

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

- Trade name AUGEO CLEAN MULTI
- CAS-No. 100-79-8

**1.2 Relevant identified uses of the substance or mixture and uses advised against****Uses of the Substance/Mixture**

- Cleaning agent
- Waxes
- Stain removers and waxes removers
- Glass cleaner
- diluent and vehicle for fragrances

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

Craftiful Ltd,  
Unit 38, Benedict Square, Werrington, Peterborough, PE4 6GD  
Tel: 01733 963029  
Email: hello@craftiful.co.uk

**1.4 Emergency telephone number**

01733 963029

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification (Regulation (EC) No 1272/2008 )**

Eye irritation, Category 2

H319: Causes serious eye irritation.

**2.2 Label elements****Regulation (EC) No 1272/2008****Hazardous products which must be listed on the label**

- CAS-No. 100-79-8 2,2-dimethyl-1,3-dioxolan-4-ylmethanol

**Pictogram****Signal word**

- Warning

**Hazard statements**

- H319 Causes serious eye irritation.

**Precautionary statements****Prevention**

- P264 Wash skin thoroughly after handling.

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- P280 Wear protective gloves/ 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.
  - P337 + P313 If eye irritation persists: Get medical advice/ attention.

### 2.3 Other hazards which do not result in classification

None known.

## SECTION 3: Composition/information on ingredients

### 3.1 Substance

#### Information on Components and Impurities

Chemical name	Identification number	Classification Regulation (EC) No 1272/2008	Concentration [%]
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	CAS-No. : 100-79-8  EINECS-No. : 202-888-7  Registration number: 01-2120066005-66-0000	Eye irritation, Category 2 ; H319	>= 99 - <= 100
	self classification		

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

- Not applicable, this product is a substance.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

- Show this safety data sheet to the doctor in attendance.
- First aider needs to protect himself.
- Place affected clothing in a sealed bag for subsequent decontamination.

#### In case of inhalation

- Move to fresh air.
- Keep at rest.
- Consult a physician if necessary.

#### In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off with soap and plenty of water.
- If skin irritation occurs, seek medical advice/attention.

#### In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If eye irritation persists, consult a physician

#### In case of ingestion

- Do NOT induce vomiting.
- Rinse mouth with water.

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- Do not give anything to drink.
- Consult a physician if necessary.

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

##### Effects

- Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis

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

##### Notes to physician

- Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

- Foam
- Dry powder
- Water mist
- Carbon dioxide (CO<sub>2</sub>)
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

##### Unsuitable extinguishing media

- High volume water jet

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

- Combustible liquid.
- Heating increases the inner pressure of the bottle, risk of explosion.

#### 5.3 Advice for firefighters

##### Special protective equipment for firefighters

- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
- Wear self-contained breathing apparatus for firefighting if necessary.

##### Further information

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Cool containers/tanks with water spray.

### SECTION 6: Accidental release measures

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

- Keep away from flames and sparks.
- Store away from heat.
- Evacuate personnel to safe areas.
- Avoid contact with the skin and the eyes.
- Use personal protective equipment.
- For personal protection see section 8.
- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Remove all incompatible materials as quickly as possible
- Mark the contaminated area with signs and prevent access to unauthorized personnel.

#### 6.2 Environmental precautions

- Dam up.
- Prevent product from entering sewage system.

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- Try to prevent the material from entering drains or water courses.
- Local authorities should be advised if significant spillages cannot be contained.

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

#### **Recovery**

- Collect spillage.
- Pick up and transfer to properly labelled containers.
- Keep in suitable, closed containers for disposal.

#### **Neutralization**

- Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

#### **Decontamination/cleaning**

- Pick up contaminated soil.
- Clean contaminated floors and objects thoroughly while observing environmental regulations.
- Pick up and transfer to properly labelled containers.
- Keep in suitable, closed containers for disposal.
- Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

#### **Disposal**

- Dispose of contents/ container to an approved waste disposal plant.
- The product should not be allowed to enter drains, water courses or the soil.
- Dispose of in accordance with local regulations.

#### **Additional advice**

- Remove all incompatible materials as quickly as possible

### 6.4 Reference to other sections

- no data available

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Provide adequate ventilation.
- Handle in accordance with good industrial hygiene and safety practice.
- Wear personal protective equipment.
- Avoid inhalation, ingestion and contact with skin and eyes.

#### **Hygiene measures**

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Use clean, well-maintained personal protection equipment.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.

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

#### **Technical measures/Storage conditions**

- The floor of the depot should be impermeable and designed to form a water-tight basin.
- Keep only in the original container.
- Keep away from heat and sources of ignition.
- Keep in a dry, cool and well-ventilated place.

