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### **Methyl Ethyl Ketone**

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

#### 1.1 Product identifier

Trade name : Methyl Ethyl Ketone

Product code : S2113

Registration number EU : 01-2119457290-43-0000

CAS-No. : 78-93-3

Other means of identification : butan-2-one, Ethyl methyl ketone, MEK

EC-No. : 201-159-0

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

Use of the Sub- : Use only in industrial processes.

stance/Mixture Please refer to section 16 and/or the annexes for the regis-

tered uses under REACH.

Uses advised against :

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

plier.

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

Manufacturer/Supplier : Shell Chemicals Europe B.V.

PO Box 2334 3000 CH Rotterdam

Netherlands

Telephone : +31 (0)10 441 5137 / +31 (0)10 441 5191 Telefax : +31 (0)20 716 8316 / +31 (0)20 713 9230

Contact for Safety Data : sccmsds@shell.com

Sheet

### 1.4 Emergency telephone number

+44 (0) 1235 239 670 (This telephone number is available 24 hours per day, 7 days per

week)

Poison Centre: (+41) 145

### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

### Classification (REGULATION (EC) No 1272/2008)

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

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

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Specific target organ toxicity - single exposure, Category 3, Central nervous system

H336: May cause drowsiness or dizziness.

, Narcotic effects

#### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :





Signal word : Danger

Hazard statements : PHYSICAL HAZARDS:

H225 Highly flammable liquid and vapour.

**HEALTH HAZARDS:** 

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

**ENVIRONMENTAL HAZARDS:** 

Not classified as environmental hazard according to

CLP criteria.

Supplemental Hazard

Statements

EUH066

Repeated exposure may cause skin dryness or

cracking.

Precautionary statements : Prevention:

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

flames and other ignition sources. No smoking.

Response:

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

easy to do. Continue rinsing.

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

keep comfortable for breathing.

P312 Call a POISON CENTER/ doctor if you feel unwell.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

### 2.3 Other hazards

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

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

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

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

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable airvapour mixtures can occur.

Exposure may enhance the toxicity of other materials.

See Chapter 11 for details.

### **SECTION 3: Composition/information on ingredients**

### 3.1 Substances

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
	EC-No.	
Methyl ethyl ketone	78-93-3	100
	201-159-0	

### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

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

conditions.

Protection of first-aiders : When administering first aid, ensure that you are wearing the

appropriate personal protective equipment according to the

incident, injury and surroundings.

If inhaled : No treatment necessary under normal conditions of use. If

symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with wa-

ter and follow by washing with soap if available.

If persistent irritation occurs, obtain medical attention.

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

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

rinsing.

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Transport to the nearest medical facility for additional treat-

ment.

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

> medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Rinse mouth.

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

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

Not considered to be an inhalation hazard under normal con-**Symptoms** 

ditions of use.

Possible respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, cough-

ing, and/or difficulty breathing.

No specific hazards under normal use conditions.

Skin irritation signs and symptoms may include a burning sen-

sation, redness, or swelling.

Ingestion may result in nausea, vomiting and/or diarrhoea. Eye irritation signs and symptoms may include a burning sen-

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

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

congestion, shortness of breath, and/or fever.

Defatting dermatitis signs and symptoms may include a burn-

ing sensation and/or a dried/cracked appearance.

Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and

death.

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

**Treatment** IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!

Call a doctor or poison control center for guidance.

Potential for chemical pneumonitis.

Treat symptomatically.

### **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media

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

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

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only.

Unsuitable extinguishing

media

None

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

Specific hazards during fire-

fighting

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

distant ignition is possible.

Carbon monoxide may be evolved if incomplete combustion

occurs.

### 5.3 Advice for firefighters

Special protective equipment :

for firefighters

Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained

Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to

relevant Standards (e.g. Europe: EN469).

Specific extinguishing meth-

ods

Standard procedure for chemical fires.

Further information : Clear fire area of all non-emergency personnel.

Keep adjacent containers cool by spraying with water.

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

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

Personal precautions : Observe the relevant local and international regulations

Notify authorities if any exposure to the general public or the

environment occurs or is likely to occur.

Local authorities should be advised if significant spillages

cannot be contained.

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

distant ignition is possible.

Vapour may form an explosive mixture with air.

6.1.1 For non emergency personnel:
Avoid contact with skin, eyes and clothing.

Isolate hazard area and deny entry to unnecessary or unpro-

tected personnel.

Stay upwind and keep out of low areas. 6.1.2 For emergency responders:

Avoid contact with skin, eyes and clothing.

Isolate hazard area and deny entry to unnecessary or unpro-

tected personnel.

Stay upwind and keep out of low areas.

### 6.2 Environmental precautions

Environmental precautions : Shut off leaks, if possible without personal risks. Remove all

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> possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

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

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

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

means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove

contaminated soil and dispose of safely.

#### 6.4 Reference to other sections

For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet., For guidance on disposal of spilled material see Section 13 of this Safety Data Sheet.

### **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

Technical measures Avoid breathing of or direct contact with material. Only use in

well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see

Section 8 of this Safety Data Sheet.

Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this

Ensure that all local regulations regarding handling and stor-

age facilities are followed.

Advice on safe handling Avoid contact with skin, eyes and clothing.

Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.

Bulk storage tanks should be diked (bunded).

Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.

Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to

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reduce the risk.

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

ble.

Properly dispose of any contaminated rags or cleaning mate-

rials in order to prevent fires.

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

dling operations.

Product Transfer : Refer to guidance under Handling section.

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

Requirements for storage areas and containers

The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Refer to section 15 for any additional specific legislation covering the packaging and storage of this

product.

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

steel, stainless steel.

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

Suitable material: Aluminium

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

explosive vapours. Do not cut, drill, grind, weld or perform

similar operations on or near containers.

7.3 Specific end use(s)

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

tered uses under REACH.

Ensure that all local regulations regarding handling and stor-

age facilities are followed.

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

on Static Electricity).

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

### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

### **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Methyl ethyl ke-	78-93-3	TWA	200 ppm	CH SUVA
tone			590 mg/m3	

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	easily absored stancial highe tute for Occup ministration, N work accident	I through the skin, ca r risk compared to o ational Safety and H lational Institute of R	resorption possible; Substan an give by additional skin res nly inhalation by the airways. lealth, Occupational Safety at the part and Safety for the part is respected	option a sub- , National Insti- and Health Ad- prevention of
Methyl ethyl ke- tone		STEL	200 ppm 590 mg/m3	CH SUVA
	Further information: Toxic by skin resorption possible; Substances, which are easily absored through the skin, can give by additional skin resoption a substancial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Occupational Safety and Health Administration, National Institute of Research and Safety for the prevention of work accidents and occupational diseases, Harm to the unborn child is not to be expected when the OEL-value is respected			

### **Biological occupational exposure limits**

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Methyl ethyl ketone	78-93-3	2-butanone (MEK):	Before next shift or	CH BAT
		2 mg/l	16 hours after last	
		(Urine)	shift, Immediately	
			after exposure or	
			after working hours	
		2-butanone (MEK):	Before next shift or	CH BAT
		27.7 micromol per	16 hours after last	
		litre	shift, Immediately	
		(Urine)	after exposure or	
			after working hours	

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Methyl ethyl ketone, 78-93-3	Workers	Dermal	Long-term systemic effects	1161 mg/kg bw/day
Methyl ethyl ketone, 78-93-3	Workers	Inhalation	Long-term systemic effects	600 mg/m3
Methyl ethyl ketone, 78-93-3	Consumers	Oral	Long-term systemic effects	31 mg/kg bw/day
Methyl ethyl ketone, 78-93-3	Consumers	Dermal	Long-term systemic effects	412 mg/kg bw/day
Methyl ethyl ketone, 78-93-3	Consumers	Inhalation	Long-term systemic effects	106 mg/m3

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

Substance name		Environmental Compartment	Value
Remarks:	Exposure	assessments have not been presented for the	environment
	therefore	PNEC values not required.	

### 8.2 Exposure controls

### **Engineering measures**

Read in conjunction with the Exposure Scenario for your specific use contained in the Annex.

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Use sealed systems as far as possible.

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

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended.

Eye washes and showers for emergency use.

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

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

#### **General Information**

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

Define procedures for safe handling and maintenance of controls.

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

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

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

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

### Personal protective equipment

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

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

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

Wear full face shield if splashes are likely to occur.

Approved to EU Standard EN166.

Hand protection

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

gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Butyl rubber. Nitrile rubber. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove re-

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> sistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Skin and body protection

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

assessment deems it so.

Skin protection is not required under normal conditions of

For prolonged or repeated exposures use impervious clothing

over parts of the body subject to exposure.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Stand-

ard, and provide employee skin care programmes. Protective clothing approved to EU Standard EN14605.

Respiratory protection

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

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

priate combination of mask and filter.

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

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

Thermal hazards : Not applicable

### **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

Physical state Liquid.

Colour clear

Odour characteristic

Odour Threshold Data not available

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Melting point/freezing point -86 °C

Boiling point/boiling range : 79,5 °C

Flammability

Flammability (solid, gas) Not applicable

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit /

Upper flammability limit

: 11,5 %(V)

Lower explosion limit /

Lower flammability limit

1,8 %(V)

Flash point -9 °C

Method: Abel

Auto-ignition temperature 515 °C

Decomposition temperature

Decomposition tempera-

Data not available

ture

pΗ Not applicable

Viscosity

Viscosity, dynamic

0,42 mPa.s (20 °C)

Method: ASTM D445

Viscosity, kinematic Data not available

Solubility(ies)

Water solubility 250 g/l Miscible. (20 °C)

Solubility in other solvents Data not available

Partition coefficient: n-

octanol/water

log Pow: 0,3

Vapour pressure 12,600 Pa (20 °C)

0,804 - 0,806 (20 °C) Relative density

Method: ASTM D4052

0,804 - 0,806 kg/m3 (20 °C) Density

Method: ASTM D4052

Relative vapour density 2,4 (20 °C)

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Particle characteristics

Particle size : Data not available

9.2 Other information

Explosive properties : Not applicable

Oxidizing properties : Data not available

Evaporation rate : 3,3

Method: DIN 53170, di-ethyl ether=1

Conductivity: > 10,000 pS/m

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

a static accumulator.

Surface tension : 24,8 mN/m, 20 °C

Molecular weight : 72,11 g/mol

### **SECTION 10: Stability and reactivity**

### 10.1 Reactivity

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

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with strong oxidising agents.

### 10.4 Conditions to avoid

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

Prevent vapour accumulation.

In certain circumstances product can ignite due to static elec-

tricity.

### 10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

### 10.6 Hazardous decomposition products

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

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### **SECTION 11: Toxicological information**

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

Information on likely routes of : Exposure n

exposure

Exposure may occur via inhalation, ingestion, skin absorption,

skin or eye contact, and accidental ingestion.

### **Acute toxicity**

**Product:** 

Acute oral toxicity : LD 50 (Rat, male and female): >2000 -<= 5000 mg/kg

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

423

Test substance: Butan-2-ol

Remarks: Based on available data, the classification criteria

are not met.

Acute dermal toxicity : LD 50 (Rabbit, male): > 10 ml/kg/bw

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

402

Remarks: Based on available data, the classification criteria

are not met.

#### **Components:**

Methyl ethyl ketone:

Acute oral toxicity : LD 50 (Rat, male and female): >2000 -<= 5000 mg/kg

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

423

Test substance: Butan-2-ol

Remarks: Based on available data, the classification criteria

are not met.

Acute dermal toxicity : LD 50 (Rabbit, male): > 10 ml/kg/bw

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

402

Remarks: Based on available data, the classification criteria

are not met.

#### Skin corrosion/irritation

Product:

Species : Rabbit

Method : OECD Test Guideline 404

Test substance : Butan-2-ol

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

Repeated exposure may cause skin dryness or cracking.

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### **Components:**

Methyl ethyl ketone:

Species : Rabbit

Method : OECD Test Guideline 404

Test substance : Butan-2-ol

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

Repeated exposure may cause skin dryness or cracking.

### Serious eye damage/eye irritation

**Product:** 

Species : Rabbit

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

Remarks : Causes serious eye irritation.

**Components:** 

Methyl ethyl ketone:

Species : Rabbit

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

Remarks : Causes serious eye irritation.

### Respiratory or skin sensitisation

**Product:** 

Species : Guinea pig

Method : OECD Test Guideline 406

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

**Components:** 

Methyl ethyl ketone:

Species : Guinea pig

Method : OECD Test Guideline 406

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

Germ cell mutagenicity

**Product:** 

Genotoxicity in vitro : Method: Test(s) equivalent or similar to OECD Guideline 471

Remarks: Based on available data, the classification criteria

are not met.

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

473

Remarks: Based on available data, the classification criteria

are not met.

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

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476

Remarks: Based on available data, the classification criteria

are not met.

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

480

Remarks: Based on available data, the classification criteria

are not met.

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

482

Remarks: Based on available data, the classification criteria

are not met.

Genotoxicity in vivo

Species: Mouse

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

474

Remarks: Based on available data, the classification criteria

are not met.

Germ cell mutagenicity- As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

#### **Components:**

#### Methyl ethyl ketone:

Genotoxicity in vitro

Method: Test(s) equivalent or similar to OECD Guideline 471 Remarks: Based on available data, the classification criteria are not met.

Method: Test(s) equivalent or similar to OECD Test Guideline 473

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

Method: Test(s) equivalent or similar to OECD Test Guideline 476

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

Method: Test(s) equivalent or similar to OECD Test Guideline 480

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

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

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

Genotoxicity in vivo : Species: Mouse

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

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Remarks: Based on available data, the classification criteria

are not met.

Germ cell mutagenicity- As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

### Carcinogenicity

**Product:** 

Carcinogenicity - Assess-

ment

This product does not meet the criteria for classification in

categories 1A/1B.

#### **Components:**

Methyl ethyl ketone:

Carcinogenicity - Assess-

ment

This product does not meet the criteria for classification in

categories 1A/1B.

Material	GHS/CLP Carcinogenicity Classification
Methyl ethyl ketone	No carcinogenicity classification.

### Reproductive toxicity

**Product:** 

Effects on fertility : Species: Rat

Sex: male and female Application Route: Oral

Method: Equivalent or similar to OECD Test Guideline 416

Test substance: Butan-2-ol

Remarks: Based on available data, the classification criteria

are not met.

Reproductive toxicity - As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

#### **Components:**

Methyl ethyl ketone:

Effects on fertility : Species: Rat

Sex: male and female Application Route: Oral

Method: Equivalent or similar to OECD Test Guideline 416

Test substance: Butan-2-ol

Remarks: Based on available data, the classification criteria

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are not met.

Reproductive toxicity - As-

sessment

This product does not meet the criteria for classification in

categories 1A/1B.

STOT - single exposure

**Product:** 

Exposure routes : Inhalation

Target Organs : Central nervous system

Remarks : May cause drowsiness or dizziness.

**Components:** 

Methyl ethyl ketone:

Exposure routes : Inhalation

Target Organs : Central nervous system

Remarks : May cause drowsiness or dizziness.

STOT - repeated exposure

**Product:** 

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

Low systemic toxicity on repeated exposure.

**Components:** 

Methyl ethyl ketone:

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

Low systemic toxicity on repeated exposure.

Repeated dose toxicity

Product:

Species : Rat, male and female

Application Route : Inhalation Test atmosphere : vapour

Method : Test(s) equivalent or similar to OECD Test Guideline 413

Target Organs : No specific target organs noted

Components:

Methyl ethyl ketone:

Species : Rat, male and female

Application Route : Inhalation Test atmosphere : vapour

Method : Test(s) equivalent or similar to OECD Test Guideline 413

Target Organs : No specific target organs noted

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### **Aspiration toxicity**

#### **Product:**

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

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

### **Components:**

### Methyl ethyl ketone:

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

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

#### 11.2 Information on other hazards

### **Endocrine disrupting properties**

#### Product:

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

#### **Further information**

**Product:** 

Remarks : Classifications by other authorities under varying regulatory

frameworks may exist.

Remarks : Unless indicated otherwise, the data presented is representa-

tive of the product as a whole, rather than for individual com-

ponent(s).

#### **Components:**

Methyl ethyl ketone:

Remarks : Classifications by other authorities under varying regulatory

frameworks may exist.

### **SECTION 12: Ecological information**

### 12.1 Toxicity

**Product:** 

Toxicity to fish : Remarks: Practically non toxic:

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LL/EL/IL50 > 100 mg/l

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 308 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 2.029 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic tox-

icity)

Remarks: Data not available

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

Remarks: Data not available

Toxicity to microorganisms : (Pseudomonas putida): 1.150 mg/l

Exposure time: 16 h

Method: Other guideline method. Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

### **Components:**

Methyl ethyl ketone:

Toxicity to fish : Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 308 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202 Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 2.029 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201 Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to microorganisms : (Pseudomonas putida): 1.150 mg/l

Exposure time: 16 h

Method: Other guideline method. Remarks: Practically non toxic: LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic tox- : Remarks: Data not available

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icity)

Toxicity to daphnia and other : Remarks: Data not available

aquatic invertebrates (Chron-

ic toxicity)

### 12.2 Persistence and degradability

**Product:** 

Biodegradability Biodegradation: 98 %

Exposure time: 28 d

Method: OECD Test Guideline 301D

Remarks: Readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

**Components:** 

Methyl ethyl ketone:

Biodegradation: 98 % Biodegradability

Exposure time: 28 d

Method: OECD Test Guideline 301D Remarks: Readily biodegradable.

Oxidises rapidly by photo-chemical reactions in air.

12.3 Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

**Components:** 

Methyl ethyl ketone:

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

12.4 Mobility in soil

**Product:** 

Mobility Remarks: Dissolves in water.

**Components:** 

Methyl ethyl ketone:

Mobility Remarks: Dissolves in water.

12.5 Results of PBT and vPvB assessment

**Product:** 

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

tence, bioaccumulation and toxicity and hence is not consid-

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ered to be PBT or vPvB..

### **Components:**

### Methyl ethyl ketone:

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

tence, bioaccumulation and toxicity and hence is not consid-

ered to be PBT or vPvB..

### 12.6 Endocrine disrupting properties

#### **Product:**

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

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

#### 12.7 Other adverse effects

#### **Product:**

Additional ecological infor-

mation

Does not have ozone depletion potential.

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

### **Components:**

### Methyl ethyl ketone:

Additional ecological infor-

mation

: Does not have ozone depletion potential.

### **SECTION 13: Disposal considerations**

### 13.1 Waste treatment methods

Product : Recover or recycle if possible.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal meth-

ods in compliance with applicable regulations.

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

courses.

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

Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local regulations may be more stringent than regional or na-

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tional requirements and must be complied with.

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

nical aspects at controlling pollutions from ships.

Contaminated packaging : Drain container thoroughly.

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

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

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

### **SECTION 14: Transport information**

14.1 UN number or ID number

ADN : 1193
ADR : 1193
RID : 1193
IMDG : 1193
IATA : 1193

14.2 UN proper shipping name

ADN : ETHYL METHYL KETONE
ADR : ETHYL METHYL KETONE
RID : ETHYL METHYL KETONE
IMDG : ETHYL METHYL KETONE

IATA : METHYL ETHYL KETONE

14.3 Transport hazard class(es)

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

14.4 Packing group

ADN

Packing group : II
Classification Code : F1
Labels : 3

CDNI Inland Water Waste : NST 8963 Solvent

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Agreement

**ADR** 

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

RID

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

**IMDG** 

Packing group : II Labels : 3

IATA

Packing group : II Labels : 3

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

**IMDG** 

Marine pollutant : no

14.6 Special precautions for user

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

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

needs to comply with in connection with transport.

14.7 Maritime transport in bulk according to IMO instruments

Pollution category : Z

Ship type : 3; Must be Double Hulled Product name : Methyl ethyl ketone

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

Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined

space entry.

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

Code

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### **SECTION 15: Regulatory information**

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

REACH - Candidate List of Substances of Very High : This product does not contain sub-Concern for Authorisation (Article 59). : stances of very high concern (Regu

stances of very high concern (Regulation (EC) No 1907/2006 (REACH),

Article 57).

REACH - List of substances subject to authorisation

(Annex XIV)

Product is not subject to Authorisa-

tion under REACH.

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

P5c FLAMMABLE LIQUIDS

Waters Protection Ordinance (WPO 814.201)

Water pollution class : Swiss Class B, (www.tankportal.ch)

### Other regulations:

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

Product is subject to Stoerfallverordnung (StFV).

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

DSL : Listed

IECSC : Listed

KECI : Listed

ENCS : Listed

PICCS : Listed

TSCA : Listed

TCSI : Listed

NZIoC : Listed

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

### **SECTION 16: Other information**

### Full text of other abbreviations

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CH BAT : Switzerland. List of BAT-values

CH SUVA : Switzerland. Limit values at the work place

CH SUVA / TWA : Time Weighted Average CH SUVA / STEL : Short Term Exposure Limit

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

### **Further information**

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

erators.

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

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

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

ered to be PBT or vPvB.

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

from the previous version.

Sources of key data used to : The quoted data are from, but not limited to, one or more

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compile the Safety Data sources of information (e.g. toxicological data from Shell Sheet

Health Services, material suppliers' data, CONCAWE, EU

IUCLID date base, EC 1272 regulation, etc).

Classification of the mixture: Classification procedure:

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

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

dence determination.

STOT SE 3 H336 Expert judgement and weight of evi-

dence determination.

Identified Uses according to the Use Descriptor System

**Uses - Worker** 

Title Manufacture of substance

- Industrial

**Uses - Worker** 

Title Use as an intermediate

- Industrial

**Uses - Worker** 

Title Distribution of substance

- Industrial

**Uses - Worker** 

Formulation & (re)packing of substances and mixtures Title

- Industrial

**Uses - Worker** 

Title Use in coatings

- Industrial

**Uses - Worker** 

Use in coatings Title

- Professional

**Uses - Worker** 

Title Use in Cleaning Agents

- Industrial

**Uses - Worker** 

Use in Cleaning Agents Title

- Professional

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Uses - Worker

Title : Lubricants

- Industrial

**Uses - Worker** 

Title : Metal working fluids / rolling oils

- Industrial

**Uses - Worker** 

Title : Use in agrochemicals

- Professional

Uses - Worker

Title : Use as a fuel

- Industrial

**Uses - Worker** 

Title : Use as a fuel

- Professional

**Uses - Worker** 

Title : Use in laboratories

- Industrial

**Uses - Worker** 

Title : Use in laboratories

- Professional

Identified Uses according to the Use Descriptor System

**Uses - Consumer** 

Title : Lubricants

- Consumer

**Uses - Consumer** 

Title : - Consumer

Use in agrochemicals

**Uses - Consumer** 

Title : Use as a fuel

- Consumer

**Uses - Consumer** 

Title : Use in coatings

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- Consumer

**Uses - Consumer** 

Title : Use in Cleaning Agents

- Consumer

**Uses - Consumer** 

Title : Other Consumer Uses

- Consumer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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### **Exposure Scenario - Worker**

30000000279	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Manufacture of substance- Industrial
Use Descriptor	Sector of Use: SU3, SU8, SU9 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15 Environmental Release Categories: ERC1, ERC4
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent 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	
Additional Information	No exposure assessment presented for the environment.	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%.,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes a good basic standard of occupational hygiene is implemented.		

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

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Section 2.2	Control of Environmental Exposure
Storage.PROC1PROC2	Store substance within a closed system.
Equipment cleaning and maintenancePROC8a	Drain down system prior to equipment opening or maintenance.

Section 2.2 Control of Environmental Exposure

No exposure assessment presented for the environment.

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

### **Section 3.2 - Environment**

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO
0 4 4 11 14	

#### Section 4.1 - Health

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

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

### Section 4.2 - Environment

No exposure assessment presented for the environment.

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### **Exposure Scenario - Worker**

30000000280	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as an intermediate- Industrial
Use Descriptor	Sector of Use: SU3, SU8, SU9 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15 Environmental Release Categories: ERC6a
Scope of process	Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

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

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)PROC1PROC2PRO	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Process samplingPROC8b	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfers(open systems)PROC8b	No other specific measures identified.
Bulk transfers(closed systems)PROC8b	No other specific measures identified.
Equipment cleaning and	Drain down system prior to equipment opening or mainte-

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maintenancePROC8a	nance.	
Storage.PROC1PROC2	Store substance within a closed system.	
Section 2.2	Control of Environmental Exposure	

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

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

### Section 3.2 -Environment

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management	
Measures/Operational Conditions outlined in Section 2 are implemented	

Measures/Operational Conditions outlined in Section 2 are implemented.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

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### **Exposure Scenario - Worker**

30000000281	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Distribution of substance- Industrial
Use Descriptor	Sector of Use: SU3, SU8, SU9 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC15 Environmental Release Categories: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC7
Scope of process	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

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

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)PROC1PROC2PRO	No other specific measures identified.
General exposures (open sys tems)PROC4	<ul> <li>Clear transfer lines prior to de-coupling.</li> <li>No other specific measures identified.</li> </ul>
Process samplingPROC3	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfers(open systems)PROC8b	No other specific measures identified.
Bulk transfers(closed systems)PROC8b	No other specific measures identified.

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Section 2.2	Control of Environmental Exposure
Storage.PROC1PROC2	Store substance within a closed system.
Equipment cleaning and maintenancePROC8a	Drain down and flush system prior to equipment opening or maintenance.
Drum and small package fill-ingPROC9	Fill containers/cans at dedicated filling points supplied with local extract ventilation.

No exposure assessment presented for the environment.

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

indicated.

### Section 3.2 - Environment

No exposure assessment presented for the environment.

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

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

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

### **Section 4.2 - Environment**

No exposure assessment presented for the environment.

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### **Exposure Scenario - Worker**

Exposure occurro - Worker	
30000000283	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Formulation & (re)packing of substances and mixtures- Industrial
Use Descriptor	Sector of Use: SU3, SU10 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15 Environmental Release Categories: ERC2
Scope of process	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

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

Contributing Scenarios Risk Management Measures

Continuating Occidence	Nisk management measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)PROC1PROC2PROC	No other specific measures identified.
General exposures (open systems)PROC4	No other specific measures identified.
Batch processes at elevated temperatures(closed systems)PROC3	No other specific measures identified.
Process samplingPROC3	No other specific measures identified.
Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfersDedicated facili-	No other specific measures identified.

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tyPROC8b	
Mixing operations (open systems)PROC5	Provide extraction ventilation at points where emissions occur. , or: Wear a respirator conforming to EN140 with Type A filter or better.
ManualTransfer from/pouring from containersPROC8a	Use drum pumps or carefully pour from container.
Drum/batch transfersDedicated facilityPROC8b	Use drum pumps or carefully pour from container.
Production or preparation or articles by tabletting, compres- sion, extrusion or pelletisa- tionPROC14	Provide extraction ventilation at points where emissions occur. , or: Wear a respirator conforming to EN140 with Type A filter or better.
Drum and small package fill- ingPROC9	Fill containers/cans at dedicated filling points supplied with local extract ventilation.
Equipment cleaning and maintenancePROC8a	Drain down and flush system prior to equipment opening or maintenance.
Storage.PROC1PROC2	Store substance within a closed system. Transfer via enclosed lines. Locate bulk storage outdoors.

Section 2.2	Control of Environmental Exposure	
No exposure assessment pre	sented for the environment.	

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

indicated.

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

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Measures/Operational Cond Where other Risk Managem	expected to exceed the DN(M)EL when the Risk Management itions outlined in Section 2 are implemented. ent Measures/Operational Conditions are adopted, then users managed to at least equivalent levels.

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

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#### **Exposure Scenario - Worker**

30000000284	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in coatings- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15 Environmental Release Categories: ERC4
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.

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

Assumes a good basic standard of occupational hygiene is implemented.

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)PROC1	No other specific measures identified.
General exposures (closed systems) with sample collection PROC2	Ensure material transfers are under containment or extract ventilation.
Film formation - air dry- ing(closed systems)PROC2	Ensure material transfers are under containment or extract ventilation.
Mixing operations (closed systems)PROC3	Ensure material transfers are under containment or extract ventilation.

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Film formation - air dry- ing(open systems)PROC4	Provide extraction ventilation at points where emissions occur.	
Preparation of material for applicationMixing operations (open systems)PROC5	Provide extraction ventilation at points where emissions occur.	
Spraying (automat- ic/robotic)PROC7	Carry out in a vented booth provided with laminar airflow.	
ManualSprayingPROC7	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 transfer- sPROC8aPROC8b	Provide extraction ventilation at points where emissions occur. , or: Avoid carrying out activities involving exposure for more than 1 hour.	
Roller, spreader, flow applicationRoller application or brushing	Use ventilation to extract vapours from freshly coated articles/objects.	
Dipping, immersion and pouringPROC13	Provide extraction ventilation at points where emissions occur.  Avoid manual contact with wet work pieces.	
Laboratory activitiesPROC15	Provide extraction ventilation at points where emissions occur.	
Material trans- fersDrum/batch transfer- sTransfer from/pouring from containersPROC9	Ensure material transfers are under containment or extract ventilation.	
Production or preparation or articles by tabletting, compression, extrusion or pelletisationPROC14	Provide extraction ventilation at points where emissions occur.	
Storage.PROC1	Store substance within a closed system.	
Section 2.2	Control of Environmental Exposure	
No exposure assessment pre		

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

#### Section 3.2 - Environment

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No exposure assessment presented for the environment.

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

#### Section 4.1 - Health

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

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

#### Section 4.2 - Environment

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#### **Exposure Scenario - Worker**

	Exposure occinino - Worker	
30000000286		
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Use in coatings- Professional	
Use Descriptor	Sector of Use: SU22	
	Process Categories: PROC1, PROC2, PROC3, PROC4,	
	PROC5, PROC8a, PROC8b, PROC10, PROC11, PROC13,	
	PROC15, PROC19	
	Environmental Release Categories: ERC8a, ERC8d	
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.	

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

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

Contributing Scenarios	Risk	Management Measures	
General measures (eye irritants).		Use suitable eye protection. Avoid direct eye contact with product, also via contamination hands.	วท
General exposures (closed sy tems)PROC1	/S-	No other specific measures identified.	
General exposures (closed sy tems) with occasional controlle exposure.PROC2		No other specific measures identified.	
Filling/ preparation of equipment from drums or containers.Use contained systemsPROC2		Ensure material transfers are under containment or extract ventilation.	
Preparation of material for ap cationUse in contained batch		No other specific measures identified.	

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processesPROC3	
Film formation - air dry- ingOutdoorPROC4	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 dryingln-doorPROC4	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Preparation of material for application(open systems)IndoorPROC5	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
Preparation of material for application(open sys-	Wear a respirator conforming to EN140 with Type A filter or better.
tems)OutdoorPROC5  Material transfersDrum/batch transfersPROC8aPROC8b	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- IndoorPROC10	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Roller, spreader, flow applicationOutdoorPROC10	Wear a respirator conforming to EN140 with Type A filter or better.
ManualSprayingIndoorPROC11	Carry out in a vented booth or extracted enclosure. Wear a respirator conforming to EN140 with Type A filter or better.
ManualSprayingOutdoorPROC11	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 pouringIndoorPROC13	Provide extraction ventilation at points where emissions occur.  Avoid manual contact with wet work pieces.
Dipping, immersion and pouringOutdoorPROC13	Avoid manual contact with wet work pieces.
Laboratory activitiesPROC15	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Hand application - fingerpaints,	Provide a good standard of controlled ventilation (10 to 15 air

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doorPROC19  Hand application - fingerpaints	, ,
pastels, adhesivesOut- doorPROC19	better.
Section 2.2	Control of Environmental Exposure

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

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

#### Section 3.2 -Environment

No exposure assessment presented for the environment.

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

Section 4.1 - Health

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

#### Section 4.2 -Environment

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#### **Exposure Scenario - Worker**

Exposure Scenario - Wo	or Rei
30000000288	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13 Environmental Release Categories: ERC4
Scope of process	Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presented for the environment.	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,	
Frequency and Duration of	Use	
	8 hours (unless stated differently).	
Other Operational Conditio	ns affecting Exposure	
Assumes a good basic stand	ard of occupational hygiene is implemented.	
Contributing Scenarios	Risk Management Measures	
General measures (eye	Use suitable eye protection.	
irritants).	Avoid direct eye contact with product, also via contamination on hands.	
Bulk transfer- sPROC8aPROC8b	Avoid carrying out activities involving exposure for more than 1 hour.	
Automated process with (semi) closed systems.Use in contained systemsPROC2	Avoid carrying out activities involving exposure for more than 4 hours	
Drum/batch transfersUse in contained batch process-esPROC3	Avoid carrying out activities involving exposure for more than 1 hour. , or: Wear a respirator conforming to EN140 with Type A filter or better.	

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Application of cleaning products in closed systemsPROC2	Avoid carrying out activities involving exposure for more than 4 hours	
Filling/ preparation of equipment from drums or containers.Dedicated facilityPROC8b	Ensure material transfers are under containment or extract ventilation.	
Use in contained batch processesPROC4	Provide extraction ventilation at points where emissions occur.	
Degreasing small objects in cleaning stationPROC13	Provide extraction ventilation at points where emissions occur.	
Cleaning with low-pressure washersPROC10	Provide a good standard of controlled ver changes per hour). Avoid carrying out activities involving exp 1 hour. , or: Wear a respirator conforming to EN140 w better.	osure for more than
Cleaning with high pressure washersPROC7	Provide a good standard of controlled ver changes per hour). Avoid carrying out activities involving exp 1 hour. , or: Wear a respirator conforming to EN140 w better.	osure for more than
ManualSurfacesCleaningno sprayingPROC10	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.	
Storage.PROC1	Store substance within a closed system.	
Section 2.2	Control of Environmental Exposure	
No exposure assessment pre	sented for the environment.	

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

#### Section 3.2 - Environment

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SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

#### Section 4.1 - Health

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

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

#### Section 4.2 - Environment

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#### **Exposure Scenario - Worker**

30000000289	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13 Environmental Release Categories: ERC8a, ERC8b
Scope of process	Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presented for the environment.	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Sub-	Covers percentage substance in the product up to 100%.,	
stance in Mixture/Article	Unless stated otherwise.,	
Frequency and Duration o	f Use	
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes a good basic standard of occupational hygiene is implemented.		
Contributing Scenarios	Risk Management Measures	

Contributing Scenarios	Risk Manage	ement Measures	
General measures (eye irritants).		Use suitable eye protection. Avoid direct eye contact with product, also via contact tamination on hands.	on-
Filling/ preparation of equipment from drums or containers.Dedicated facilityPROC8b		Provide a good standard of controlled ventilation (10 to 15 air changes per hour).  Avoid carrying out activities involving exposure f more than 1 hour.  , or:  Wear a respirator conforming to EN140 with Typ A filter or better.	or
Automated process with (semi) closed systems.Use in contained systemsPROC2		Avoid carrying out activities involving exposure f more than 4 hours	or
Drum/batch transfersUse in contained batch processesPROC3		Avoid carrying out activities involving exposure f more than 1 hour.	or

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	<del>-</del>
	, 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)PROC4	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.Non-dedicated facilityPROC8a	Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with Type A filter or better.
ManualSurfacesCleaningDipping, immersion and pouringPROC13	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, Brushingno sprayingPROC10	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- SprayingIndoorPROC11	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- SprayingOutdoorPROC11	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.
ManualSurfacesCleaningSprayingPROC10	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.Rolling, BrushingPROC10	Limit the substance content in the product to 25 %. Provide extraction ventilation at points where emissions occur.  Avoid carrying out operation for more than 4 hours.

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	, or: Wear a respirator conforming to EN140 with Type A filter or better. Wear suitable gloves tested to EN374.
Cleaning of medical devicesPROC4	Provide extraction ventilation at 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.
Storage.PROC1	Store substance within a closed system.

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

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

indicated.

#### **Section 3.2 - Environment**

No exposure assessment presented for the environment.

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

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

#### Section 4.2 -Environment

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#### **Exposure Scenario - Worker**

30000000291	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Lubricants- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18 Environmental Release Categories: ERC4, ERC7
Scope of process	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presented for the environment.	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Sub-	Covers percentage substance in the product up to 100%.,	
stance in Mixture/Article	Unless stated otherwise.,	
Frequency and Duration of	Use	
Covers daily exposures up to	8 hours (unless stated differently).	
Other Operational Condition	ns affecting Exposure	
Assumes a good basic standard of occupational hygiene is implemented.		
Contributing Scenarios	Risk Management Measures	
General measures (eye	Use suitable eye protection.	
irritants).	Avoid direct eye contact with product, also via contamination on hands.	
General exposures (closed	No other specific measures identified.	
systems)with occasional	'	
controlled expo-		
sure.PROC1PROC2		
General exposures (open	No other specific measures identified.	
systems)PROC4		
Bulk transfersDedicated	No other specific measures identified.	
facilityPROC8b		
Filling/ preparation of	Transfer via enclosed lines.	
equipment from drums or	Use drum pumps or carefully pour from container.	
containers.Non-dedicated		
facilityPROC8a		
Initial factory fill of equip-	Ensure material transfers are under containment or extract	

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mentPROC9	ventilation.	
Operation and lubrication of high energy open equipmentPROC17PROC18	Restrict area of openings to equipment.	
ManualRolling, Brush- ingPROC10	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).	
Treatment by dipping and pouringPROC13	Restrict area of openings to equipment.	
SprayingPROC7	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.	
Maintenance (of larger plant items) and machine set upDedicated facilityPROC8b	Provide extract ventilation to emission points when contact with warm (>50oC) product is likely. Wear suitable gloves tested to EN374.	
Maintenance of small itemsNon-dedicated facilityPROC8a	Avoid carrying out activities involving exposure for more than 4 hours	
Remanufacture of reject articlesPROC9	Avoid carrying out activities involving exposure for more than 4 hours	
Storage.PROC1PROC2	No other specific measures identified.	
Section 2.2	Control of Environmental Exposure	
No exposure assessment presented for the environment.		

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

### Section 3.2 - Environment

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO	
Section 4.1 - Health		
Measures/Operational Condit Where other Risk Manageme	expected to exceed the DN(M)EL when the Risk Management tions outlined in Section 2 are implemented. In the Measures of the Me	

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

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#### **Exposure Scenario - Worker**

<u> </u>	Exposure occinano - Worker	
30000000292		
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Metal working fluids / rolling oils- Industrial	
Use Descriptor	Sector of Use: SU3	
	Process Categories: PROC1, PROC2, PROC3, PROC4,	
	PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10,	
	PROC13, PROC17	
	Environmental Release Categories: ERC4	
Scope of process	Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.	

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presented for the environment.	
Section 2.1	Control of Worker Exposure	
<b>Product Characteristics</b>		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,	
Frequency and Duration o	f Use	
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
Assumes a good basic standard of occupational hygiene is implemented.		

**Contributing Scenarios Risk Management Measures** General measures (eye irri-Use suitable eye protection. tants). Avoid direct eye contact with product, also via contamination on hands. General exposures (closed No other specific measures identified. systems)PROC1PROC2PROC3 General exposures (open sys-No other specific measures identified. tems)PROC4 Bulk transfersDedicated facili-Provide enhanced general ventilation by mechanical means. tyPROC8b 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 Use drum pumps or carefully pour from container.

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f I	T
from drums or containers.Mixing	
or blending in batch processes	
for formulation of preparations	
and articles (multistage and/ or	
significant con-	
tact)PROC8bPROC9	
Process samplingPROC8b	Use dedicated equipment.
Metal machining opera- tionsPROC17	Provide extraction ventilation at points where emissions oc-
IIIISFROCT	1
	Restrict area of openings to equipment.
Treatment by dipping and pouringPROC13	Provide enhanced general ventilation by mechanical means.
SprayingPROC7	Minimise exposure by partial enclosure of the operation or
	equipment and provide extract ventilation at openings.
ManualRolling, Brush-	Provide enhanced general ventilation by mechanical means.
ingPROC10	
Automated metal roll-	Handle substance within a predominantly closed system pro-
ing/formingPROC2	vided with extract ventilation.
	Provide extraction ventilation at points where emissions occur.
Semi-automated metal roll-	Minimise exposure by partial enclosure of the operation or
ing/formingPROC17	equipment and provide extract ventilation at openings.
Equipment cleaning and maintenanceDedicated facilityPROC8b	No other specific measures identified.
Equipment cleaning and	Provide a good standard of controlled ventilation (10 to 15 air
maintenanceNon-dedicated	changes per hour).
facilityPROC8a	Drain or remove substance from equipment prior to break-in or maintenance.
Storage.PROC1PROC2	Store substance within a closed system.
J	Transfer via enclosed lines.
Continuo 0 0	ntral of Environmental Europeana

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

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

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

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SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

#### Section 4.1 - Health

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

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

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

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#### **Exposure Scenario - Worker**

30000000293	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in agrochemicals- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC4, PROC8a, PROC8b, PROC11, PROC13 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presented for the environment.	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Sub-	Covers percentage substance in the product up to 100%.,	
stance in Mixture/Article	Unless stated otherwise.,	
Frequency and Duration of	Use	
	8 hours (unless stated differently).	
Other Operational Condition	ns affecting Exposure	
Assumes a good basic standard of occupational hygiene is implemented.		
Contributing Scenarios	Risk Management Measures	
General measures (eye	Use suitable eye protection.	
irritants).	Avoid direct eye contact with product, also via contamination on hands.	
Transfer from/pouring from containersDedicated facilityPROC8b	Ensure operation is undertaken outdoors.	
Mixing in contain- ers.PROC4	Ensure operation is undertaken outdoors.	
Spraying/ fogging by manual applicationPROC11	Wear a full face respirator conforming to EN140 with Type A filter or better.	
Spraying/ fogging by machine applicationPROC11	Apply within a vented cab supplied with filtered air under positive pressure and with a protection factor of >20.	
Ad hoc manual application via trigger sprays, dipping, etc.PROC13	Wear suitable gloves tested to EN374. Wear a respirator conforming to EN140 with Type A filter or better.	

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Equipment cleaning and maintenancePROC8a	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.  Avoid carrying out activities involving exposure for more than 1 hour.
Storage.PROC1PROC2	Store substance within a closed system.
Section 2.2	Control of Environmental Exposure
No exposure assessment presented for the environment.	

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

indicated.

#### Section 3.2 - Environment

No exposure assessment presented for the environment.

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

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

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

#### Section 4.2 - Environment

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#### **Exposure Scenario - Worker**

30000000304	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16 Environmental Release Categories: ERC7
Scope of process	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Additional Information	No exposure assessment presented for the environment.
Section 2.1	Control of Worker Exposure
<b>Product Characteristics</b>	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100%., Unless stated otherwise.,
Frequency and Duration o	f Use
Covers daily exposures up to 8 hours (unless stated differently).	
Other Operational Condition	ons affecting Exposure
Assumes a good basic standard of occupational hygiene is implemented.	

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Bulk transfersDedicated facili- tyPROC8b	Transfer via enclosed lines. Clear transfer lines prior to de-coupling.
Drum/batch transfersDedicate facilityPROC8b	d Use drum pumps or carefully pour from container.
General exposures (closed systems)PROC1PROC2PROC	No other specific measures identified.
Use as a fuel(closed systems)PROC16	No other specific measures identified.
Equipment cleaning and maintenancePROC8a	Drain down and flush system prior to equipment opening or maintenance.
Storage.PROC1PROC2	Store substance within a closed system. Transfer via enclosed lines. Ensure operation is undertaken outdoors.

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Section 2.2	Control of Environmental Exposure	
No exposure assessment pre	sented for the environment	ĺ

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

#### Section 3.2 - Environment

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO	
Section 4.1 - Health		
Measures/Operational Condit Where other Risk Manageme	expected to exceed the DN(M)EL when the Risk Management ions outlined in Section 2 are implemented. In the Measures of the Mea	

#### Section 4.2 -Environment

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#### **Exposure Scenario - Worker**

30000000307	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16 Environmental Release Categories: ERC9a, ERC9b
Scope of process	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

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

**Risk Management Measures Contributing Scenarios** General measures (eye irri-Use suitable eye protection. Avoid direct eye contact with product, also via contamination tants). on hands. Bulk transfersDedicated facili-Transfer via enclosed lines. tvPROC8b Clear transfer lines prior to de-coupling. Drum/batch transfersDedicated Use drum pumps or carefully pour from container. facilityPROC8b Avoid spillage when withdrawing pump. Refueling. Transfer of substance Use drum pumps or carefully pour from container. or preparation (charging/ dis-Avoid spillage when withdrawing pump. charging) from/ to vessels/ large containers at dedicated facilities General exposures (closed No other specific measures identified. systems)PROC1PROC2PROC3 Use as a fuel(closed sys-No other specific measures identified. tems)PROC16 Equipment cleaning and Drain down and flush system prior to equipment opening or

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Section 2.2 Co	ntrol of Environmental Exposure
Storage.PROC1	Store substance within a closed system.
maintenancePROC8a	maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.

No exposure assessment presented for the environment.

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

indicated.

# No exposure assessment presented for the environment.

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

#### Section 4.1 - Health

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

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

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

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#### **Exposure Scenario - Worker**

30000000308	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Industrial
Use Descriptor	Sector of Use: SU3 Process Categories: PROC10, PROC15 Environmental Release Categories: ERC2, ERC4
Scope of process	Use of the substance within laboratory settings, including material transfers and equipment cleaning.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Additional Information	No exposure assessment presented for the environment.
Section 2.1	Control of Worker Exposure
Product Characteristics	
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Concentration of the Sub-	Covers percentage substance in the product up to 100%.,
stance in Mixture/Article	Unless stated otherwise.,
Frequency and Duration o	f Use
Covers daily exposures up to	o 8 hours (unless stated differently).
Other Operational Condition	
Assumes a good basic stand	dard of occupational hygiene is implemented.
Contributing Scenarios	Risk Management Measures
General measures (eye	Use suitable eye protection.
irritants).	Avoid direct eye contact with product, also via contamination on hands.
Laboratory activitiesPROC15	No other specific measures identified.
CleaningPROC10	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
Section 2.2	Control of Environmental Exposure
No exposure assessment pr	esented for the environment.

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

#### **Section 3.2 - Environment**

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SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE
	EXPOSURE SCENARIO

#### Section 4.1 - Health

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

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

#### Section 4.2 - Environment

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#### **Exposure Scenario - Worker**

Exposure Scenario - Worker	
30000000309	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Professional
Use Descriptor	Sector of Use: SU22 Process Categories: PROC10, PROC15 Environmental Release Categories: ERC8a
Scope of process	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMEN MEASURES	
Additional Information	No exposure assessment presented for the environment.	
Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 kPa at STP	
Concentration of the Sub-	Covers percentage substance in the product up to 100%.,	
stance in Mixture/Article	Unless stated otherwise.,	
Frequency and Duration of	of Use	
Covers daily exposures up t	to 8 hours (unless stated differently).	
<b>Other Operational Conditi</b>	ons affecting Exposure	
Assumes a good basic standard of occupational hygiene is implemented.		
Contributing Scenarios	Risk Management Measures	
General measures (eye irritants).	Use suitable eye protection.  Avoid direct eye contact with product, also via contamination on hands.	
Laboratory activitiesPROC15	No other specific measures identified.	
	No other specific measures identified.  Provide a good standard of controlled ventilation (10 to 15 changes per hour).  Avoid carrying out activities involving exposure for more that 1 hour.	

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

#### Section 3.2 -Environment

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No exposure assessment presented for the environment.

SECTION 4 GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO

#### Section 4.1 - Health

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

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

#### Section 4.2 - Environment

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#### **Exposure Scenario - Consumer**

30000001018	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Lubricants - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC1, PC24, PC31 Environmental Release Categories: ERC8a, ERC8d, ERC9a, ERC9b
Scope of process	Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presente	d for the environment.
Section 2.1	Control of Consumer Exposure	
Product Characteristics	•	
Physical form of product	Liquid, vapour pressure > 10 Pa at	STP
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 10	0 %
Amounts Used		
Unless stated otherwise.		
for each use event, covers amount up to (g):		6.390
covers skin contact area (cm2):		468
Frequency and Duration o	f Use	
Unless stated otherwise.		
covers use up to (times/day	of use):	1
Exposure (hours/event):	·	6
Other Operational Condition	ons affecting Exposure	
Unless stated otherwise		

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

Covers use under typical household ventilation.

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

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for each use event Covers exposure up to 4,00 hours/event
Covers concentrations up to 30 %
Covere controlling ap to co /s
covers use up to 1 day/year
Covers use up to 1 times/day of use
covers skin contact area up to (cm2): 110,00 cm2
For each use event, covers amount up to 6.390 g
Covers use in room size of 20 m3
for each use event Covers exposure up to 6,00 hours/event
Covers concentrations up to 30 %
· ·
covers use up to 6 day/year
Covers use up to 1 times/day of use
covers skin contact area up to (cm2): 35,73 cm2
For each use event, covers amount up to 85,05 g
Covers use in room size of 20 m3
for each use event Covers exposure up to 4,00 hours/event
Covers concentrations up to 25 %
covers use up to 365 day/year
Covers use up to 1 times/day of use
covers skin contact area up to (cm2): 35,73 cm2
For each use event, covers amount up to 75 g
Covers use in room size of 20 m3
for each use event Covers exposure up to 1,00 hours/event
Avoid using when windows closed.
Covers concentrations up to 100 %
covers use up to 4 day/year
Covers use up to 1 times/day of use
Covers use up to 1 times/day of use covers skin contact area up to (cm2): 468 cm2
covers skin contact area up to (cm2): 468 cm2
covers skin contact area up to (cm2): 468 cm2 For each use event, covers amount up to 2.200 g
covers skin contact area up to (cm2): 468 cm2
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.
covers skin contact area up to (cm2): 468 cm2 For each use event, covers amount up to 2.200 g Covers use in a one car garage (34 m3) under typical ventilation. Covers use in room size of 34 m3
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year  Covers use up to 1 times/day of use
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year  Covers use up to 1 times/day of use  covers skin contact area up to (cm2): 468 cm2
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year  Covers use up to 1 times/day of use  covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 34 g
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year  Covers use up to 1 times/day of use  covers skin contact area up to (cm2): 468 cm2
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year  Covers use up to 1 times/day of use  covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 34 g  Covers use in room size of 20 m3  Covers concentrations up to 50 %
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year  Covers use up to 1 times/day of use  covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 34 g  Covers use in room size of 20 m3  Covers concentrations up to 50 %  covers use up to 6 day/year
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year  Covers use up to 1 times/day of use  covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 34 g  Covers use in room size of 20 m3  Covers concentrations up to 50 %  covers use up to 6 day/year  Covers use up to 1 times/day of use
covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 2.200 g  Covers use in a one car garage (34 m3) under typical ventilation.  Covers use in room size of 34 m3  for each use event Covers exposure up to 0,17 hours/event  Covers concentrations up to 20 %  covers use up to 10 day/year  Covers use up to 1 times/day of use  covers skin contact area up to (cm2): 468 cm2  For each use event, covers amount up to 34 g  Covers use in room size of 20 m3  Covers concentrations up to 50 %  covers use up to 6 day/year

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	for each use event Covers exposure up to 0,17 hours/event	
Polishes and wax blends	Covers concentrations up to 50 %	
Polishes, wax / cream		
(floor, furniture, shoes).		
	covers use up to 29 day/year	
	Covers use up to 1 times/day of use	
	covers skin contact area up to (cm2): 430,00 cm2	
	For each use event, covers amount up to 142 g	
	Covers use in room size of 20 m3	
	for each use event Covers exposure up to 1,23 hours/event	
Polishes and wax blends	Covers concentrations up to 50 %	
Polishes, spray (furniture,		
shoes).		
	covers use up to 8 day/year	
	Covers use up to 1 times/day of use	
	covers skin contact area up to (cm2): 430,00 cm2	
	For each use event, covers amount up to 35 g	
	Covers use in room size of 20 m3	
	for each use event Covers exposure up to 0,33 hours/event	

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

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

#### Section 3.2 -Environment

No exposure assessment presented for the environment.

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

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

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#### **Exposure Scenario - Consumer**

30000001020	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	- Consumer Use in agrochemicals
Use Descriptor	Sector of Use: SU21 Product Categories: PC12, PC27 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Covers the consumer use in agrochemicals in liquid and solid forms.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment presente	ed for the environment.
Section 2.1	Control of Consumer Exposure	
Product Characteristics	-	
Physical form of product	Liquid, vapour pressure > 10 Pa a	t STP
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 4	%
Amounts Used		
Unless stated otherwise.		
for each use event, covers amount up to (g):		50
covers skin contact area (cm2):		857,5
Frequency and Duration o	f Use	
Unless stated otherwise.		
covers use up to (times/day	of use):	1
Exposure (hours/event):		0,5
Other Operational Condition	ons affecting Exposure	

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

Covers use under typical household ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Fertilizers Lawn and garden preparations.	Covers concentrations up to 4 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, assumes swallowed amount of 0,3 g
	For each use event, covers amount up to 50 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,50 hours/event

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Plant protection products	Covers concentrations up to 2,5 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, assumes swallowed amount of 0,3 g
	For each use event, covers amount up to 50 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,50 hours/event

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

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

#### **Section 3.2 - Environment**

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Section 4.1 - Health	
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management	
Measures/Operational Conditions outlined in Section 2 are implemented.	

Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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

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#### **Exposure Scenario - Consumer**

30000001022	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as a fuel - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC13 Environmental Release Categories: ERC9a, ERC9b
Scope of process	Covers consumer uses in liquid fuels.

SECTION 2	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Additional Information	No exposure assessment present	ed for the environment.
Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 Pa a	t STP
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 1	00 %
Amounts Used		
Unless stated otherwise.		
for each use event, covers amount up to (g):		37.500
covers skin contact area (cm2):		420
Frequency and Duration o	f Use	
Unless stated otherwise.		
covers use up to (times/day	of use):	0,143
Exposure (hours/event):		2
Other Operational Conditional	one affecting Evnosure	•

### Other Operational Conditions affecting Exposure

Unless stated otherwise.

Covers use at ambient temperatures.

Covers use in room size of 20m3

Covers use under typical household ventilation.

Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES
Fuels Liquid: Automotive Refuelling.	Covers concentrations up to 100 %
	covers use up to 52 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210,00 cm2
	For each use event, covers amount up to 37.500 g
	Covers outdoor use.
	Covers use in room size of 100 m3
	for each use event Covers exposure up to 0,05 hours/event
Fuels Liquid Scooter Refu-	Covers concentrations up to 100 %

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elling.	
	covers use up to 52 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210,00 cm2
	For each use event, covers amount up to 3.750 g
	Covers outdoor use.
	Covers use in room size of 100 m3
	for each use event Covers exposure up to 0,03 hours/event
Fuels Liquid, Garden	Covers concentrations up to 100 %
Equipment - Use.	
	covers use up to 26 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 750 g
	Covers outdoor use.
	Covers use in room size of 100 m3
	for each use event Covers exposure up to 2,00 hours/event
Fuels Liquid: Garden Equipment - Refuelling.	Covers concentrations up to 100 %
qpg.	covers use up to 26 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 420,00 cm2
	For each use event, covers amount up to 750 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 0,03 hours/event
Fuels Liquid: Lamp oil.	Covers concentrations up to 100 %
·	covers use up to 52 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 210,00 cm3
	For each use event, covers amount up to 100 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,01 hours/event

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

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

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	

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

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

#### Section 4.2 -Environment

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#### **Exposure Scenario - Consumer**

30000001014	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in coatings - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC1, PC4, PC8 (excipient only), PC9a, PC9b, PC18, PC24, PC23, PC31, PC34 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

SECTION 2	OPERATIONAL CONDITIONS A MEASURES	ND RISK MANAGEMENT
Additional Information	No exposure assessment present	ted for the environment.
Section 2.1	Control of Consumer Exposure	
Product Characteristics	•	
Physical form of product	Liquid, vapour pressure > 10 Pa	
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 1	00 %
Amounts Used		
Unless stated otherwise.		
for each use event, covers a	amount up to (g):	13.800
covers skin contact area (cm2):		857,5
Frequency and Duration o	f Use	
Unless stated otherwise.		
covers use up to (times/day of use):		1
Covers exposure up to (hou	rs/event):	6
Other Operational Conditi	ons affecting Exposure	
Unless stated otherwise.		

Covers use at ambient temperatures.

Covers use in room size of 20m3

Covers use under typical household ventilation.

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

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	for each use event Covers exposure up to 4 hours/event
Adhesives, sealants Glues	Covers concentrations up to 30 %
DIY-use (carpet glue, tile	
glue, wood parquet glue).	
<u> </u>	covers use up to 1 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 110 cm2
	For each use event, covers amount up to 6.390 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 6 hours/event
Adhesives, sealants Glue from spray.	Covers concentrations up to 30 %
, ,	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 85,05 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 4 hours/event
Adhesives, sealants Sealants.	Covers concentrations up to 20 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 75 g
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 1 hours/event
Anti-Freeze and de-icing products Washing car window.	Covers concentrations up to 1 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 0,5 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers exposure up to 34 m3
	for each use event Covers exposure up to 0,02 hours/event
Anti-Freeze and de-icing products Pouring into radiator.	Covers concentrations up to 10 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428 cm2
	For each use event, covers amount up to 2.000 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 0,17 hours/event
Biocidal products (e.g. Dis-	Covers concentrations up to 5 %
infectants, pest control)	
(excipient only).	

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pose cleaners, sanitary	
products, floor cleaners,	
glass cleaners, carpet	
cleaners, metal cleaners).	Oncome con to A time of the co
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,50 cm2
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m3
<u> </u>	for each use event Covers exposure up to 0,33 hours/event
Biocidal products (e.g. Dis- infectants, pest control) (excipient only).	Covers concentrations up to 15 %
Cleaners, trigger sprays (all purpose clean- ers,sanitary products, glass	covers use up to 128 day/year
cleaners).	
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428 cm2
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,17 hours/event
Coatings and paints, thin- ners, paint removers Sol- vent rich, high solid, water borne paint.	Covers concentrations up to 27,5 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
Ocation and Indiate (Itie	for each use event Covers exposure up to 2,20 hours/event
Coatings and paints, thin- ners, paint removers Aero- sol spray can.	Covers concentrations up to 50 %
	covers use up to 2 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers exposure up to 34 m3
	for each use event Covers exposure up to 0,33 hours/event
Coatings and paints, thin- ners, paint removers Re- movers (paint-, glue-, wall	Covers concentrations up to 50 %
paper-, sealant-remover).	
	covers use up to 3 day/year
	covers use up to 3 day/year  Covers use up to 1 times/day of use
	Covers use up to 1 times/day of use
	Covers use up to 1 times/day of use covers skin contact area up to (cm2): 857,5 cm2
	Covers use up to 1 times/day of use

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Fillers, putties, plasters,	Covers concentrations up to 2 %
modelling clay Waterborne latex wall paint.	
iatex wall paint.	covers use up to 12 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 35,73 cm2
	For each use event, covers amount up to 85 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 4 hours/event
Fillers, putties, plasters, modelling clay Plasters and floor equalizers.	Covers concentrations up to 2 %
	covers use up to 12 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,5 cm2
	For each use event, covers amount up to 13.800 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2 hours/event
Non-metal-surface treat- ment products Solvent rich, high solid, water borne paint.	Covers concentrations up to 27,5 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2,2 hours/event
Non-metal-surface treat- ment products Aerosol spray can.	Covers concentrations up to 50 %
	covers use up to 2 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 0,33 hours/event
Non-metal-surface treat- ment products Removers (paint-, glue-, wall paper-, sealant-remover).	Covers concentrations up to 50 %
	covers use up to 3 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,5 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2 hours/event
Ink and toners	Covers concentrations up to 10 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use

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	covers skin contact area up to (cm2): 71,4 cm2
	For each use event, covers amount up to 40 g
	Covers use in room size of 20 m3
Loother tenning due finish	for each use event Covers exposure up to 2,2 hours/event
Leather tanning, dye, finishing, impregnation and care products Polishes, wax / cream (floor, furniture, shoes).	Covers concentrations up to 50 %
	covers use up to 29 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430 cm2
	For each use event, covers amount up to 56 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 1,23 hours/event
Leather tanning, dye, finishing, impregnation and care products Polishes, spray (furniture, shoes).	Covers concentrations up to 50 %
	covers use up to 8 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 430 cm2
	For each use event, covers amount up to 56 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,33 hours/event
Lubricants, greases, release products Liquids.	Covers concentrations up to 100 %
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 0,17 hours/event
Lubricants, greases, release products Pastes.	Covers concentrations up to 20 %
	covers use up to 10 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468 cm2
	For each use event, covers amount up to 34 g
	Covers use in room size of 20 m3
Lubricants, greases, release products Sprays.	Covers concentrations up to 50 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,17 hours/event
	Covers concentrations up to 50 %

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covers use up to 29 day/year
Covers use up to 1 times/day of use
covers skin contact area up to (cm2): 430 cm2
For each use event, covers amount up to 142 g
Covers use in room size of 20 m3
for each use event Covers exposure up to 1,23 hours/event
Covers concentrations up to 50 %
·
covers use up to 8 day/year
Covers use up to 1 times/day of use
covers skin contact area up to (cm2): 430 cm2
For each use event, covers amount up to 35 g
Covers use in room size of 20 m3
for each use event Covers exposure up to 0,33 hours/event
Covers concentrations up to 10 %
'
covers use up to 365 day/year
Covers use up to 1 times/day of use
covers skin contact area up to (cm2): 857,5 cm2
For each use event, covers amount up to 115 g
Covers use in room size of 20 m3
for each use event Covers exposure up to 1 hours/event

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

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

#### **Section 3.2 - Environment**

No exposure assessment presented for the environment.

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

Measures/Operational Conditions outlined in Section 2 are implemented.

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

#### Section 4.2 - Environment

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No exposure assessment presented for the environment.

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#### **Exposure Scenario - Consumer**

30000001016	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC9a, PC9b, PC24, PC35 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.

SECTION 2	OPERATIONAL CONDITIONS AND F	RISK MANAGEMENT
Additional Information	No exposure assessment presented for	or the environment.
Section 2.1	Control of Consumer Exposure	
<b>Product Characteristics</b>		
Physical form of product	Liquid, vapour pressure > 10 Pa at ST	Р
Concentration of the Substance in Mixture/Article	Unless stated otherwise.	
	Covers concentration up to (%): 50 %	
Amounts Used		
Unless stated otherwise.		
for each use event, covers a	mount up to (g):	13.800
covers skin contact area (cm2): 857,5		857,5
Frequency and Duration o	f Use	
Unless stated otherwise.		
covers use up to (times/day of use): 0,35		
Exposure (hours/event):		2,2
Other Operational Condition	ons affecting Exposure	
Unless stated otherwise.		
Covers use at ambient temp		
Covers use in room size of 2		
Covers use under typical ho	usehold ventilation.	
Product Categories	OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES	
Coatings and paints, thin- ners, paint removers Sol- vent rich, high solid, water borne paint.	Covers concentrations up to 27,5 %	
	covers use up to 6 day/year	
	Covers use up to 1 times/day of use	
	covers skin contact area up to (cm2):	428,75 cm2

For each use event, covers amount up to 744 g

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	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2,20 hours/event
Coatings and paints, thin-	Covers concentrations up to 50 %
ners, paint removers Aerosol spray can.	Covers concentrations up to 55 /5
oc. opray oa	covers use up to 2 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers exposure up to 34 m3
	for each use event Covers exposure up to 0,33 hours/event
Coatings and paints, thin- ners, paint removers Re- movers (paint-, glue-, wall paper-, sealant-remover).	Covers concentrations up to 50 %
paper, commence to	covers use up to 3 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,5 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2 hours/event
Fillers, putties, plasters,	Covers concentrations up to 2 %
modelling clay Plasters and floor equalizers.	Covers concentrations up to 2 %
	covers use up to 12 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,5 cm2
	For each use event, covers amount up to 13.800 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 2 hours/event
Lubricants, greases, release products Liquids.	Covers concentrations up to 50 %
, ,	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventila-
	tion.
	Covers use in room size of 34 m3
	for each use event Covers exposure up to 0,17 hours/event
Lubricants, greases, release products Pastes.	Covers concentrations up to 20 %
	covers use up to 10 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 468 cm2
	For each use event severe amount up to 24 g
	For each use event, covers amount up to 34 g
Lubricants, greases, re- lease products Sprays.	Covers concentrations up to 20 %

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	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,17 hours/event
Washing and cleaning products (including solvent based products) Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal	Covers concentrations up to 5 %
cleaners).	
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 857,5 cm2
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,33 hours/event
Washing and cleaning products (including solvent based products) Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners).	Covers concentrations up to 15 %
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to (cm2): 428 cm2
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m3
	for each use event Covers exposure up to 0,17 hours/event

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

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

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

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

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

# **Methyl Ethyl Ketone**

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

Section 4.2 - Environment

No exposure assessment presented for the environment.

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

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#### **Exposure Scenario - Consumer**

30000010695	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Other Consumer Uses - Consumer
Use Descriptor	Sector of Use: SU21 Product Categories: PC28, PC39 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: For cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.

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

Section 2.2 Control of Environmental Exposure	
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SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
No exposure assessment presented for human health.	

#### Section 3.2 - Environment

No exposure assessment presented for the environment.

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

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