonnes)	Group	For this substance or mixture the summation rule has to be applied for:
P5c FLAMMABLE LIQUIDS	5000	50000	None	Flammability

REACH Annex XVII - Restriction

Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
- MEGACLEAN	Liquid substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1.	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and, — present an aspiration hazard and are labelled with H304, 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN). 5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements

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		<p>are met:</p> <p>a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life-threatening lung damage";</p> <p>b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: "Just a sip of grill lighter may lead to life threatening lung damage";</p> <p>c) lamp oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.</p>
· MEGACLEAN	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.	<p>1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:</p> <ul style="list-style-type: none"> <li>— metallic glitter intended mainly for decoration,</li> <li>— artificial snow and frost,</li> <li>— "whoopee" cushions,</li> <li>— silly string aerosols,</li> <li>— imitation excrement,</li> <li>— horns for parties,</li> <li>— decorative flakes and foams,</li> <li>— artificial cobwebs,</li> <li>— stink bombs.</li> </ul> <p>2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: "For professional users only".</p> <p>3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC.</p> <p>4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.</p>
· MEGACLEAN	<p>Substances falling within one or more of the following points:</p> <p>(a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008:</p> <ul style="list-style-type: none"> <li>— carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation</li> <li>— reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation</li> <li>— skin sensitiser category 1, 1A or 1B</li> <li>— skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2</li> <li>— serious eye damage category 1 or eye irritant category 2</li> </ul> <p>(b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council</p> <p>(c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex.</p> <p>The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.</p>	Mixtures for tattooing purposes are subject to the restrictions of Regulation (EU) 2020/2081

**National legislation Belgium**

No data available

**National legislation The Netherlands**

Waterbezwaarlijkheid	B (5); Algemene Beoordelingsmethodiek (ABM)
Huidopname (wettelijk)	2-Butanon; H

**National legislation France**

Risque de pénétration percutanée	Méthyléthylcétone; Risque de pénétration percutanée
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**National legislation Germany**

Lagerklasse (TRGS510)	3: Entzündbare Flüssigkeiten
WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
TA-Luft	5.2.5
TRGS900 - Risiko der Fruchtschädigung	Butanon; Y; Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes nicht befürchtet zu werden

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Hautresorptive Stoffe	Butanon; H; Hautresorptiv
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## National legislation Austria

besondere Gefahr der Hautresorption	Butanon; H
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## National legislation United Kingdom

Skin absorption	Butan-2-one (methyl ethyl ketone); Sk
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## Other relevant data

No data available

## 15.2. Chemical safety assessment

## SECTION 16: Other information

### Full text of any H- and EUH-statements referred to under section 3:

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.  
EUH066 Repeated exposure may cause skin dryness or cracking.

(*)	INTERNAL CLASSIFICATION BY BIG
ADI	Acceptable daily intake
AOEL	Acceptable operator exposure level
ATE	Acute Toxicity Estimate
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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# Annex to the extended Safety Data Sheet (eSDS)

## MEGACLEAN

### Exposure scenario – worker

SECTION 1	TITLE EXPOSURE SCENARIO
<b>Title</b>	ES01: 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 the process</b>	Manufacture of the substance or use as a process chemical or extraction agent within closed or contained systems. Includes incidental exposures during recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

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

Section 2.1	Control of worker exposure
<b>Product characteristic</b>	
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.
<b>Concentration of substance in product.</b>	Covers percentage substance in the product up to 100% (unless stated differently).
<b>Frequency and duration of use/exposure</b>	
Covers daily exposures up to 8 hours (unless stated differently).	
<b>Other given operational conditions affecting workers exposure.</b>	
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 contact of product with the eyes, also via contamination on hands.
General exposure (closed systems)	No other specific measures identified.
General exposure (open systems)	No other specific measures identified.
Process sampling	No other specific measures identified.
Laboratory activities	No other specific measures identified.

# Annex to the extended Safety Data Sheet (eSDS)

## MEGACLEAN

Bulk transfers (open systems)	No other specific measures identified.
Bulk transfers (closed systems)	No other specific measures identified.
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance.
Storage	Store the substance in a closed system.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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.	



# Annex to the extended Safety Data Sheet (eSDS)

## MEGACLEAN

### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES02: 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 the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the product up to 100% (unless stated differently).		
<b>Frequency and duration of use/exposure</b>			
Covers daily exposures up to 8 hours (unless stated differently).			
<b>Other given operational conditions affecting workers exposure.</b>			
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 contact of product with the eyes, also via contamination on hands.
General exposure (closed systems)	No other specific measures identified.
General exposure (open systems)	No other specific measures identified.
Process sampling	No other specific measures identified.
Laboratory activities	No other specific measures identified.

# Annex to the extended Safety Data Sheet (eSDS)

## MEGACLEAN

Bulk transfers (open systems)	No other specific measures identified.
Bulk transfers (closed systems)	No other specific measures identified.
Equipment cleaning and maintenance	Drain down system prior to equipment break-in or maintenance.
Storage	Store the substance in a closed system.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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.	

# Annex to the extended Safety Data Sheet (eSDS)

## MEGACLEAN

### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES03: 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 the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the product up to 100% (unless stated differently).		
<b>Frequency and duration of use/exposure</b>			
Covers daily exposures up to 8 hours (unless stated differently).			
<b>Other given operational conditions affecting workers exposure.</b>			
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 contact of product with the eyes, also via contamination on hands.
General exposure (closed systems)	No other specific measures identified.
General exposure (open systems)	Clear transfer lines prior to de-coupling. No other specific measures identified.
Process sampling	No other specific measures identified.
Laboratory activities	No other specific measures identified.

# Annex to the extended Safety Data Sheet (eSDS)

## MEGACLEAN

Bulk transfers (open systems)	No other specific measures identified.
Bulk transfers (closed systems)	No other specific measures identified.
Drum and small package filling	Fill containers/cans at dedicated fill points supplied with local extract ventilation.
Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance.
Storage	No other specific measures identified.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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.	

# Annex to the extended Safety Data Sheet (eSDS)

## MEGACLEAN

### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES04: Formulation & (re)packaging 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 the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>			
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 contact of product with the eyes, also via contamination on hands.
General exposure (closed systems)	No other specific measures identified.
General exposure (open systems)	No other specific measures identified.
Batch processes at elevated temperatures (closed systems)	No other specific measures identified.

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Process sampling	No other specific measures identified.
Laboratory activities	No other specific measures identified.
Bulk transfers	No other specific measures identified.
Mixing operations (open systems)	Provide extract ventilation to points where emissions occur. or Wear a respirator conforming to EN140 with Type A filter or better.
Manual Transfer from/pouring from containers	Use drum pumps or carefully pour from container.
Drum/batch transfers	Use drum pumps or carefully pour from container.
Production or preparation of articles by tableting, compression, extrusion or pelletisation.	Provide extract ventilation to points where emissions occur. or Wear a respirator conforming to EN140 with Type A filter or better.
Drum and small package filling	Fill containers/cans at dedicated fill points supplied with local extract ventilation.
Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance.
Storage	Store the substance in a closed system. Transfer via enclosed lines. Locate bulk storage outdoors.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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.	

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Where other risk management measures/operational conditions are adopted, users should ensure that risks are managed to at least equivalent levels.

### **Section 4.2 - Environment**

No exposure assessment presented for the environment.

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### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES05: 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 the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the product up to 100% (unless stated differently).		
<b>Frequency and duration of use/exposure</b>			
Covers daily exposures up to 8 hours (unless stated differently).			
<b>Other given operational conditions affecting workers 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 contact of product with the eyes, also via contamination on hands.
General exposure (closed systems)	No other specific measures identified.
General exposure (closed systems) with sample collection	Ensure material transfers are under containment or extract ventilation.



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Film formation - air drying (closed systems)	Ensure material transfers are under containment or extract ventilation.
Mixing operations (closed systems)	Ensure material transfers are under containment or extract ventilation.
Film formation - air drying (open systems)	Provide extract ventilation to points where emissions occur.
Preparation of material for application Mixing operations (open systems)	Provide extract ventilation to points where emissions occur.
Spraying (automatic/robotic)	Carry out in a vented booth provided with laminar airflow.
Manual spraying	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear a respirator conforming to EN140 with Type A filter or better.
Material transfers	Provide extract ventilation to points where emissions occur. or Avoid carrying out activities involving exposure for more than 1 hour.
Roller, spreader, flow application	Use ventilation to extract vapours from freshly coated articles/objects and surfaces.
Dipping, immersion and pouring	Provide extract ventilation to points where emissions occur. Avoid manual contact with wet work pieces.
Laboratory activities	Provide extract ventilation to points where emissions occur.
Material transfers Drum/batch transfers Transfer from/pouring from containers	Ensure material transfers are under containment or extract ventilation.
Production or preparation of articles by tableting, compression, extrusion or pelletisation.	Provide extract ventilation to points where emissions occur.
Storage	Store the substance in a closed system.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

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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, 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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### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES06: 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 the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers 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 contact of product with the eyes, also via contamination on hands.
General exposure (closed systems)	No other specific measures identified.
General exposure (closed systems) with occasional controlled	No other specific measures identified.

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exposure.	
Filling / preparation of equipment from drums or containers	Ensure material transfers are under containment or extract ventilation.
Preparation of material for application (closed systems)	No other specific measures identified.
Film formation - air drying Outdoor.	Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Film formation - air drying Indoor.	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Provide extract ventilation to points where emissions occur.
Preparation of material for application (open systems) Indoor	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out operation for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Preparation of material for application (open systems) Outdoor.	Wear a respirator conforming to EN140 with Type A filter or better.
Material transfers Drum/batch transfers	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out operation for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Roller, spreader, flow application Indoor	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Roller, spreader, flow application Outdoor.	Wear a respirator conforming to EN140 with Type A filter or better.
Manual Spraying Indoor	Carry out in a vented booth or extracted enclosure. Wear a respirator conforming to EN140 with Type A filter or better.

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Manual spraying Outdoor.	Avoid carrying out activities involving exposure for more than 4 hours. Wear a respirator conforming to EN140 with Type A filter or better.
Dipping, immersion and pouring Indoor	Provide extract ventilation to points where emissions occur. Avoid manual contact with wet work pieces.
Dipping, immersion and pouring Outdoor.	Avoid manual contact with wet work pieces.
Laboratory activities	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Manual application - Fingerpaints, pastels, adhesives Indoor	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Wear a respirator conforming to EN140 with Type A filter or better.
Manual application - Fingerpaints, pastels, adhesives Outdoor.	Wear a respirator conforming to EN140 with Type A filter or better.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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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### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES07: Uses 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 the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>			
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 contact of product with the eyes, also via contamination on hands.
Bulk transfers Dedicated facility	Avoid carrying out activities involving exposure for more than 1 hour.
Automated process with (semi) closed systems Use in contained systems	Avoid carrying out activities involving exposure for more than 4 hours.

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Drum/batch transfers	Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Application of cleaning products in closed systems	Avoid carrying out activities involving exposure for more than 4 hours.
Filling / preparation of equipment from drums or containers	Ensure material transfers are under containment or extract ventilation.
Use in contained batch processes	Provide extract ventilation to points where emissions occur.
Degreasing small objects in cleaning station	Provide extract ventilation to points where emissions occur.
Cleaning with low pressure washers	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Cleaning with high pressure washers	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Manual Surfaces cleaning No spraying	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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.

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SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
<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, 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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### Exposure scenario – worker

<b>SECTION 1</b>	
<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES08: Uses 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 10, PROC 11, PROC 13, PROC 8a, PROC 8b <b>Environmental release categories:</b> ERC 8A, ERC 8B
<b>Scope of the 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 characteristic</b>	
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>	
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 contact of product with the eyes, also via contamination on hands.
Filling / preparation of equipment from drums or containers	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Automated process with (semi) closed systems	Avoid carrying out activities involving exposure for more than 4 hours.

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Use in contained systems	
Drum/batch transfers	Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Semi automated process. (e.g. semi automatic application of floor care and maintenance products)	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 4 hours. or Wear a respirator conforming to EN140 with Type A filter or better.
Filling / preparation of equipment from drums or containers.	Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with Type A filter or better.
Manual Surfaces cleaning Dipping, immersion and pouring	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 4 hours. or Wear a respirator conforming to EN140 with Type A filter or better.
Cleaning with low pressure washers Rolling, brushing No spraying	Limit the substance content in the product to 5%. Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Cleaning with high pressure washers Spraying Indoor	Limit the substance content in the product to 1%. 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%. Avoid carrying out activities involving exposure for more than 4 hours. or Wear a respirator conforming to EN140 with Type A filter or better.
Manual Surfaces cleaning Spraying	Limit the substance content in the product to 25%. Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Ad hoc manual application via trigger sprays, dipping, etc.	Limit the substance content in the product to 25%. Provide extract ventilation to points where emissions occur.

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Rolling, brushing	Avoid carrying out operation for more than 4 hour. or Wear a respirator conforming to EN140 with Type A filter or better. Wear suitable gloves tested to EN374.
Application of cleaning products in closed systems Outdoor.	Avoid carrying out activities involving exposure for more than 1 hour. or Wear a respirator conforming to EN140 with Type A filter or better.
Cleaning of medical devices	Provide extract ventilation to points where emissions occur. Avoid carrying out activities involving exposure for more than 4 hours. or Wear a respirator conforming to EN140 with Type A filter or better.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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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### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES09: 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 4, ERC 7		
<b>Scope of the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the product up to 100% (unless stated differently).		
<b>Frequency and duration of use/exposure</b>			
Covers daily exposures up to 8 hours (unless stated differently).			
<b>Other given operational conditions affecting workers exposure.</b>			
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 contact of product with the eyes, also via contamination on hands.
General exposure (closed systems) with occasional controlled exposure.	No other specific measures identified.
General exposure (open systems)	No other specific measures identified.
Bulk transfers	No other specific measures identified.

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Filling / preparation of equipment from drums or containers	Transfer via enclosed lines Use drum pumps or carefully pour from container.
Initial factory fill of equipment	Ensure material transfers are under containment or extract ventilation.
Operation and lubrication of high energy open equipment	Restrict area of openings to equipment.
Manual Rolling, brushing	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Treatment by dipping and pouring	Restrict area of openings to equipment.
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	Provide extract ventilation to emission points when contact with warm (>50°C) lubricant is likely. Wear suitable gloves tested to EN374.
Maintenance of small items	Avoid carrying out activities involving exposure for more than 4 hours.
Remanufacture of reject articles	Avoid carrying out activities involving exposure for more than 4 hours.
Storage	No other specific measures identified.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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.	

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Where other risk management measures/operational conditions are adopted, users should ensure that risks are managed to at least equivalent levels.

### **Section 4.2 - Environment**

No exposure assessment presented for the environment.

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### Exposure scenario – worker

SECTION 1		TITLE EXPOSURE SCENARIO
<b>Title</b>	ES10: 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 the process</b>	Covers the use in formulated MWFs/rolling oils within closed or contained systems including incidental exposures during transfer operations, rolling and annealing activities, cutting/machining activities, automated application of corrosion protections, equipment maintenance, draining and disposal of waste oils.	

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 characteristic</b>		
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.	
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>		
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 contact of product with the eyes, also via contamination on hands.
General exposure (closed systems)	No other specific measures identified.
General exposure (open systems)	No other specific measures identified.
Bulk transfers	Provide enhanced general ventilation by mechanical means. or

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	Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 1 hour. Clear transfer lines prior to de-coupling.
Filling / preparation of equipment from drums or containers	Use drum pumps or carefully pour from container.
Process sampling	Use dedicated equipment.
Metal working activities	Provide extract ventilation to points where emissions occur. Restrict area of openings to equipment.
Treatment by dipping and pouring	Provide enhanced general ventilation by mechanical means.
Spraying	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
Manual rolling, brushing	Provide enhanced general ventilation by mechanical means.
Automated metal rolling/forming	Handle substance within a predominantly closed system provided with extract ventilation. Provide extract ventilation to points where emissions occur.
Semi-automated metal rolling/forming	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.
Equipment cleaning and maintenance Dedicated facility	No other specific measures identified.
Equipment cleaning and maintenance Non-dedicated facility	Provide enhanced general ventilation by mechanical means. Drain or remove substance from equipment prior to break-in or maintenance.
Storage	Store the substance in a closed system. Transfer via enclosed lines

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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.	



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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>
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<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, 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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### Exposure scenario – worker

SECTION 1	TITLE EXPOSURE SCENARIO
<b>Title</b>	ES11: Use in agrochemicals - 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 the 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 characteristic</b>	
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>	
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 contact of product with the eyes, also via contamination on hands.
Transfer from/pouring from containers	Ensure operation is undertaken outdoors.
Mixing in containers.	Ensure operation is undertaken outdoors.
Spraying/fogging by manual application	Wear a full face respirator conforming to EN136 with Type A filter or better.
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	Wear suitable gloves tested to EN374.

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application via trigger sprays, dipping, etc.	Wear a respirator conforming to EN140 with Type A filter or better.
Equipment cleaning and maintenance	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Avoid carrying out activities involving exposure for more than 1 hour.
Disposal of waste	Ensure operation is undertaken outdoors. Wear suitable gloves tested to EN374. Avoid carrying out activities involving exposure for more than 1 hour.
Storage	Store the substance in a closed system.

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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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### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES12: 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 the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>			
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 contact of product with the eyes, 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 exposure (closed systems)	No other specific measures identified.
Use as a fuel (closed systems)	No other specific measures identified.
Equipment cleaning and maintenance	Drain down and flush system prior to equipment break-in or maintenance.

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Storage	Store the substance in a closed system. Transfer via enclosed lines Ensure operation is undertaken outdoors.
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<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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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### Exposure scenario – worker

<b>SECTION 1</b>	
<b>Title</b>	<b>TITLE EXPOSURE SCENARIO</b> ES13: 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 the 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 characteristic</b>	
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>	
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 contact of product with the eyes, 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	Use drum pumps or carefully pour from container. Avoid spillage when withdrawing pump.
General exposure (closed systems)	No other specific measures identified.
Use as a fuel	No other specific measures identified.

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

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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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### Exposure scenario – worker

SECTION 1	TITLE EXPOSURE SCENARIO
<b>Title</b>	ES14: 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 the 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 characteristic</b>	
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>	
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 contact of product with the eyes, also via contamination on hands.
Laboratory activities	No other specific measures identified.
Cleaning	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Ensure the ventilation system is regularly maintained and tested.

Section 2.2	Environmental exposure controls
No exposure assessment presented for the environment.	

SECTION 3	EXPOSURE ESTIMATION
<b>Section 3.1 - Health</b>	
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>
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<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, 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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### Exposure scenario – worker

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES15: 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 the 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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 kPa at STP.		
<b>Concentration of substance in product.</b>	Covers percentage substance in the 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 given operational conditions affecting workers exposure.</b>			
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 contact of product with the eyes, also via contamination on hands.		
Laboratory activities	No other specific measures identified.		
Cleaning	Provide a good standard of controlled ventilation (10 to 15 air changes per hour). Avoid carrying out activities involving exposure for more than 1 hour. Ensure the ventilation system is regularly maintained and tested.		

<b>Section 2.2</b>		<b>Environmental exposure controls</b>	
No exposure assessment presented for the environment.			

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

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

#### **Section 4.2 - Environment**

No exposure assessment presented for the environment.

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### Exposure scenario – consumer

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES16: Uses in coatings - consumer		
<b>Use descriptor</b>	<b>Sector of use:</b> SU 21 <b>Product categories:</b> PC1, PC4, PC8 (binding agents only), PC9a, PC9b, PC15, PC18, PC23, PC24, PC31, PC34 <b>Environmental release categories:</b> ERC 8A, ERC 8D		
<b>Scope of the 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.		

<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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 Pa at STP		
<b>Concentration of substance in product.</b>	Unless otherwise indicated.		
	Covers concentrations up to (%): 100%		
<b>Amounts used</b>			
Unless otherwise indicated.			
For each use event, covers use amounts up to (g):	13,800		
Covers skin contact area up to (cm <sup>2</sup> ):	857.5		
<b>Frequency and duration of use/exposure</b>			
Unless otherwise indicated.			
Covers use up to (times/day of use):	1		
Covers use up to (hours/event):	6		
<b>Other given operational conditions affecting user exposure</b>			
Unless otherwise indicated. 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>	
Adhesives, sealants Glues, hobby use.	Covers concentrations up to 30%		
	Covers use up to 365 days/year		
	Covers use up to 1 time/day		

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	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers use amounts up to 9 g
	Covers use in room size of 20m <sup>3</sup>
	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 time/day
	Covers skin contact area up to 110.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 6,390 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers use amounts up to 85.05 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 4.00 hours/event
Adhesives, sealants Sealants	Covers concentrations up to 20%
	Covers use up to 365 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers use amounts up to 75 g
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 1.00 hours/event
Anti-freeze and de-icing products. Washing car windows	Covers concentrations up to 1%
	Covers use up to 365 days/year
	Covers use up to 1 time/day
	For each use event, covers use amounts up to 0.5 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation. 34 m <sup>3</sup>
	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 10%
	Covers use up to 365 days/year

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	Covers use up to 1 time/day
	Covers skin contact area up to 428 cm <sup>2</sup>
	For each use event, covers use amounts up to 2,000 g
	Covers use in a one car garage (34 m <sup>3</sup> ) under typical ventilation. 34 m <sup>3</sup>
	Covers use in room size of 34 m <sup>3</sup>
	Covers exposure up to 0.17 hours/event
Biocidal products (e.g. disinfectants, pest control) cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) PC8 (binding agents only)	Covers concentrations up to 5%
	Covers use up to 128 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers use amounts up to 27 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 0.33 hours/event
Biocidal products (e.g. disinfectants, pest control) Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) PC8 (binding agents only)	Covers concentrations up to 15%
	Covers use up to 128 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 428 cm <sup>2</sup>
	For each use event, covers use amounts up to 35 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 428.75 cm <sup>3</sup>
	For each use event, covers use amounts up to 744 g
	Covers use in room size of 20m <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 time/day
	For each use event, covers use amounts 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 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers use amounts up to 491 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
Fillers and putty	Covers concentrations up to 2%
	Covers use up to 12 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 35.73 cm <sup>3</sup>
	For each use event, covers use amounts up to 85 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 4 hours/event
Fillers and putty Plasters and floor equalizers	Covers concentrations up to 2%
	Covers use up to 12 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers use amounts up to 13,800 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
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

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	Covers use up to 1 time/day
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers use amounts up to 744 g
	Covers use in room size of 20m <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 time/day
	For each use event, covers use amounts 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
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 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers use amounts up to 491 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
Ink and toners	Covers concentrations up to 10%
	Covers use up to 365 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 71.40 cm <sup>2</sup>
	For each use event, covers use amounts up to 40 g
	Covers use in room size of 20m <sup>3</sup>
	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 time/day
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 56 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 1.23 hours/event
Leather tanning,	Covers concentrations up to 50%



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dye, finishing, impregnation and care products Polishes, spray (furniture, shoes)	
	Covers use up to 8 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 56 g
	Covers use in room size of 20m <sup>3</sup>
	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 time/day
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, covers use amounts 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 time/day
	Covers skin contact area up to 468.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 34 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers use amounts up to 73 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 142 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 1.23 hours/event
Polishes and wax blends Polishes, spray (furniture,	Covers concentrations up to 50%

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shoes)	
	Covers use up to 8 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 35 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers use amounts up to (g): 115 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 1.00 hours/event

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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>	
<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, 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.	

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### Exposure scenario – consumer

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES17: Uses in cleaning agents - consumer		
<b>Use descriptor</b>	<b>Sector of use:</b> SU 21 <b>Product categories:</b> PC9a, PC9b, PC24, PC35 <b>Environmental release categories:</b> ERC 8A, ERC 8D		
<b>Scope of the 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 characteristic</b>	Physical form of the product		
	Liquid, vapour pressure > 10 Pa at STP		
<b>Concentration of substance in product.</b>	Unless otherwise indicated.		
	Covers concentrations up to (%): 50%		
<b>Amounts used</b>			
Unless otherwise indicated.			
For each use event, covers use amounts up to (g):		13,800	
Covers skin contact area up to (cm <sup>2</sup> ):		857.5	
<b>Frequency and duration of use/exposure</b>			
Unless otherwise indicated.			
Covers use up to (times/day of use):		0.35	
Covers use up to (hours/event):		2.2	
<b>Other given operational conditions affecting user exposure</b>			
Unless otherwise indicated. 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>	
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		

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	Covers use up to 1 time/day
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers use amounts up to 744 g
	Covers use in room size of 20m <sup>3</sup>
	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 time/day
	For each use event, covers use amounts 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 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers use amounts up to 491 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
Fillers and putty Plasters and floor equalizers	Covers concentrations up to 2%
	Covers use up to 12 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers use amounts up to 13,800 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 2.00 hours/event
Lubricants, greases and release products Liquids	Covers concentrations up to 50%
	Covers use up to 4 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 468 cm <sup>2</sup>
	For each use event, covers use amounts 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

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Lubricants, greases and release products Pastes	Covers concentrations up to 20%
	Covers use up to 10 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 468 cm <sup>2</sup>
	For each use event, covers use amounts up to 34 g
	Covers use in room size of 20m <sup>3</sup>
Lubricants, greases and release products Sprays	Covers concentrations up to 20%
	Covers use up to 6 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers use amounts up to 73 g
	Covers use in room size of 20m <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 cleaners)	Covers concentrations up to 5%
	Covers use up to 128 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, covers use amounts up to 27 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 428 cm <sup>2</sup>
	For each use event, covers use amounts up to 35 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 0.17 hours/event

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

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

#### Section 4.2 - Environment

No exposure assessment presented for the environment.

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### Exposure scenario – consumer

<b>SECTION 1</b>		<b>TITLE EXPOSURE SCENARIO</b>	
<b>Title</b>	ES18: 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 the 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.		

<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 characteristic</b>			
Physical form of the product	Liquid, vapour pressure > 10 Pa at STP		
<b>Concentration of substance in product.</b>	Unless otherwise indicated.		
	Covers concentrations up to (%): 100%		
<b>Amounts used</b>			
Unless otherwise indicated.			
For each use event, covers use amounts up to (g):	6,390		
Covers skin contact area up to (cm <sup>2</sup> ):	468		
<b>Frequency and duration of use/exposure</b>			
Unless otherwise indicated.			
Covers use up to (times/day of use):	1		
Covers use up to (hours/event):	6		
<b>Other given operational conditions affecting user exposure</b>			
Unless otherwise indicated. 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>	
Adhesives, sealants Glues, hobby use.	Covers concentrations up to 30%		
	Covers use up to 365 days/year		
	Covers use up to 1 time/day		
	Covers skin contact area up to 35.73 cm <sup>2</sup>		

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	For each use event, covers use amounts up to 9 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 4.00 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 time/day
	Covers skin contact area up to 110.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 6,390 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers use amounts up to 85.05 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 4.00 hours/event
Adhesives, sealants Plasters and floor equalizers Sealants	Covers concentrations up to 25%
	Covers use up to 365 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 35.73 cm <sup>2</sup>
	For each use event, covers use amounts up to 75 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 468 cm <sup>2</sup>
	For each use event, covers use amounts 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



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	Covers use up to 1 time/day
	Covers skin contact area up to 468 cm <sup>2</sup>
	For each use event, covers use amounts up to 34 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 428.75 cm <sup>2</sup>
	For each use event, covers use amounts up to 73 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 142 g
	Covers use in room size of 20m <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 time/day
	Covers skin contact area up to 430.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 35 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 0.33 hours/event

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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	

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risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, users should ensure that risks are managed to at least equivalent levels.

### **Section 4.2 - Environment**

No exposure assessment presented for the environment.

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### Exposure scenario – consumer

SECTION 1	TITLE EXPOSURE SCENARIO
<b>Title</b>	ES19: Use in agrochemicals - 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 the 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 characteristic</b>	
Physical form of the product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in</b>	Unless otherwise indicated.
	Covers concentrations up to (%): 4%
<b>Amounts used</b>	
Unless otherwise indicated.	
For each use event, covers use amounts up to (g):	50
Covers skin contact area up to (cm <sup>2</sup> ):	857.5
<b>Frequency and duration of use/exposure</b>	
Unless otherwise indicated.	
Covers use up to (times/day of use):	1
Covers use up to (hours/event):	0.5
<b>Other given operational conditions affecting user exposure</b>	
Unless otherwise indicated. 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 Lawn and garden preparations	Covers concentrations up to 4%
	Covers use up to 365 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, assumes swallowed amount of 0.3 g
	For each use event, covers use amounts up to 50 g

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	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 0.50 hours/event
Plant protection products	Covers concentrations up to 42.5%
	Covers use up to 365 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 857.50 cm <sup>2</sup>
	For each use event, assumes swallowed amount of 0.3 g
	For each use event, covers use amounts up to 50 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 0.50 hours/event

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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, 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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### Exposure scenario – consumer

SECTION 1	TITLE EXPOSURE SCENARIO
<b>Title</b>	ES20: 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 the 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 characteristic</b>	
Physical form of the product	Liquid, vapour pressure > 10 Pa at STP
<b>Concentration of substance in product.</b>	Unless otherwise indicated.
	Covers concentrations up to (%): 100%
<b>Amounts used</b>	
Unless otherwise indicated.	
For each use event, covers use amounts up to (g):	37,500
Covers skin contact area up to (cm <sup>2</sup> ):	420
<b>Frequency and duration of use/exposure</b>	
Unless otherwise indicated.	
Covers use up to (times/day of use):	0.143
Covers use up to (hours/event):	2
<b>Other given operational conditions affecting user exposure</b>	
Unless otherwise indicated. 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 time/day
	Covers skin contact area up to 210.00 cm <sup>2</sup>
	For each use event, covers use amounts 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

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Fuels Liquid: scooter refuelling	Covers concentrations up to 100%
	Covers use up to 52 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 210.00 cm <sup>2</sup>
	For each use event, covers use amounts 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 time/day
	For each use event, covers use amounts 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 time/day
	Covers skin contact area up to 420.00 cm <sup>2</sup>
	For each use event, covers use amounts 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: Lamp oil	Covers concentrations up to 100%
	Covers use up to 52 days/year
	Covers use up to 1 time/day
	Covers skin contact area up to 210.00 cm <sup>2</sup>
	For each use event, covers use amounts up to 100 g
	Covers use in room size of 20m <sup>3</sup>
	Covers exposure up to 0.01 hours/event

<b>Section 2.2</b>	<b>Environmental exposure controls</b>
No exposure assessment presented for the environment.	

<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</b>
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EXPOSURE SCENARIO	
<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, 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.	