#### **Packaging material**

##### **Suitable material**

- Unlined steel
- Plastic container of HDPE

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**Requirements for storage rooms and vessels**

- Protect from frost, heat and sunlight.

**7.3 Specific end use(s)**

- no data available

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

- Contains no substances with occupational exposure limit values.

**8.2 Exposure controls****Individual protection measures****Respiratory protection**

- Use a respirator with an approved filter if a risk assessment indicates this is necessary.

**Hand protection**

- Where there is a risk of contact with hands, use appropriate gloves
- Gloves must be inspected prior to use.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

**Eye protection**

- Tightly fitting safety goggles

**Skin and body protection**

- Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Remove and wash contaminated clothing.

**Hygiene measures**

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Use clean, well-maintained personal protection equipment.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.

**Protective measures**

- Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the potential hazards and/or risks that may occur during use.
- The protective equipment must be selected in accordance with current local standards and in cooperation with the supplier of the protective equipment.

**Environmental exposure controls**

- Dam up.
- Prevent product from entering sewage system.
- Try to prevent the material from entering drains or water courses.
- Local authorities should be advised if significant spillages cannot be contained.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

<b><u>Appearance</u></b>	<b>Form:</b> liquid <b><u>Physical state:</u></b> liquid <b><u>Colour:</u></b> colourless
<b><u>Odour</u></b>	slight
<b><u>Odour Threshold</u></b>	no data available
<b><u>Molecular weight</u></b>	132.16 g/mol
<b><u>pH</u></b>	Not applicable
<b><u>Melting point/freezing point</u></b>	<b><u>Freezing point:</u></b> -99 °C
<b><u>Initial boiling point and boiling range</u></b>	<b><u>Boiling point/boiling range:</u></b> 191 °C ( 1,013.25 hPa)
<b><u>Flash point</u></b>	91 °C closed cup 100 °C open cup
<b><u>Evaporation rate (Butylacetate = 1)</u></b>	0.03
<b><u>Flammability (solid, gas)</u></b>	no data available
<b><u>Flammability (liquids)</u></b>	no data available
<b><u>Flammability/Explosive limit</u></b>	no data available
<b><u>Auto-ignition temperature</u></b>	no data available
<b><u>Vapour pressure</u></b>	0.05 hPa ( 20 °C)
<b><u>Vapour density</u></b>	2.6
<b><u>Density</u></b>	
<b><u>Relative density</u></b>	1.069 ( 20 °C)
<b><u>Solubility</u></b>	<b><u>Water solubility:</u></b> ( 20 °C)completely soluble  <b><u>Solubility in other solvents:</u></b> Alcohol : miscible  Esters : miscible  Ether : miscible  Aromatic hydrocarbons : miscible  petroleum ether. : miscible  petrol : miscible

<b><u>Partition coefficient: n-octanol/water</u></b>	no data available
<b><u>Decomposition temperature</u></b>	no data available
<b><u>Viscosity</u></b>	<u>Viscosity, dynamic</u> : 11 mPa.s ( 20 °C)
<b><u>Explosive properties</u></b>	no data available
<b><u>Oxidizing properties</u></b>	no data available

## 9.2 Other information

<b><u>Surface tension</u></b>	33.5 mN/m ( 20 °C)
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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

- Not classified as a reactivity hazard.

### 10.2 Chemical stability

- Stable at room temperature.
- Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

- Vapours may form explosive mixture with air.

### 10.4 Conditions to avoid

- Heat, flames and sparks.

### 10.5 Incompatible materials

- Strong oxidizing agents
- Strong acids

### 10.6 Hazardous decomposition products

- On combustion or on thermal decomposition (pyrolysis) releases:
- (Carbon oxides (CO + CO<sub>2</sub>)).
- Acetic acid
- Ethanol

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

#### **Acute oral toxicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LD50 : 7,000 mg/kg - Rat  
Not classified as hazardous for acute oral toxicity according to GHS.  
Published data

**Acute inhalation toxicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LC50 : > 5.11 mg/l - Rat , male and female  
 Method: OECD Test Guideline 403  
 The product has a low acute toxicity  
 Unpublished internal reports

**Acute dermal toxicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LD50 : 2,000 mg/kg - Rat , male and female  
 Method: OECD Test Guideline 402  
 Not classified as hazardous for acute dermal toxicity according to GHS.  
 Unpublished internal reports

**Acute toxicity (other routes of administration)**

no data available

**Skin corrosion/irritation**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Rabbit  
 No skin irritation  
 Method: OECD Test Guideline 404  
 Unpublished internal reports

**Serious eye damage/eye irritation**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Rabbit  
 irritating  
 Method: OECD Test Guideline 405  
 Unpublished internal reports

**Respiratory or skin sensitisation**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Maximisation Test - Guinea pig  
 Does not cause skin sensitisation.  
 Method: OECD Test Guideline 406  
 Unpublished internal reports

**Mutagenicity****Genotoxicity in vitro**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Ames test  
 with and without metabolic activation  
  
 negative  
 Method: OECD Test Guideline 471  
 Unpublished internal reports

**Genotoxicity in vivo**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol In vivo micronucleus test - Mouse  
 male  
 Intraperitoneal route  
 Method: OECD Test Guideline 474  
  
 negative  
 Unpublished internal reports

**Carcinogenicity**

no data available



**Toxicity for reproduction and development****Toxicity to reproduction/Fertility**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol    Reproduction/developmental toxicity screening test - Rat , male and female  
 Oral  
 NOAEL parent: 1,000 mg/kg  
 Method: OECD Test Guideline 422  
 Highest dose tested  
 no impairment of fertility has been observed  
 Unpublished internal reports

**Developmental Toxicity/Teratogenicity**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol    Rat , male and female  
 Application Route: Oral  
 NOAEL teratogenicity: 1,000 mg/kg  
 NOAEL maternal: 1,000 mg/kg  
 Method: OECD Test Guideline 422  
 Highest dose tested  
 The product is not considered to be toxic for development.  
 A testing proposal has been submitted to ECHA.  
 Unpublished internal reports

**STOT****STOT - single exposure**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol    Exposure routes: Ingestion, Skin contact, Inhalation  
 The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.  
 internal evaluation

**STOT - repeated exposure**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol    Exposure routes: Ingestion  
 The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.  
 internal evaluation

2,2-dimethyl-1,3-dioxolan-4-ylmethanol    Oral - Rat , male and female  
 NOAEL: 1000 mg/kg  
 Method: OECD Test Guideline 422  
 Highest dose tested  
 No significant adverse effects were reported  
 A testing proposal has been submitted to ECHA.  
 Unpublished internal reports

**Aspiration toxicity**

no data available

**SECTION 12: Ecological information****12.1 Toxicity****Aquatic Compartment****Acute toxicity to fish**

LC50 - 96 h : 16,700 mg/l - Pimephales promelas (fathead minnow)

**Acute toxicity to daphnia and other aquatic invertebrates.** LC50 - 24 h : > 1,000 mg/l - Daphnia similis (water flea)

LC50 - 48 h : > 1,000 mg/l - Daphnia similis (water flea)

**Toxicity to aquatic plants**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol ErC50 - 72 h : > 92 mg/l - Pseudokirchneriella subcapitata (green algae) static test

Analytical monitoring: yes  
Method: OECD Test Guideline 201  
Not harmful to algae (EC50 > 100 mg/L)  
Unpublished internal reports

NOEC - 72 h : 92 mg/l - Pseudokirchneriella subcapitata (green algae) static test

Analytical monitoring: yes  
Method: OECD Test Guideline 201  
No adverse chronic effect observed up to and including the threshold of 1 mg/L.  
Unpublished internal reports

**Toxicity to microorganisms**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol EC50 - 3 h : > 1,000 mg/l - activated sludge static test

Analytical monitoring: no  
Method: OECD Test Guideline 209  
Unpublished internal reports

**Chronic toxicity to fish**

no data available

**Chronic toxicity to daphnia and other aquatic invertebrates.**

no data available

**Chronic Toxicity to aquatic plants**

no data available

**12.2 Persistence and degradability**

**Abiotic degradation**

**Stability in water**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol pH: 4.0  
Temperature of hydrolysis: 25 °C  
Degree of hydrolysis: 50 %  
Hydrolysis time: 0.959 Days  
Method: OECD Test Guideline 111  
Unpublished internal reports,

**Physical- and photo-chemical elimination**

no data available

**Biodegradation**

**Biodegradability**

Zahn-Wellens Test  
Inherently biodegradable.

**Degradability assessment**

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2,2-dimethyl-1,3-dioxolan-4-ylmethanol The product is not considered to be rapidly degradable in the environment

### 12.3 Bioaccumulative potential

**Partition coefficient: n-octanol/water** Not potentially bioaccumulable

**Bioconcentration factor (BCF)** Bioconcentration factor (BCF): 1.3

### 12.4 Mobility in soil

**Adsorption potential (Koc)**  
2,2-dimethyl-1,3-dioxolan-4-ylmethanol Adsorption/Soil  
Log Koc: < 1.25  
Method: OECD Test Guideline 121  
Unpublished internal reports

**Known distribution to environmental compartments** no data available

### 12.5 Results of PBT and vPvB assessment

2,2-dimethyl-1,3-dioxolan-4-ylmethanol This substance is not considered to be persistent, bioaccumulating and toxic (PBT).  
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**12.6 Other adverse effects** no data available

### Ecotoxicity assessment

**Acute aquatic toxicity**  
2,2-dimethyl-1,3-dioxolan-4-ylmethanol Not harmful to aquatic life (LC/EC50 > 100 mg/L)

**Chronic aquatic toxicity**  
2,2-dimethyl-1,3-dioxolan-4-ylmethanol Does not have any known long-term adverse effects on the aquatic organisms tested

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product Disposal

- Do not dispose of with domestic refuse.
- Dispose of in accordance with local regulations.
- The product should not be allowed to enter drains, water courses or the soil.
- Dispose of contents/ container to an approved waste disposal plant.
- Send to a licensed waste management company.

#### Advice on cleaning and disposal of packaging

- Do not re-use empty containers.
- Clean container with water.
- Dispose of contents/ container to an approved incineration plant.

- Dispose of in accordance with local regulations.

#### SECTION 14: Transport information

##### ADR

not regulated

##### RID

not regulated

##### IMDG

not regulated

##### IATA

not regulated

##### ADN/ADNR

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

#### SECTION 15: Regulatory information

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

###### Notification status

<b>Inventory Information</b>	<b>Status</b>
United States TSCA Inventory	- On TSCA Inventory
Canadian Domestic Substances List (DSL)	- All components of this product are on the Canadian DSL
Australia Inventory of Chemical Substances (AICS)	- On the inventory, or in compliance with the inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- On the inventory, or in compliance with the inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- On the inventory, or in compliance with the inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- Our supplier is in compliance with REACH.

##### 15.2 Chemical safety assessment

- no data available

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**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

- H319 Causes serious eye irritation.

**Further information**

- This sheet was updated (refer to the date at the top of this page). Subheadings and text which have been modified since the previous version are indicated with two vertical bars.
- Distribute new edition to clients

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.

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### 1. ES1 : Formulation, On site

#### 1.1. Scenario description

Main User Groups	: SU 3	Industrial uses: Uses of substances as such or in preparations at industrial sites
Process category	: PROC3 PROC8b  PROC15 PROC5	Use in closed batch process (synthesis or formulation) Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities Use as laboratory reagent Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)

#### 1.2. Conditions of use affecting exposure

##### 1.2.1 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation)

#### Product characteristics

Concentration of the Substance in Mixture/Article	: Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

#### Frequency and duration of use

Exposure duration	: < 8 h
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
Remarks	: Use in closed process

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**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

**1.2.2 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, < 8h****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

**1.2.3 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, <15 min****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

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**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

**1.2.4 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

**1.2.5 Contributing scenario controlling worker exposure for: PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 4 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 90 %)

**1.3. Exposure estimation and reference to its source****Human Health**

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

**1.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Risk management measures are based on qualitative risk characterisation.

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

## 2. ES2 : Formulation, Used for formulation of homecare products, Used for formulation of personal care products

### 2.1. Scenario description

Main User Groups	:	<b>SU 3</b>	Industrial uses: Uses of substances as such or in preparations at industrial sites
Process category	:	<b>PROC1</b>	Use in closed process, no likelihood of exposure
	:	<b>PROC2</b>	Use in closed, continuous process with occasional controlled exposure
	:	<b>PROC3</b>	Use in closed batch process (synthesis or formulation)
	:	<b>PROC4</b>	Use in batch and other process (synthesis) where opportunity for exposure arises
	:	<b>PROC15</b>	Use as laboratory reagent
	:	<b>PROC8b</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
	:	<b>PROC5</b>	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
	:	<b>PROC14</b>	Production of preparations or articles by tableting, compression, extrusion, pelletisation
	:	<b>PROC9</b>	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
	:	<b>PROC8a</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

### 2.2. Conditions of use affecting exposure

#### 2.2.1 Contributing scenario controlling worker exposure for: PROC1 Use in closed process, no likelihood of exposure, OC8 Indoor

#### Product characteristics

Concentration of the Substance in Mixture/Article		Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

#### Frequency and duration of use

Exposure duration	:	< 1 h
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor
Remarks	:	Use in closed process

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

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**2.2.2 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure, PROC3 Use in closed batch process (synthesis or formulation), OC8 Indoor, <1 hr, CS110 without local exhaust ventilation, Gloves**


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**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 1 h
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**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
Remarks	: Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**2.2.3 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises**


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**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 1 h
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**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
Remarks	: Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 90 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

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**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**2.2.4 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation), <1 hr, CS109 with local exhaust ventilation, Without gloves****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
Remarks	: Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 90 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Risk of aerosols formation, Wear respiratory protection.

**2.2.5 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation), <15 min****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
Remarks	: Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

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Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

### 2.2.6 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent

#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 1 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 90 %)

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

### 2.2.7 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 1 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor  
Remarks : Semi-closed system, With occasional controlled exposure.

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 95 %)

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**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**2.2.8 Contributing scenario controlling worker exposure for: PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 90 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**2.2.9 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

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Outdoor / Indoor : Indoor

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 90 %)

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

### 2.2.10 Contributing scenario controlling worker exposure for: PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation

#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 8 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 90 %)

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)  
Risk of aerosols formation, Wear respiratory protection.

### 2.2.11 Contributing scenario controlling worker exposure for: PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 90 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**2.2.12 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, CS39 Equipment cleaning and maintenance****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : liquid

Process Temperature : &lt;= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : &lt; 4 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**2.2.13 Contributing scenario controlling worker exposure for: PROC1 Use in closed process, no likelihood of exposure, PROC2 Use in closed, continuous process with occasional controlled exposure, OC9 Outdoor****Product characteristics**

Concentration of the Substance in : Covers the percentage of the substance in the product up to 100 %

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Mixture/Article (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor  
 Remarks : Use in closed process

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**2.3. Exposure estimation and reference to its source****Human Health**

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

**2.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Risk management measures are based on qualitative risk characterisation.  
 Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

### 3. ES3 : Professional end-use of polishes and wax blends (IFRA GES 5)

#### 3.1. Scenario description

Main User Groups	:	<b>SU22</b>	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	:	<b>PROC10</b>	Roller application or brushing
	:	<b>PROC11</b>	Non industrial spraying
	:	<b>PROC8a</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
	:	<b>PROC2</b>	Use in closed, continuous process with occasional controlled exposure

#### 3.2. Conditions of use affecting exposure

##### 3.2.1 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, < 8h

#### Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

#### Frequency and duration of use

Exposure duration	:	< 8 h
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor
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#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

##### 3.2.2 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying

#### Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

#### Frequency and duration of use

Exposure duration	:	< 15 min
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor
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**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**3.2.3 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, maintenance products, Furniture care product, Leather care product****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 4 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**3.2.4 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, maintenance products, Leather care product****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

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Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

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### 3.2.5 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure

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#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

#### Frequency and duration of use

Exposure duration	: < 15 min
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
Remarks	: Use in closed process

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

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### 3.2.6 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, Gloves, Respiratory protection

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#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

#### Frequency and duration of use

Exposure duration	: < 15 min
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
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#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

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**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

Respirator, APF 10 (Effectiveness (of a measure): 90 %)

**3.3. Exposure estimation and reference to its source****Human Health**

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

**3.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Risk management measures are based on qualitative risk characterisation.

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

## 4. ES4 : Use in formulation, end-products

### 4.1. Scenario description

Main User Groups	:	<b>SU 3</b>	Industrial uses: Uses of substances as such or in preparations at industrial sites
Process category	:	<b>PROC8b</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
		<b>PROC2</b>	Use in closed, continuous process with occasional controlled exposure
		<b>PROC15</b>	Use as laboratory reagent
		<b>PROC1</b>	Use in closed process, no likelihood of exposure
		<b>PROC3</b>	Use in closed batch process (synthesis or formulation)
		<b>PROC5</b>	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
		<b>PROC8a</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
		<b>PROC9</b>	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
		<b>PROC14</b>	Production of preparations or articles by tableting, compression, extrusion, pelletisation

### 4.2. Conditions of use affecting exposure

#### 4.2.1 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, 5-25 %

##### Product characteristics

Concentration of the Substance in Mixture/Article		Covers the percentage of the substance in the product up to 25 %.
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

##### Frequency and duration of use

Exposure duration	:	< 1 h
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##### Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor
Remarks	:	Semi-closed system, With occasional controlled exposure.

##### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

##### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

##### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

#### 4.2.2 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure

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**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

Remarks : Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**4.2.3 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent, 5-25 %****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**4.2.4 Contributing scenario controlling worker exposure for: PROC1 Use in closed process, no likelihood of exposure****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.

Physical Form (at time of use) : liquid

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Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**4.2.5 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation)****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 4 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**4.2.6 Contributing scenario controlling worker exposure for: PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C

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Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 4 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

---

#### 4.2.7 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

---

#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 4 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

---

#### 4.2.8 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure

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#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 15 min

**Other operational conditions affecting workers exposure**Outdoor / Indoor : Indoor  
Remarks : Use in closed process**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**4.2.9 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent, < 1%****Product characteristics**Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure**Frequency and duration of use**

Exposure duration : &lt; 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**4.2.10 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises, < 1%****Product characteristics**Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure**Frequency and duration of use**

Exposure duration : &lt; 1 h

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**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**4.2.11 Contributing scenario controlling worker exposure for: PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**4.2.12 Contributing scenario controlling worker exposure for: PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

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**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

Risk of aerosols formation, Wear respiratory protection.

**4.3. Exposure estimation and reference to its source****Human Health**

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

**4.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Risk management measures are based on qualitative risk characterisation.

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

## 5. ES5 : Industrial use, Use in formulation, Cosmetic products

### 5.1. Scenario description

Main User Groups	:	<b>SU 3</b>	Industrial uses: Uses of substances as such or in preparations at industrial sites
Process category	:	<b>PROC8b</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
		<b>PROC2</b>	Use in closed, continuous process with occasional controlled exposure
		<b>PROC15</b>	Use as laboratory reagent
		<b>PROC1</b>	Use in closed process, no likelihood of exposure
		<b>PROC3</b>	Use in closed batch process (synthesis or formulation)
		<b>PROC5</b>	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)
		<b>PROC8a</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
		<b>PROC9</b>	Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

### 5.2. Conditions of use affecting exposure

#### 5.2.1 Contributing scenario controlling worker exposure for: PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), 100 %

##### Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

##### Frequency and duration of use

Exposure duration	:	< 1 h
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##### Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor
Remarks	:	Semi-closed system, With occasional controlled exposure.

##### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

##### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

##### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

#### 5.2.2 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure, 100 %

##### Product characteristics

Concentration of the Substance in	:	Covers the percentage of the substance in the product up to 100 %
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Mixture/Article (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**5.2.3 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent, 100 %****Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**5.2.4 Contributing scenario controlling worker exposure for: PROC1 Use in closed process, no likelihood of exposure****Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 1 h

**Other operational conditions affecting workers exposure**Outdoor / Indoor : Indoor  
Remarks : Use in closed process**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**5.2.5 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation)****Product characteristics**Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure**Frequency and duration of use**

Exposure duration : &lt; 4 h

**Other operational conditions affecting workers exposure**Outdoor / Indoor : Indoor  
Remarks : Use in closed process**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**5.2.6 Contributing scenario controlling worker exposure for: PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)****Product characteristics**Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 4 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

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**5.2.7 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities**

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**Product characteristics**Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure**Frequency and duration of use**

Exposure duration : &lt; 4 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

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**5.2.8 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure**

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**Product characteristics**Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure**Frequency and duration of use**

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Exposure duration : < 15 min

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor  
Remarks : Use in closed process

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

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### 5.2.9 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent, 5-25 %

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#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 15 min

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

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### 5.2.10 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, 5-25 %

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#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 % (unless stated differently).  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 1 h

#### Other operational conditions affecting workers exposure

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Outdoor / Indoor : Indoor  
 Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**5.2.11 Contributing scenario controlling worker exposure for: PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 25 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**5.3. Exposure estimation and reference to its source****Human Health**

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

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**5.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

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Risk management measures are based on qualitative risk characterisation.  
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## 6. ES6 : Industrial use, end-products

### 6.1. Scenario description

Main User Groups	:	<b>SU 3</b>	Industrial uses: Uses of substances as such or in preparations at industrial sites
Process category	:	<b>PROC8b</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
		<b>PROC2</b>	Use in closed, continuous process with occasional controlled exposure
		<b>PROC8a</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
		<b>PROC4</b>	Use in batch and other process (synthesis) where opportunity for exposure arises
		<b>PROC7</b>	Industrial spraying
		<b>PROC10</b>	Roller application or brushing
		<b>PROC13</b>	Treatment of articles by dipping and pouring

### 6.2. Conditions of use affecting exposure

#### 6.2.1 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, CS110 without local exhaust ventilation

##### Product characteristics

Concentration of the Substance in Mixture/Article		Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

##### Frequency and duration of use

Exposure duration	:	< 15 min
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##### Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor
Remarks	:	Semi-closed system, With occasional controlled exposure.

##### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

##### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

##### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

#### 6.2.2 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure, <15 min, CS109 with local exhaust ventilation

##### Product characteristics

Concentration of the Substance in		Covers percentage substance in the product up to 1 %.
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Mixture/Article  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
 with local exhaust ventilation (Effectiveness (of a measure): 90 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**6.2.3 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure, <15 min, CS110 without local exhaust ventilation**


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**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
 Remarks : Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**6.2.4 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities, OC9 Outdoor**


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**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**6.2.5 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises, OC9 Outdoor**


---

**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

Remarks : Semi-closed system, With occasional controlled exposure.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**6.2.6 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, <1 hr, CS110 without local exhaust ventilation**


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**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**6.2.7 Contributing scenario controlling worker exposure for: PROC7 Industrial spraying, OC9 Outdoor**


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**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**6.2.8 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, OC9 Outdoor****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**6.2.9 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises, OC8 Indoor, CS110 without local exhaust ventilation****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.



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**6.2.10 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities, <15 min, CS110 without local exhaust ventilation**


---

**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 15 min
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**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
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**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**6.2.11 Contributing scenario controlling worker exposure for: PROC7 Industrial spraying, Chain maintenance product**


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**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 8 h
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**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
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**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

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**6.2.12 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities, OC8 Indoor, CS109 with local exhaust ventilation**


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**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation (Effectiveness (of a measure): 90 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

---

**6.2.13 Contributing scenario controlling worker exposure for: PROC7 Industrial spraying, OC8 Indoor, <15 min, CS110 without local exhaust ventilation**


---

**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

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Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)  
 Respirator, APF 10 (Effectiveness (of a measure): 90 %)

---

#### 6.2.14 Contributing scenario controlling worker exposure for: PROC7 Industrial spraying, OC8 Indoor, <15 min, CS109 with local exhaust ventilation

---

##### Product characteristics

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

##### Frequency and duration of use

Exposure duration	: < 15 min
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##### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
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##### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
 with local exhaust ventilation (Effectiveness (of a measure): 95 %)

##### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

##### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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#### 6.2.15 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, OC8 Indoor, CS110 without local exhaust ventilation

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##### Product characteristics

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

##### Frequency and duration of use

Exposure duration	: < 8 h
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##### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
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##### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

##### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

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**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**6.2.16 Contributing scenario controlling worker exposure for: PROC7 Industrial spraying, general surface cleaning products****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
 Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)  
 Respirator, APF 10 (Effectiveness (of a measure): 90 %)

**6.2.17 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, <15 min, CS109 with local exhaust ventilation****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
 with local exhaust ventilation (Effectiveness (of a measure): 90 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

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Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

---

#### 6.2.18 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, OC8 Indoor, CS109 with local exhaust ventilation

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##### Product characteristics

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

##### Frequency and duration of use

Exposure duration	: < 8 h
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##### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
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##### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation, Inhalation exposure (Effectiveness (of a measure): 90 %)

##### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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#### 6.2.19 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, CS109 with local exhaust ventilation

---

##### Product characteristics

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

##### Frequency and duration of use

Exposure duration	: < 15 min
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##### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
Remarks	: Semi-closed system, With occasional controlled exposure.

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**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation (Effectiveness (of a measure): 95 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**6.2.20 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises, OC8 Indoor, CS109 with local exhaust ventilation****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 8 h
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**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
Remarks	: Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation (Effectiveness (of a measure): 90 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**6.2.21 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure, < 8h****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 8 h

**Other operational conditions affecting workers exposure**Outdoor / Indoor : Indoor  
Remarks : Use in closed process**Technical conditions and measures**Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation (Effectiveness (of a measure): 90 %)**Organisational measures to prevent /limit releases, dispersion and exposure**Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.**Conditions and measures related to personal protection, hygiene and health evaluation**Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)**6.3. Exposure estimation and reference to its source****Human Health**

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

**6.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**Risk management measures are based on qualitative risk characterisation.  
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## 7. ES7 : Professional use, end-products

### 7.1. Scenario description

Main User Groups	:	<b>SU22</b>	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	:	<b>PROC8a</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
		<b>PROC11</b>	Non industrial spraying
		<b>PROC10</b>	Roller application or brushing
		<b>PROC8b</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
		<b>PROC2</b>	Use in closed, continuous process with occasional controlled exposure
		<b>PROC13</b>	Treatment of articles by dipping and pouring
		<b>PROC4</b>	Use in batch and other process (synthesis) where opportunity for exposure arises

### 7.2. Conditions of use affecting exposure

#### 7.2.1 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, <15 min, OC8 Indoor, CS110 without local exhaust ventilation, Gloves

#### Product characteristics

Concentration of the Substance in Mixture/Article		Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

#### Frequency and duration of use

Exposure duration	:	< 15 min
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor
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#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

#### 7.2.2 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, PROC10 Roller application or brushing, PROC13 Treatment of articles by dipping and pouring, <1 hr, OC8 Indoor, CS110 without local exhaust ventilation, Gloves

#### Product characteristics

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Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**7.2.3 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities, <15 min, OC8 Indoor, CS110 without local exhaust ventilation, Without gloves**


---

**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

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**7.2.4 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying, <1 hr, OC8 Indoor, Without gloves**


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**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

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**7.2.5 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, < 8h, OC8 Indoor, Gloves**


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**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**7.2.6 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities**


---

**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 15 min
-------------------	------------

**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
Remarks	: Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

---

**7.2.7 Contributing scenario controlling worker exposure for: PROC2 Use in closed, continuous process with occasional controlled exposure**


---

**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 15 min
-------------------	------------

**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
Remarks	: Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

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Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

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### 7.2.8 Contributing scenario controlling worker exposure for: PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), < 8h, OC8 Indoor, Without gloves

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#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

#### Frequency and duration of use

Exposure duration	: < 8 h
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
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#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

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### 7.2.9 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying, <15 min, OC8 Indoor, CS110 without local exhaust ventilation, Gloves

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#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

#### Frequency and duration of use

Exposure duration	: < 15 min
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#### Other operational conditions affecting workers exposure

Outdoor / Indoor	: Indoor
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#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of

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a measure): 80 %)

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### 7.2.10 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, Kitchen cleaner

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#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 4 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

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### 7.2.11 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, <1 hr, OC8 Indoor, CS110 without local exhaust ventilation, Without gloves

---

#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 1 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

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**7.2.12 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying, <1 hr, OC8 Indoor, Gloves****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 1 h
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**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Indoor
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**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.13 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, OC9 Outdoor****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration	: < 1 h
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**Other operational conditions affecting workers exposure**

Outdoor / Indoor	: Outdoor
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**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.14 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

Remarks : Semi-closed system, With occasional controlled exposure.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.15 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying, Gloves****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.16 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, OC9 Outdoor****Product characteristics**

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Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.17 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, OC9 Outdoor****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.18 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

Respirator, APF 10 (Effectiveness (of a measure): 90 %)

**7.2.19 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at non-dedicated facilities, <1 hr, OC8 Indoor, CS109 with local exhaust ventilation****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : &lt;= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : &lt; 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

with local exhaust ventilation (Effectiveness (of a measure): 80 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.20 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : &lt;= 40 °C

Remarks : Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 4 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation (Effectiveness (of a measure): 80 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

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**7.2.21 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, <15 min, OC8 Indoor, CS109 with local exhaust ventilation**


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**Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : &lt;= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : &lt; 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation (Effectiveness (of a measure): 80 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.22 Contributing scenario controlling worker exposure for: PROC13 Treatment of articles by dipping and pouring, medical devices****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 4 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation (Effectiveness (of a measure): 80 %)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

**7.2.23 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying, <15 min, OC8 Indoor, CS110 without local exhaust ventilation, Without gloves****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid

Process Temperature : <= 40 °C

Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .  
with local exhaust ventilation

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

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Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

### 7.3. Exposure estimation and reference to its source

#### Human Health

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

### 7.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Risk management measures are based on qualitative risk characterisation.  
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## 8. ES8 : Use at industrial site, Use in Cleaning Agents

### 8.1. Scenario description

Main User Groups	:	<b>SU 3</b>	Industrial uses: Uses of substances as such or in preparations at industrial sites
Process category	:	<b>PROC1</b>	Use in closed process, no likelihood of exposure
	:	<b>PROC2</b>	Use in closed, continuous process with occasional controlled exposure
	:	<b>PROC3</b>	Use in closed batch process (synthesis or formulation)
	:	<b>PROC4</b>	Use in batch and other process (synthesis) where opportunity for exposure arises
	:	<b>PROC7</b>	Industrial spraying
	:	<b>PROC8a</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
	:	<b>PROC8b</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
	:	<b>PROC10</b>	Roller application or brushing
	:	<b>PROC13</b>	Treatment of articles by dipping and pouring

### 8.2. Conditions of use affecting exposure

#### 8.2.1 Contributing scenario controlling worker exposure for: PROC1 Use in closed process, no likelihood of exposure, PROC2 Use in closed, continuous process with occasional controlled exposure, PROC3 Use in closed batch process (synthesis or formulation)

##### Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

##### