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

#### 1.1 Product identifier

Trade name : Diacetone Alcohol

Product code : S1213

Registration number : 01-2119473975-21-0001

Synonyms : 4-hydroxy-4-methyl-2-pentanone, DAA, Dimethyl

acetonylcarbinol

CAS-No. : 123-42-2 EC-No. 204-626-7

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

Use of the : Use only in industrial processes.

Please refer to Ch16 and/or the annexes for the registered Substance/Mixture

uses under REACH.

: This product must not be used in applications other than the Uses advised against

above without first seeking the advice of the supplier.

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

Manufacturer/Supplier : Shell Chemicals Europe B.V.

PO Box 2334

3000 CH Rotterdam

Netherlands

Telephone Telefax

**Email Contact for Safety Data** 

Sheet

#### 1.4 Emergency telephone number

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

## 2.1 Classification of the substance or mixture

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

Flammable liquids, Category 3 H226: Flammable liquid and vapour. Eve irritation, Category 2 H319: Causes serious eve irritation. Specific target organ toxicity - single H335: May cause respiratory irritation.

exposure, Category 3, Respiratory Tract

#### 2.2 Label elements

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

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Hazard pictograms





Signal word : Warning

Hazard statements : PHYSICAL HAZARDS:

H226 Flammable liquid and vapour.

**HEALTH HAZARDS:** 

H319 Causes serious eye irritation. H335 May cause respiratory irritation.

ENVIRONMENTAL HAZARDS:
Not classified as environmental hazard

according to CLP criteria.

Precautionary statements : Prevention:

P210 Keep away from heat/sparks/open

flames/hot surfaces. No smoking.

P261 Avoid breathing dust/ fume/ gas/ mist/

vapours/ spray.

P280 Wear protective gloves/ protective clothing/

eye protection/ face protection.

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.

P312 Call a POISON CENTER/doctor if you feel

unwell.

Storage:

P403 + P233 Store in a well-ventilated place. Keep

container tightly closed.

Disposal:

P501 Dispose of contents and container to

appropriate waste site or reclaimer in accordance with local and national

regulations.

#### 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.

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.

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

#### 3.1 Substances

#### **Hazardous components**

Chemical name	CAS-No. EC-No.	Concentration [%]
Diacetone alcohol	123-42-2 204-626-7	100

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

#### 4.1 Description of first aid measures

General advice : In general no treatment is necessary, however, obtain medical

advice.

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 : If inhalation of mists, fumes or vapour causes irritation to the

nose or throat, remove to fresh air.

If symptoms persist, obtain medical advice.

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

water and follow by washing with soap if available.

If persistent irritation occurs, obtain medical attention.

In case of eye contact : Immediately flush eyes with large amounts of water for at least

15 minutes while holding eyelids open. Transport to the

nearest medical facility for additional treatment.

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

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

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

Symptoms : If material enters lungs, signs and symptoms may include

coughing, choking, wheezing, difficulty in breathing, chest

congestion, shortness of breath, and/or fever.

Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing,

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and/or difficulty breathing.

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

Treatment : Potential for chemical pneumonitis.

Call a doctor or poison control center for guidance.

## **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

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

powder, carbon dioxide, sand or earth may be used for small

fires only.

: None

Unsuitable extinguishing

media

5.2 Special hazards arising from the substance or mixture

Specific hazards during

firefighting

: The vapour is heavier than air, spreads along the ground and distant ignition is possible. Carbon monoxide may be evolved

if incomplete combustion occurs.

5.3 Advice for firefighters

Special protective equipment

for firefighters

: Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to

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

Specific extinguishing

methods

Further information

Standard procedure for chemical fires.

: Clear fire area of all non-emergency personnel.

Keep adjacent containers cool by spraying with water.

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

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

Personal precautions : Observe the relevant local and international regulations

Notify authorities if any exposure to the general public or the

environment occurs or is likely to occur.

Local authorities should be advised if significant spillages

cannot be contained.

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

distant ignition is possible.

Vapour may form an explosive mixture with air.

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

Isolate hazard area and deny entry to unnecessary or

unprotected personnel.

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Stay upwind and keep out of low areas.

6.1.2 For emergency responders:

Avoid contact with skin, eyes and clothing.

Isolate hazard area and deny entry to unnecessary or

unprotected personnel.

Stay upwind and keep out of low areas.

#### 6.2 Environmental precautions

**Environmental precautions** 

: Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

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

## 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

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

#### 6.4 Reference to other sections

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

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

**General Precautions** 

: 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

Chapter 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

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this material.

Ensure that all local regulations regarding handling and

storage facilities are followed.

#### 7.1 Precautions for safe handling

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

Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.

Bulk storage tanks should be diked (bunded).

Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.

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

to reduce the risk.

The vapours in the head space of the storage vessel may lie

in the flammable/explosive range and hence may be

flammable.

Properly dispose of any contaminated rags or cleaning

materials in order to prevent fires.

Do NOT use compressed air for filling, discharging, or

handling operations.

**Product Transfer** : Refer to guidance under Handling section.

## 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

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

product.

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

steel, stainless steel.

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

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

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

similar operations on or near containers.

## 7.3 Specific end use(s)

Specific use(s) Please refer to Ch16 and/or the annexes for the registered

uses under REACH.

Ensure that all local regulations regarding handling and

storage facilities are followed.

See additional references that provide safe handling practices:

American Petroleum Institute 2003 (Protection Against

Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices

on Static Electricity).

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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
Diacetone alcohol	123-42-2	TWA	50 ppm	ACGIH
		TWA	50 ppm	OSHA Z-1
			240 mg/m3	

#### **Biological occupational exposure limits**

No biological limit allocated.

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

End Use: Workers

**Exposure routes: Inhalation** 

Potential health effects: Acute local effects

Value: 240 mg/m3

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

End Use: Workers

**Exposure routes: Dermal** 

Potential health effects: Long-term systemic effects

Value: 9,4 mg/kg bw/day

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

End Use: Workers

**Exposure routes: Inhalation** 

Potential health effects: Long-term systemic effects

Value: 66,4 mg/m3

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

End Use: Workers

**Exposure routes: Inhalation** 

Potential health effects: Long-term local effects

Value: 66.4 mg/m3

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

End Use: Consumers **Exposure routes: Inhalation** 

Potential health effects: Acute local effects

Value: 120 mg/m3

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

End Use: Consumers **Exposure routes: Dermal** 

Potential health effects: Long-term systemic effects

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Value: 3,4 mg/kg bw/day

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

End Use: Consumers
Exposure routes: Inhalation

Potential health effects: Long-term systemic effects

Value: 11,8 mg/m3

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

End Use: Consumers Exposure routes: Oral

Potential health effects: Long-term systemic effects

Value: 3,4 mg/kg bw/day

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

End Use: Consumers
Exposure routes: Inhalation

Potential health effects: Long-term local effects

Value: 11,8 mg/m3

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

Exposure assessments have not been presented for the environment therefore PNEC values not required.

#### **Monitoring Methods**

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

#### 8.2 Exposure controls

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

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:

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.

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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.

#### General Information:

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

Define procedures for safe handling and maintenance of controls.

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

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

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

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

#### Personal protective equipment

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

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

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

Wear full face shield if splashes are likely to occur.

Approved to EU Standard EN166.

Hand protection

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

gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Butyl rubber. Nitrile rubber. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical

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resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Skin and body protection

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

Skin protection is not required under normal conditions of use. For prolonged or repeated exposures use impervious clothing

over parts of the body subject to exposure.

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

and provide employee skin care programmes.

Protective clothing approved to EU Standard EN14605.

Respiratory protection

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

appropriate combination of mask and filter. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours meeting EN14387 [Filter type A, for use against certain organic gases

and vapours with a boiling point >65°C (149°F)].

Thermal hazards : Not applicable

Hygiene measures : Wash hands before eating, drinking, smoking and using the

toilet. Launder contaminated clothing before re-use.

### **Environmental exposure controls**

General advice : Read in conjunction with the Exposure Scenario for your

specific use contained in the Annex.

Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid

contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant

before discharge to surface water.

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Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing

vapour.

Minimise release to the environment. An environmental assessment must be made to ensure compliance with local

environmental legislation.

Information on accidental release measures are to be found in

section 6.

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

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

Appearance : Liquid.

Colour : clear

Odour : characteristic

Odour Threshold : Data not available

pH : Not applicable

Melting point/freezing point : -43 °C

Boiling point/boiling range : 150 - 172 °C

Flash point : 58 °C

Method: ASTM D-93 / PMCC

Evaporation rate : 0,15

Method: ASTM D 3539, nBuAc=1

Flammability (solid, gas) : Not applicable

Upper explosion limit : 6,9 %(V)

Lower explosion limit : 1,8 %(V)

Vapour pressure : 120 Pa (20 °C)

Relative vapour density : 4

Relative density : 0,94 (20 °C)

Density : 937 - 940 kg/m3 (20 °C)

Method: ASTM D4052

Solubility(ies)

Water solubility : Completely miscible. (20 °C)

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Partition coefficient: n-

octanol/water

: log Pow: < 3

Auto-ignition temperature : 620 °CMethod: ASTM E-659

Decomposition temperature : Data not available

Viscosity

: 2,9 mPa.s (20 °C) Viscosity, dynamic

: Data not available Viscosity, kinematic Explosive properties : Not applicable : Not applicable Oxidizing properties

9.2 Other information

Surface tension : 30,9 mN/m, 20 °C

Conductivity : 20 pS/m at 20 °C

> Electrical conductivity: > 10,000 pS/m, A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity

of a liquid, This material is not expected to be a static

accumulator.

: 116,16 g/mol Molecular weight

## **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

electricity.

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## 10.5 Incompatible materials

Materials to avoid : Strong oxidising agents.

#### 10.6 Hazardous decomposition products

Hazardous decomposition

products

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

degradation.

## **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

Basis for assessment : Information given is based on product testing.

exposure

Information on likely routes of : Exposure may occur via inhalation, ingestion, skin absorption,

skin or eye contact, and accidental ingestion.

#### **Acute toxicity**

#### **Product:**

Acute oral toxicity : LD50 Rat:  $> 2.000 - <= 5.000 \,\text{mg/kg}$ 

Remarks: May be harmful if swallowed.

Acute inhalation toxicity : Remarks: Low toxicity if inhaled.

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

Acute dermal toxicity : LD50 Rabbit: > 5.000 mg/kg

Remarks: Low toxicity:

#### Skin corrosion/irritation

#### **Product:**

Remarks: Not irritating to skin.

### Serious eye damage/eye irritation

## **Product:**

Remarks: Causes serious eye irritation.

#### Respiratory or skin sensitisation

#### **Product:**

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

## Germ cell mutagenicity

**Product:** 

: Remarks: No evidence of mutagenic activity.

### Carcinogenicity

#### Product:

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

Material	GHS/CLP Carcinogenicity Classification
Diacetone alcohol	No carcinogenicity classification.

## Reproductive toxicity

### **Product:**

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

#### STOT - single exposure

#### **Product:**

Remarks: May cause respiratory irritation.

### STOT - repeated exposure

#### **Product:**

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

#### **Aspiration toxicity**

#### **Product:**

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

## **Further information**

#### **Product:**

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

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Summary on evaluation of the CMR properties

Germ cell mutagenicity-

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

Carcinogenicity -

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

Reproductive toxicity -

Assessment

: This product does not meet the criteria for classification in

categories 1A/1B.

## **SECTION 12: Ecological information**

#### 12.1 Toxicity

Basis for assessment

**Product:** 

: Information given is based on product testing.

Toxicity to fish (Acute

toxicity)

: Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to crustacean (Acute

toxicity)

: Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to algae/aquatic

plants (Acute toxicity)

: Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic

toxicity)

thronic : Remarks: Data not available

Toxicity to crustacean

(Chronic toxicity)

: Remarks: Data not available

Toxicity to microorganisms

(Acute toxicity)

Remarks: Practically non toxic:

LL/EL/IL50 > 100 mg/l

## 12.2 Persistence and degradability

**Product:** 

Biodegradability : Remarks: Readily biodegradable.

## 12.3 Bioaccumulative potential

**Product:** 

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

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Partition coefficient: n-

octanol/water

: log Pow: < 3

#### 12.4 Mobility in soil

#### **Product:**

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

more constituents will or may be mobile and may contaminate

groundwater.

#### 12.5 Results of PBT and vPvB assessment

#### **Product:**

Assessment : The substance does not fulfill all screening criteria for

persistence, bioaccumulation and toxicity and hence is not

considered to be PBT or vPvB.

#### 12.6 Other adverse effects

#### **Product:**

Additional ecological

information

: Does not have ozone depletion potential.

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

#### 13.1 Waste treatment methods

Product : Recover or recycle if possible.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water

courses

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

Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

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

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.

#### Local legislation

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Remarks : For the disposal of waste arising from the product, including

empty containers not cleared, follow the Legislative Decree

152/06 and subsequent amendments.

## **SECTION 14: Transport information**

#### 14.1 UN number

**ADN** : 1148 **ADR** : 1148 **RID** : 1148 **IMDG** : 1148 **IATA** : 1148

#### 14.2 Proper shipping name

**ADN** : DIACETONE ALCOHOL **ADR** : DIACETONE ALCOHOL RID : DIACETONE ALCOHOL **IMDG** : DIACETONE ALCOHOL

IATA : DIACETONE ALCOHOL

#### 14.3 Transport hazard class

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

### 14.4 Packing group

#### **ADN**

Packing group : 111 Classification Code : F1 Labels : 3 **ADR** 

Packing group : 111 Classification Code : F1 Hazard Identification Number : 30 Labels : 3

RID

Packing group : 111 Classification Code : F1 Hazard Identification Number : 30 Labels 3

#### **IMDG**

Packing group : 111 Labels : 3

**IATA** 

: III Packing group : 3 Labels

## 14.5 Environmental hazards

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**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 Chapter 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 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category : Z

Ship type : 2
Product name : Diacetone alcohol

**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.

## **SECTION 15: Regulatory information**

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

REACH - List of substances subject to authorisation

(Annex XIV)

: Product is not subject to Authorisation under REACH.

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

: This product does not contain substances of very high concern

(Regulation (EC) No

1907/2006 (REACH), Article 57).

Other regulations : The regulatory information is not intended to be

comprehensive. Other regulations may apply to this material.

Classification, packaging and labeling of dangerous substances (D.Lgs.52/1997 and subsequent amendments).

Classification, packaging and labeling of dangerous

preparations (D.Lgs.65/2003). Safeguard of health and safety

in the workplaces (D.Lgs.81/2008 and subsequent

amendments). For waste disposal refer to D.Lgs.152/06 and

subsequent amendments.

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> Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XIV.

> Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XVII.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances (Seveso III).

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work and its amendments.

Directive 1994/33/EC on the protection of young people at work and its amendments.

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding and its amendments.

Product is subject to the Seveso II directive.

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

AIIC Listed DSL Listed **IECSC** Listed **ENCS** Listed Listed KECI **NZIoC** : Listed **PICCS** : Listed **TSCA** : Listed **TCSI** : Listed

#### 15.2 Chemical safety assessment

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

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

: ACGIH = American Conference of Governmental Industrial Abbreviations and Acronyms

**Hygienists** 

ADR = European Agreement concerning the International

Carriage of Dangerous Goods by Road

AICS = Australian Inventory of Chemical Substances ASTM = American Society for Testing and Materials

BEL = Biological exposure limits

BTEX = Benzene, Toluene, Ethylbenzene, Xylenes

CAS = Chemical Abstracts Service

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CEFIC = European Chemical Industry Council

CLP = Classification Packaging and Labelling

COC = Cleveland Open-Cup

DIN = Deutsches Institut fur Normung

DMEL = Derived Minimal Effect Level

DNEL = Derived No Effect Level

DSL = Canada Domestic Substance List

EC = European Commission

EC50 = Effective Concentration fifty

ECETOC = European Center on Ecotoxicology and

Toxicology Of Chemicals

ECHA = European Chemicals Agency

EINECS = The European Inventory of Existing Commercial

Chemical Substances

EL50 = Effective Loading fifty

ENCS = Japanese Existing and New Chemical Substances

Inventory

EWC = European Waste Code

GHS = Globally Harmonised System of Classification and

Labelling of Chemicals

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IC50 = Inhibitory Concentration fifty

IL50 = Inhibitory Level fifty

IMDG = International Maritime Dangerous Goods

INV = Chinese Chemicals Inventory

IP346 = Institute of Petroleum test method N° 346 for the

determination of polycyclic aromatics DMSO-extractables

KECI = Korea Existing Chemicals Inventory

LC50 = Lethal Concentration fifty

LD50 = Lethal Dose fifty per cent.

LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading

LL50 = Lethal Loading fifty

MARPOL = International Convention for the Prevention of

Pollution From Ships

NOEC/NOEL = No Observed Effect Concentration / No

Observed Effect Level

OE HPV = Occupational Exposure - High Production Volume

PBT = Persistent, Bioaccumulative and Toxic

PICCS = Philippine Inventory of Chemicals and Chemical

Substances

PNEC = Predicted No Effect Concentration

REACH = Registration Evaluation And Authorisation Of

Chemicals

RID = Regulations Relating to International Carriage of

Dangerous Goods by Rail

SKIN\_DES = Skin Designation

STEL = Short term exposure limit

TRA = Targeted Risk Assessment

TSCA = US Toxic Substances Control Act

TWA = Time-Weighted Average

vPvB = very Persistent and very Bioaccumulative

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#### **Further information**

Training advice : Provide adequate information, instruction and training for

operators.

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

CEFIC website at http://cefic.org/Industry-support.
The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not

considered to be PBT or vPvB.

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

from the previous version.

Sources of key data used to compile the Safety Data

Sheet

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

IUCLID date base, EC 1272 regulation, etc).

#### Identified Uses according to the Use Descriptor System

**Uses - Worker** 

Title : Manufacture of substance- Industrial

**Uses - Worker** 

Title : Use as an intermediate- Industrial

**Uses - Worker** 

Title : Distribution of substance- Industrial

**Uses - Worker** 

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

Industrial

**Uses - Worker** 

Title : Uses in Coatings- Industrial

Uses - Worker

Title : Uses in Coatings- Professional

Uses - Worker

Title : Use in Cleaning Agents- Industrial

**Uses - Worker** 

Title : Use in Cleaning Agents- Professional

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**Uses - Worker** 

Title : Lubricants- Industrial

**Uses - Worker** 

Title : Use in Agrochemicals uses- Professional

**Uses - Worker** 

Title : Functional Fluids- Industrial

**Uses - Worker** 

Title : Use in laboratories- Industrial

**Uses - Worker** 

Title : Use in laboratories- Professional

**Uses - Worker** 

Title : Water treatment chemicals- Industrial

Identified Uses according to the Use Descriptor System

**Uses - Consumer** 

Title : Uses in Coatings

- Consumer

**Uses - Consumer** 

Title : Use in Cleaning Agents

- Consumer

**Uses - Consumer** 

Title : Use in Agrochemicals uses

- Consumer

**Uses - Consumer** 

Title : Other Consumer Uses

- Consumer

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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**Exposure Scenario - Worker** 

30000000489	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Manufacture of substance- Industrial
Use Descriptor	Sector of Use: SU 3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 Environmental Release Categories: ERC1, ERC4
Scope of process	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

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

Section 2.1	Control of Worker Exposure
Product Characteristics	•
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,
Frequency and Duration of	Use
Covers daily exposures up to	8 hours (unless stated differently).
Other Operational Conditio	ns affecting Exposure
	ard of occupational hygiene is implemented. In 20°C above ambient temperature (unless stated differently).

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)Continuous processPROC1PROC2	No other specific measures identified.
General exposures (closed systems)Batch processPROC3	No other specific measures identified.
General exposures (open systems)Batch processPROC4	Wear suitable gloves tested to EN374.
Process samplingPROC8b	Wear suitable gloves tested to EN374.

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Laboratory activitiesPROC15	No other specific measures identified.
Bulk transfersDedicated facilityPROC8b	Wear suitable gloves tested to EN374.
Equipment cleaning and maintenancePROC8a	Drain down system prior to equipment opening or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Wear suitable gloves tested to EN374.
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	
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** 

30000000491	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use as an intermediate- Industrial
Use Descriptor	Sector of Use: SU 3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 15 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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
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. Assumes use at not more than 20°C above ambient temperature (unless stated differently).		

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)Continuous processPROC1PROC2	No other specific measures identified.
General exposures (closed systems)Batch processPROC3	No other specific measures identified.
General exposures (open systems)Batch processPROC4	Wear suitable gloves tested to EN374.
Process samplingPROC8b	Wear suitable gloves tested to EN374.
Laboratory	No other specific measures identified.

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activitiesPROC15 Bulk transfersDedicated facilityPROC8b	Wear suitable gloves tested to EN374.
Equipment cleaning and maintenancePROC8a	Drain down system prior to equipment opening or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Wear suitable gloves tested to EN374.
Storage.PROC1PROC2	Store substance within a closed system.

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

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

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

No exposure assessment presented for the environment.

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

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

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

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

No exposure assessment presented for the environment.

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**Exposure Scenario - Worker** 

Exposure ocenano - Worker		
30000000493		
SECTION 1	EXPOSURE SCENARIO TITLE	
Title	Distribution of substance- Industrial	
Use Descriptor	Sector of Use: SU 3, SU8, SU9 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15 Environmental Release Categories: ERC1, ERC2, ERC3, ERC4, ERC5, ERC6a, ERC6b, ERC 6C, ERC 6D, ERC7	
Scope of process	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.	

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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
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. Assumes use at not more than 20°C above ambient temperature (unless stated differently).		

Contributing Scenarios	Risl	k Management Measures
General measures (eye irritar	nts).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems) with occasional controlled exposure.PROC1PROC2PRO	OC3	Handle substance within a closed system.
General exposures (open systems)PROC4		Wear suitable gloves tested to EN374.
Product sampling.PROC3		Ensure dedicated sample points are provided.
Laboratory activitiesPROC15		No other specific measures identified.

Bulk closed loading and unloading.Dedicated facilityPROC8b	Ensure operation is undertaken outdoors.
Bulk open loading and unloading.PROC8b	Ensure operation is undertaken outdoors.
Drum and small package fillingPROC9	Clear spills immediately. Wear suitable gloves tested to EN374.
Equipment cleaning and maintenancePROC8a	Wear suitable gloves tested to EN374. Retain drain downs in sealed storage pending disposal or for subsequent recycle. 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 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	

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 occinante Tronk	-
30000000494	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Formulation & (re)packing of substances and mixtures- Industrial
Use Descriptor	Sector of Use: SU 3, SU 10 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 14, PROC 15 Environmental Release Categories: ERC2
Scope of process	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

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

Section 2.1	Control of Worker Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP		
Concentration of the	Covers use of substance/product up to 100% (unless stated		
Substance in Mixture/Article	differently).,		
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.			
Assumes use at not more than 20°C above ambient temperature (unless stated differently).			

Contributing Scenarios	Risk Management Measures
General measures (eye irritar	ts). Use suitable eye protection.  Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems)with occasional controlled exposure.PROC1PROC2PRO	Handle substance within a closed system.  OC3
General exposures (open systems)PROC4	Wear suitable gloves tested to EN374.
General exposures (open systems) with potential for aerosol generation. PROC4	Provide extraction ventilation at points where emissions occur.

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Batch processes at elevated temperaturesPROC3	Formulate in enclosed or ventilated mixing vessels. Ensure material transfers are under containment or extract ventilation.	
Process samplingPROC3	Ensure dedicated sample points are provided.	
Laboratory activitiesPROC15	No other specific measures identified.	
Bulk transfersDedicated facilityPROC8b	Clear transfer lines prior to de-coupling. Wear suitable gloves tested to EN374. Clear spills immediately.	
Mixing operations (open systems)PROC5	Wear suitable gloves tested to EN374.	
ManualTransfer from/pouring from containersPROC8a	Use drum pumps or carefully pour from container. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
Drum/batch transfersDedicated facilityPROC8b	No other specific measures identified.	
Production or preparation or articles by tabletting, compression, extrusion or pelletisationPROC14	No other specific measures identified.	
Drum and small package fillingPROC9	Wear suitable gloves tested to EN374.	
Equipment cleaning and maintenancePROC8a	Drain down and flush system prior to equipment opening or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Wear suitable gloves tested to EN374.	
Storage.PROC1PROC2	Store substance within a closed system.	

Section 2.2	Control of Environmental Exposure		
No exposure assessment pre	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.

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

No exposure assessment presented for the environment.

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**Exposure Scenario - Worker** 

Exposure Scenario - Work	νι
30000000495	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Uses in Coatings- Industrial
Use Descriptor	Sector of Use: SU 3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13, PROC 15 Environmental Release Categories: ERC4
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.

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

Section 2.1	Control of Worker Exposure	
Product Characteristics	•	
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the Substance in Mixture/Article	1 77 7	
Frequency and Duration of	Use	
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditions affecting Exposure		
	an 20°C above ambient temperature (unless stated differently). ard of occupational hygiene is implemented.	

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
General exposures (closed systems) with occasional controlled exposure. Use in contained systems PROC1 PROC2	Handle substance within a closed system.
Film formation - force drying, stoving and other technologies.PROC2	Handle substance within a closed system.

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Mixing operations (closed systems)PROC3	No other specific measures identified.
Film formation - air dryingPROC4	Wear suitable gloves tested to EN374.
Preparation of material for applicationMixing operations (open systems)PROC5	Wear suitable gloves tested to EN374.
Spraying (automatic/robotic)PROC7	Carry out in a vented booth provided with laminar airflow. Wear suitable gloves tested to EN374.
ManualSprayingPROC7	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear a respirator conforming to EN140 with Type A filter or better.  Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Material transfersDedicated facilityPROC8b	Clear transfer lines prior to de-coupling. Wear suitable gloves tested to EN374.
Roller, spreader, flow applicationPROC10	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Dipping, immersion and pouringPROC13	Provide extraction ventilation at points where emissions occur. Avoid manual contact with wet work pieces. Wear suitable gloves tested to EN374.
Laboratory activitiesPROC15	No other specific measures identified.
ManualDrum/batch transfersTransfer from/pouring from containersPROC8aPROC9	Use drum pumps or carefully pour from container. Wear suitable gloves tested to EN374.
Production or preparation or articles by tabletting, compression, extrusion or pelletisationPROC14	No other specific measures identified.
Storage.PROC1	Store substance within a closed system.

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

SECTION 3	EXPOSURE ESTIMATION
Section 3.1 - Health	
The FOFTOO TDA tool has been used to estimate wedled a surrenue and so otherwise.	

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

No exposure assessment presented for the environment.

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**Exposure Scenario - Worker** 

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30000000496	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Uses in Coatings- Professional
Use Descriptor	Sector of Use: SU 22
	Process Categories: PROC 1, PROC 2, PROC 3, PROC 4,
	PROC 5, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC
	13, PROC 15, PROC 19
	Environmental Release Categories: ERC8a, ERC8d
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.

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

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

Contributing Scenarios	Risk	Management Measures
General measures (eye irritar	nts).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Filling/ preparation of equipm from drums or containers.(closystems)PROC2		Handle substance within a closed system.
General exposures (closed systems)Use in contained systemsPROC1PROC2PRO	C3	No other specific measures identified.
Film formation - air dryingPR	OC4	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

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	, or: Ensure operation is undertaken outdoors. Wear suitable gloves tested to EN374.
Preparation of material for applicationPROC5	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
	Ensure operation is undertaken outdoors. Wear suitable gloves tested to EN374.
ManualMaterial transfersDrum/batch transfersPROC8a	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Material transfersDrum/batch transfersDedicated facilityPROC8b	Wear suitable gloves tested to EN374.
Roller, spreader, flow applicationIndoorPROC10	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.
Roller, spreader, flow applicationOutdoorPROC10	Wear a respirator conforming to EN140 with Type A filter or better.  Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
ManualSprayingIndoorPROC11	Carry out in a vented booth or extracted enclosure. Avoid carrying out activities involving exposure for more than 1 hour. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
ManualSprayingOutdoorPROC11	Ensure operation is undertaken outdoors. Wear a respirator conforming to EN140 with Type A filter or better. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.
Dipping, immersion and pouringIndoorPROC13	Provide extraction ventilation at points where emissions occur.  Wear suitable gloves tested to EN374.  Avoid manual contact with wet work pieces.
Dipping, immersion and pouringOutdoorPROC13	Ensure operation is undertaken outdoors. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. Avoid manual contact with wet work pieces.
Laboratory activitiesPROC15	No other specific measures identified.

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Hand application - fingerpaints, pastels, adhesivesIndoorPROC19	Ensure doors and windows are opened. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.
Hand application - fingerpaints, pastels, adhesivesOutdoorPROC19	Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 15 minutes. Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.

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

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

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

No exposure assessment presented for the environment.

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

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

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

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

No exposure assessment presented for the environment.

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**Exposure Scenario - Worker** 

30000000497	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Industrial
Use Descriptor	Sector of Use: SU 3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13 Environmental Release Categories: ERC4
Scope of process	Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers. Exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand), related equipment cleaning and maintenance.

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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STF	
Concentration of the	Covers use of substance/product up to 1	00% (unless stated
Substance in Mixture/Article	differently).,	·
Frequency and Duration of Use		
Covers daily exposures up to	8 hours (unless stated differently).	
Other Operational Conditio	ns affecting Exposure	
Assumes use at not more that	n 20°C above ambient temperature (unles	s stated differently).
Assumes a good basic standa	ard of occupational hygiene is implemente	d.

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Bulk transfersPROC8a	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Automated process with (semi) closed systems.Use in contained systemsPROC2	No other specific measures identified.
Drum/batch transfersUse in contained batch	No other specific measures identified.

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processesPROC3	
Filling/ preparation of equipment from drums or	Wear suitable gloves tested to EN374.
containers.PROC8b	
General exposures (open systems)PROC4	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.
	Wear suitable gloves tested to EN374.
Degreasing small objects in cleaning stationPROC13	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Cleaning with low-pressure washersPROC10	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in
	combination with 'basic' employee training.
Cleaning with high pressure washersPROC7	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).
	Avoid carrying out operation for more than 4 hours.  Wear a respirator conforming to EN140 with Type A filter or better.
	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
ManualSurfacesCleaningno	Provide a good standard of general or controlled ventilation (5
sprayingPROC10	to 15 air changes per hour). Wear suitable gloves tested to EN374.
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
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

No exposure assessment presented for the environment.

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**Exposure Scenario - Worker** 

30000000498	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents- Professional
Use Descriptor	Sector of Use: SU 22 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Covers the use as a component of cleaning products including pouring/unloading from drums or containers; and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping automated and by hand).

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

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

Contributing Scenarios	Risk Manage	ment Measures
General measures (eye irritants).		Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Filling/ preparation of equipment from drums or containers.PROC8b		Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). , or: Ensure operation is undertaken outdoors. Wear suitable gloves tested to EN374.
Automated process with (sem systems.Use in contained systemsPROC2PROC3	ni) closed	No other specific measures identified.
Semi Automated process. (e.	g.: Semi	Wear suitable gloves tested to EN374.

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automatic application of floor care and	
maintenance products)PROC4 Filling/ preparation of equipment from drums or containers.PROC8a	Carefully pour from containers. Ensure operation is undertaken outdoors. , or: Provide a good standard of general ventilation (not less than 3 to 5 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. Wear suitable gloves tested to EN374.
ManualSurfacesCleaningDipping, immersion and pouringPROC13	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Wear suitable gloves tested to EN374.
Cleaning with low-pressure washersRolling, Brushingno sprayingPROC10	Limit the substance content in the product to 25 %. Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). Wear suitable gloves tested to EN374.
Cleaning with high pressure washersSprayingIndoorPROC11	Limit the substance content in the product to 25 %. Carry out in a vented booth or extracted enclosure. Avoid carrying out activities involving exposure for more than 4 hours  Wear suitable gloves tested to EN374.
Cleaning with high pressure washersSprayingOutdoorPROC11	Avoid carrying out activities involving exposure for more than 15 minutes. , or: Wear a respirator conforming to EN140 with Type A filter or better. Wear suitable gloves tested to EN374.
ManualSurfacesCleaningSprayingPROC10	Limit the substance content in the product to 25 %. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Avoid carrying out operation for more than 4 hours.  Wear suitable gloves tested to EN374.
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.  Wear suitable gloves tested to EN374.
Cleaning of medical devicesPROC4	Wear suitable gloves tested to EN374.
Storage.PROC1	Store substance within a closed system.

Section 2.2	Control of Environmental Exposure

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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** 

30000000500	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Lubricants- Industrial
Use Descriptor	Sector of Use: SU 3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 13, PROC 17, PROC 18 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 < 0.5 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to 8 hours (unless stated differently).		
Other Operational Conditio	ns affecting Exposure	
Assumes a good basic standard of occupational hygiene is implemented. Assumes use at not more than 20°C above ambient temperature (unless stated differently).		

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 systems)PROC1PROC2PRO	No other specific measures identified.
General exposures (open	Wear suitable gloves tested to EN374.
systems) with potential for	
aerosol generation.PROC4	
Bulk transfersDedicated	Wear suitable gloves tested to EN374.
facilityPROC8b	
Filling/ preparation of equipme	ent Avoid carrying out activities involving exposure for more than
from drums or	4 hours
containers.PROC8aPROC8b	Wear suitable gloves tested to EN374.

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Initial factory fill of equipmentDedicated facilityPROC9	Wear suitable gloves tested to EN374.
Operation and lubrication of high energy open equipmentwith potential for aerosol generation.PROC17PROC18	Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour).  Wear suitable gloves tested to EN374.
ManualRolling, BrushingPROC10	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).  Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Treatment by dipping and pouringPROC13	Ensure material transfers are under containment or extract ventilation. Allow time for product to drain from workpiece. Wear suitable gloves tested to EN374.
Sprayingwith potential for aerosol generation.PROC7	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings.  Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
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	Wear suitable gloves tested to EN374. Avoid manual contact with wet work pieces.
Remanufacture of reject articlesPROC9	Wear suitable gloves tested to EN374.
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	

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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

No exposure assessment presented for the environment.

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**Exposure Scenario - Worker** 

Exposure Coordinatio Troit	···
30000000502	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Agrochemicals uses- Professional
Use Descriptor	Sector of Use: SU 22 Process Categories: PROC 1, PROC 2, PROC 4, PROC 8a, PROC 8b, PROC 11, PROC 13 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.

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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the	Covers use of substance/product up to 100% (unless stated	
Substance in Mixture/Article	differently).,	
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.		
Assumes use at not more that	n 20°C above ambient temperature (unless stated differently).	

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Transfer from/pouring from containersPROC8b	Wear suitable gloves tested to EN374.
Mixing operations (open systems)PROC11	Wear suitable gloves tested to EN374.
Spraying/ fogging by manual applicationPROC11	Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.  Wear a respirator conforming to EN140 with Type A/P2 filter or better.  Avoid carrying out operation for more than 4 hours.  Ensure operation is undertaken outdoors.
Spraying/ fogging by	Apply within a vented cab supplied with filtered air under

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machine applicationPROC11	positive pressure and with a protection factor of >20.
Ad hoc manual application via trigger sprays, dipping, etc.PROC13	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Equipment cleaning and maintenancePROC8a	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
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 be indicated.	peen used to estimate workplace exposures unless otherwise

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

No exposure assessment presented for the environment.

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

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

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

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

No exposure assessment presented for the environment.

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**Exposure Scenario - Worker** 

30000000505	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Functional Fluids- Industrial
Use Descriptor	Sector of Use: SU 3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9 Environmental Release Categories: ERC7
Scope of process	Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment including maintenance and related material transfers.

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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the	Covers use of substance/product up to 100% (unless stated	
Substance in Mixture/Article	differently).,	
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.		
Assumes use at not more than 20°C above ambient temperature (unless stated differently).		

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Bulk transfers(closed systems)PROC1PROC2PROC	Wear suitable gloves tested to EN374.
Drum/batch transfersPROC8b	Wear suitable gloves tested to EN374.
Filling of articles/equipmentDedicated facilityPROC9	Wear suitable gloves tested to EN374.
ManualFilling/ preparation of equipment from drums or containers.PROC8a	Use drum pumps or carefully pour from container. Wear suitable gloves tested to EN374.
General exposures (closed systems)PROC2	No other specific measures identified.

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General exposures (open systems)PROC4	Wear suitable gloves tested to EN374.
General exposures (open systems)elevated temperaturewith potential for aerosol generation.PROC4	Provide extraction ventilation at points where emissions occur.  Wear suitable gloves tested to EN374.
Remanufacture of reject articlesPROC9	No other specific measures identified.
Equipment maintenancePROC8a	Drain down system prior to equipment opening or maintenance. Wear suitable gloves tested to EN374.
Storage.PROC1PROC2	Store substance within a closed system.

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

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

indicated.

### Section 3.2 - Environment

No exposure assessment presented for the environment.

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

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

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

### Section 4.2 - Environment

No exposure assessment presented for the environment.

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### **Exposure Scenario - Worker**

30000000508	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Industrial
Use Descriptor	Sector of Use: SU 3 Process Categories: PROC 10, PROC 15 Environmental Release Categories: ERC2, ERC4
Scope of process	Use of the substance within laboratory settings, including material transfers and equipment cleaning.

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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the	Covers use of substance/product up to 100% (unless stated	
Substance in Mixture/Article	differently).,	
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. Assumes use at not more than 20°C above ambient temperature (unless stated differently).		

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Laboratory activitiesPROC15	No other specific measures identified.
CleaningPROC10	Wear suitable gloves tested to EN374.

Section 2.2 Con	trol 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	

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

No exposure assessment presented for the environment.

SECTION 4	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE</b>
	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**

30000000509	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in laboratories- Professional
Use Descriptor	Sector of Use: SU 22 Process Categories: PROC 10, PROC 15 Environmental Release Categories: ERC8a
Scope of process	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.

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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the Substance in Mixture/Article	Covers use of substance/product up to 100% (unless stated differently).,	
Frequency and Duration of Use		
Covers daily exposures up to	8 hours (unless stated differently).	
Other Operational Conditions affecting Exposure		
	ard of occupational hygiene is implemented. In 20°C above ambient temperature (unless stated differently).	

Contributing Scenarios	Risk Management Measures
General measures (eye irritants).	Use suitable eye protection. Avoid direct eye contact with product, also via contamination on hands.
Laboratory activitiesPROC15	No other specific measures identified.
CleaningPROC10	Wear suitable gloves tested to EN374.

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.	

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

No exposure assessment presented for the environment.

SECTION 4	<b>GUIDANCE TO CHECK COMPLIANCE WITH THE</b>
	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** 

30000000511	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Water treatment chemicals- Industrial
Use Descriptor	Sector of Use: SU 3 Process Categories: PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 13 Environmental Release Categories: ERC3, ERC4
Scope of process	Covers the use of the substance for the treatment of water at industrial facilities in open and closed systems.

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

Section 2.1	Control of Worker Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure < 0.5 kPa at STP	
Concentration of the	Covers use of substance/product up to 100% (unless stated	
Substance in Mixture/Article	differently).,	
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.		
Assumes use at not more than 20°C above ambient temperature (unless stated differently).		

Contributing Scenarios	Risk Management Measures
Bulk transfers(closed systems)PROC2	Transfer via enclosed lines. Clear transfer lines prior to de-coupling.
Drum/batch transfersDedicated facilityPROC8b	Use drum pumps or carefully pour from container. Wear suitable gloves tested to EN374.
General exposures (closed systems)Use in contained batch processesPROC3	No other specific measures identified.
General exposures (open systems)PROC4	Wear suitable gloves tested to EN374.
Pouring from small containersPROC13	Avoid carrying out operation for more than 1 hour. Wear suitable gloves tested to EN374.
Equipment maintenancePROC8a	Drain or remove substance from equipment prior to break-in or maintenance. Wear suitable gloves tested to EN374.

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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

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

No exposure assessment presented for the environment.

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**Exposure Scenario - Consumer** 

30000001053	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Uses in Coatings - Consumer
Use Descriptor	Sector of Use: SU 21 Product Categories: PC1, PC4, PC8 (excipient only), PC9a, PC9b, PC9c, PC15, PC18, PC23, PC24, PC31, PC34 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.

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

Section 2.1	Control of Consumer Exposure		
Product Characteristics			
Physical form of product	Liquid, vapour pressure > 10 Pa		
Concentration of the Substance in Mixture/Article	Covers concentration up to (%): 100 %		
Amounts Used			
for each use event, covers ar	nount up to (g):	13.800	
covers skin contact area (cm2	2):	857,5	
Frequency and Duration of	Frequency and Duration of Use		
covers use up to (times/day of use):		1	
Covers use up to (hours/event):		6	
Other Operational Conditions affecting Exposure			
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 10 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 35,73 cm2
	For each use event, covers amount up to 5 g
	Covers use in room size of 20 m3

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	Covers exposure up to 4,00 hours/event
Adhesives, sealants Glues	Covers concentrations up to 30 %
DIY-use (carpet glue, tile	Covers concentrations up to 30 %
glue, wood parquet glue).	covers use up to 1 day/year
	covers use up to 1 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 110,00 cm2
	For each use event, covers amount up to 6.390 g
	Covers use in room size of 20 m3
	Covers exposure up to 6,00 hours/event
Adhesives, sealants Glue from spray.	Covers concentrations up to 30 %
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 35,73 cm2
	For each use event, covers amount up to 85,05 g
	Covers use in room size of 20 m3
	Covers exposure up to 4,00 hours/event
Adhesives, sealants Sealants.	Covers concentrations up to 5,5 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 35,73 cm2
	For each use event, covers amount up to 75 g
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event
	Avoid using when windows closed.
Anti-Freeze and de-icing	Covers concentrations up to 1 %
products Washing car window.	
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 0,5 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,02 hours/event
Anti-Freeze and de-icing products Pouring into radiator.	Covers concentrations up to 1,2 %
radiator.	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,00 cm2
	For each use event, covers amount up to 2.000 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Anti-Freeze and de-icing products Lock de-icer.	Covers concentrations up to 2,5 %

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	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 214,40 cm2
	For each use event, covers amount up to 4 g
	Covers use in a one car garage (34 m3) under typical
	ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,25 hours/event
Biocidal products (e.g. Disinfectants, pest control) (excipient only).	Covers concentrations up to 5 %
Laundry and dish washing	covers use up to 365 day/year
products.	
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 15 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,50 hours/event
Biocidal products (e.g.	Covers concentrations up to 5 %
Disinfectants, pest control) (excipient only).	Covere contectinations up to 0 /6
Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event
Biocidal products (e.g. Disinfectants, pest control) (excipient only).	Covers concentrations up to 3,45 %
Cleaners, trigger sprays (all purpose cleaners,sanitary products, glass cleaners).	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,00 cm2
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Coatings and paints, thinners, paint removers Waterborne latex wall paint.	Covers concentrations up to 1,5 %
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,75 cm2
	For each use event, covers amount up to 2.760 g
	To each use event, covers amount up to 2.700 g

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	Covers expecting to 2.20 hours/event	
Coatings and points	Covers exposure up to 2,20 hours/event	
Coatings and paints, thinners, paint removers	Covers concentrations up to 27,5 %	
Solvent rich, high solid,		
water borne paint.		
water borne paint.	covers use up to 6 day/year	
	Covers use up to 1 times/day of use	
	covers skin contact area up to 428,75 cm2	
	For each use event, covers amount up to 744 g	
	Covers use in room size of 20 m3	
	Covers exposure up to 2,20 hours/event	
Coatings and paints,	Covers concentrations up to 50 %	
thinners, paint removers	Covers concentrations up to 50 %	
Aerosol spray can.		
Aerosor spray carr.	covers use up to 2 day/year	
	Covers use up to 1 times/day of use	
	covers skin contact area up to 857,50 cm2	
	For each use event, covers amount up to 215 g	
	Covers use in a one car garage (34 m3) under typical	
	ventilation.	
	Covers use in room size of 34 m3	
	Covers exposure up to 0,33 hours/event	
Coatings and paints,	Covers concentrations up to 50 %	
thinners, paint removers	Covers concentrations up to 30 %	
Removers (paint-, glue-,		
wall paper-, sealant-		
remover).		
	covers use up to 3 day/year	
	Covers use up to 1 times/day of use	
	covers skin contact area up to 857,50 cm2	
	For each use event, covers amount up to 491 g	
	Covers use in room size of 20 m3	
	Covers exposure up to 2,00 hours/event	
Fillers, Putties Fillers and	Covers concentrations up to 2 %	
putty.	22.2.2.2.2	
	covers use up to 12 day/year	
	Covers use up to 1 times/day of use	
	covers skin contact area up to 35,73 cm2	
	For each use event, covers amount up to 85 g	
	Covers use in room size of 20 m3	
	Covers exposure up to 4,00 hours/event	
Fillers, Putties Plasters and	Covers concentrations up to 1,2 %	
floor equalizers.		
	covers use up to 12 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 857,50 cm2	
	Covers use up to 1 times/day of use covers skin contact area up to 857,50 cm2  For each use event, covers amount up to 13.800 g	
	Covers use up to 1 times/day of use covers skin contact area up to 857,50 cm2 For each use event, covers amount up to 13.800 g Covers use in room size of 20 m3	
	Covers use up to 1 times/day of use covers skin contact area up to 857,50 cm2 For each use event, covers amount up to 13.800 g Covers use in room size of 20 m3 Covers exposure up to 2,00 hours/event	
Fillers, Putties Modelling	Covers use up to 1 times/day of use covers skin contact area up to 857,50 cm2 For each use event, covers amount up to 13.800 g Covers use in room size of 20 m3	

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olov	
clay.	povers use up to 265 dev/veer
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 254,40 cm2
	For each use event, assumes swallowed amount of 1 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Finger paints	Covers concentrations up to 0,25 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 254,40 cm2
	For each use event, assumes swallowed amount of 1,35 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Non-metal-surface	Covers concentrations up to 1,5 %
treatment products	
Waterborne latex wall paint.	
	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,75 cm2
	For each use event, covers amount up to 2.760 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Non-metal-surface	Covers concentrations up to 27,5 %
treatment products Solvent	,
rich, high solid, water borne	
paint.	
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Non-metal-surface	Covers concentrations up to 50 %
treatment products Aerosol	
spray can.	
	covers use up to 2 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical
	ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,33 hours/event
Non-metal-surface	Covers concentrations up to 50 %
treatment products	'
Removers (paint-, glue-,	
wall paper-, sealant-	
remover).	
,	covers use up to 3 day/year
	Covers use up to 1 times/day of use
	, , , , , , , , , , , , , , , , , , ,

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	2007 50 000
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,00 hours/event
Ink and toners	Covers concentrations up to 3 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 71,40 cm2
	For each use event, covers amount up to 40 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Leather tanning, dye, finishing, impregnation and care products Polishes, wax / cream (floor, furniture, shoes).	Covers concentrations up to 10 %
,	covers use up to 29 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 430,00 cm2
	For each use event, covers amount up to 56 g
	Covers use in room size of 20 m3
	Covers exposure up to 1,23 hours/event
Leather tanning, dye, finishing, impregnation and care products Polishes, spray (furniture, shoes).	Covers concentrations up to 50 %
	covers use up to 8 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 430,00 cm2
	For each use event, covers amount up to 56 g
	Covers use in room size of 20 m3
	Covers exposure up to 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 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Lubricants, greases, 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 468,00 cm2
	For each use event, covers amount up to 34 g
	Covers use in room size of 20 m3
Lubricants, greases, release products Sprays.	Covers concentrations up to 50 %

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	·
	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Polishes and wax blends	Covers concentrations up to 10 %
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 430,00 cm2
	For each use event, covers amount up to 142 g
	Covers use in room size of 20 m3
	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 430,00 cm2
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event
Textile dyes, finishing and	Covers concentrations up to 2,5 %
impregnating products;	
including bleaches and	
other processing aids	
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 115 g
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event

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

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

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

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

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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

No exposure assessment presented for the environment.

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**Exposure Scenario - Consumer** 

30000001054	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Cleaning Agents - Consumer
Use Descriptor	Sector of Use: SU 21 Product Categories: PC3, PC4, PC8 (excipient only), PC9a, 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 RISK MANAGEMENT MEASURES
Additional Information	No exposure assessment presented for the environment.

Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 Pa	
Concentration of the Substance in Mixture/Article	Covers concentration up to (%): 100 %	
Amounts Used		
for each use event, covers an	nount up to (g):	13.800
covers skin contact area (cm2	2):	857,5
Frequency and Duration of Use		
covers use up to (times/day of use):		4
Covers use up to (hours/event):		8
Other Operational Conditions affecting Exposure		
Covers use at ambient temperatures.		
Covers use in room size of 20m3		
Covers use under typical household ventilation.		

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

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	Covers expecting up to 0.25 hours/event
Air care products Air care,	Covers exposure up to 0,25 hours/event  Covers concentrations up to 10 %
continuous action (solid and	Covers concentrations up to 10 %
liquid).	
ilquiu).	covers use up to 365 day/year
	covers use up to 365 day/year  Covers use up to 1 times/day of use
	covers skin contact area up to 35,70 cm2
	For each use event, covers amount up to 0,48 g  Covers use in room size of 20 m3
Anti France and do ining	Covers exposure up to 8,00 hours/event  Covers concentrations up to 1 %
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
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 0,5 g
	Covers use in a one car garage (34 m3) under typical
	ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,02 hours/event
Anti-Freeze and de-icing	Covers concentrations up to 1,2 %
products Pouring into radiator.	Covere consonitations up to 1,2 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,00 cm2
	For each use event, covers amount up to 2.000 g
	Covers use in a one car garage (34 m3) under typical
	ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Anti-Freeze and de-icing products Lock de-icer.	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 214,40 cm2
	For each use event, covers amount up to 4 g
	Covers use in a one car garage (34 m3) under typical ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,25 hours/event
Biocidal products (e.g.	Covers concentrations up to 5 %
Disinfectants, pest control)	,
(excipient only).	
Laundry and dish washing	covers use up to 365 day/year
products.	1
-	
	Covers use up to 1 times/day of use
	Covers use up to 1 times/day of use covers skin contact area up to 857,50 cm2
	Covers use up to 1 times/day of use covers skin contact area up to 857,50 cm2 For each use event, covers amount up to 15 g

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	Covers composite up to 0.50 hours/overst
Dissidal praducts /	Covers exposure up to 0,50 hours/event
Biocidal products (e.g. Disinfectants, pest control) (excipient only).	Covers concentrations up to 5 %
Cleaners, liquids (all	covers use up to 128 day/year
purpose cleaners, sanitary	
products, floor cleaners,	
glass cleaners, carpet	
cleaners, metal cleaners).	
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m3
Discided and desets (s. a.	Covers exposure up to 0,33 hours/event
Biocidal products (e.g. Disinfectants, pest control)	Covers concentrations up to 3,5 %
(excipient only).	
Cleaners, trigger sprays	covers use up to 128 day/year
(all purpose	, and any and any and any
cleaners, sanitary products,	
glass cleaners).	
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,00 cm2
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Coatings and paints,	Covers concentrations up to 1,5 %
thinners, paint removers	
Waterborne latex wall paint.	Legyora upo up to A day/yoar
	covers use up to 4 day/year  Covers use up to 1 times/day of use
	covers use up to 1 times/day or use covers skin contact area up to 428,75 cm2
	For each use event, covers amount up to 2.760 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Coatings and paints,	Covers concentrations up to 27,5 %
thinners, paint removers	Covers concentrations up to 27,0 70
Solvent rich, high solid,	
water borne paint.	
·	covers use up to 6 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,75 cm2
	For each use event, covers amount up to 744 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,20 hours/event
Coatings and paints,	Covers concentrations up to 50 %
thinners, paint removers	
Aerosol spray can.	
	covers use up to 2 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2

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	For each use quant process are sound up to 045
	For each use event, covers amount up to 215 g
	Covers use in a one car garage (34 m3) under typical
	ventilation.
	Covers use in room size of 34 m3
_	Covers exposure up to 0,33 hours/event
Coatings and paints,	Covers concentrations up to 50 %
thinners, paint removers	
Removers (paint-, glue-,	
wall paper-, sealant-	
remover).	
	covers use up to 3 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 491 g
	Covers use in room size of 20 m3
E''	Covers exposure up to 2,00 hours/event
Fillers, Putties Fillers and putty.	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 35,73 cm2
	For each use event, covers amount up to 85 g
	Covers use in room size of 20 m3
	Covers exposure up to 4,00 hours/event
Fillers, Putties Plasters and floor equalizers.	Covers concentrations up to 1,2 %
•	covers use up to 12 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 13.800 g
	Covers use in room size of 20 m3
	Covers exposure up to 2,00 hours/event
	Avoid using when windows closed.
Fillers, Putties Modelling	Covers concentrations up to 1 %
clay.	·
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 254,40 cm2
	For each use event, assumes swallowed amount of 1 g
	Covers use in room size of 20 m3
Finger paints	Covers concentrations up to 0,25 %
J- 1	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 254,40 cm2
	For each use event, assumes swallowed amount of 1,35 g
	Covers use in room size of 20 m3
	Covers exposure up to 8 hours/event
Lubricants, greases,	Covers concentrations up to 100 %
release products Liquids.	2010.0 concontitutions up to 100 //
rollado producto Elquido.	covers use up to 4 day/year
	Covers use up to 1 times/day of use
	1 Covere doe up to 1 tillicorday of doc

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	1 10000
	covers skin contact area up to 468,00 cm2
	For each use event, covers amount up to 2.200 g
	Covers use in a one car garage (34 m3) under typical
	ventilation.
	Covers use in room size of 34 m3
	Covers exposure up to 0,17 hours/event
Lubricants, greases, 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 468,00 cm2
	For each use event, covers amount up to 34 g
	Covers use in room size of 20 m3
	Covers exposure up to 8,00 hours/event
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 use up to 428,75 cm2
	For each use event, covers amount up to 73 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Washing and cleaning	Covers concentrations up to 5 %
products (including solvent based products) Laundry and dish washing products.	
9,	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 15 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,50 hours/event
Washing and cleaning products (including solvent based products) Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners).	Covers concentrations up to 5 %
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, covers amount up to 27 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,33 hours/event
Washing and cleaning products (including solvent based products) Cleaners, trigger sprays (all purpose cleaners, sanitary products,	Covers concentrations up to 3,5 %

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glass cleaners).	
	covers use up to 128 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 428,00 cm2
	For each use event, covers amount up to 35 g
	Covers use in room size of 20 m3
	Covers exposure up to 0,17 hours/event
Welding and soldering	Covers concentrations up to 20 %
products (with flux coatings	
or flux cores.), flux products	
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	For each use event, covers amount up to 12 g
	Covers use in room size of 20 m3
	Covers exposure up to 1,00 hours/event
	No specific risk management measure identified beyond
	those operational conditions stated.

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

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

### Section 3.2 - Environment

No exposure assessment presented for the environment.

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

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

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

### Section 4.2 - Environment

No exposure assessment presented for the environment.

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**Exposure Scenario - Consumer** 

30000001056	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Use in Agrochemicals uses - Consumer
Use Descriptor	Sector of Use: SU 21 Product Categories: PC12, PC27 Environmental Release Categories: ERC8a, ERC8d
Scope of process	Covers the consumer use in agrochemicals in liquid and solid forms.

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

Section 2.1	Control of Consumer Exposure	
Product Characteristics		
Physical form of product	Liquid, vapour pressure > 10 Pa	
Concentration of the Substance in Mixture/Article	Covers concentration up to (%): 5 %	
Amounts Used		
for each use event, covers an	nount up to (g):	27
Frequency and Duration of	Use	
covers use up to (times/day of use):		1
Covers use up to (hours/event):		8
covers skin contact area (cm2):		857,50
Other Operational Conditions affecting Exposure		
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 5 %
	covers use up to 365 day/year
	Covers use up to 1 times/day of use
	covers skin contact area up to 857,50 cm2
	For each use event, assumes swallowed amount of 0,3 g
	Covers use in room size of 20 m3
	Covers exposure up to 8,00 hours/event
Plant protection products	Covers concentrations up to 5 %
	covers use up to 365 day/year

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Covers use up to 1 times/day of use
covers skin contact area up to 857,50 cm2
For each use event, assumes swallowed amount of 0,3 g
Covers use in room size of 20 m3
Covers exposure up to 8,00 hours/event

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

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

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

No exposure assessment presented for the environment.

SECTION 4	GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO
Coation 4.1 Hoolth	

#### Section 4.1 - Health

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

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

### Section 4.2 - Environment

No exposure assessment presented for the environment.

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**Exposure Scenario - Consumer** 

30000001099	
SECTION 1	EXPOSURE SCENARIO TITLE
Title	Other Consumer Uses - Consumer
Use Descriptor	Sector of Use: SU 21 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.	

### SAFETY DATA SHEET

# **Diacetone Alcohol**

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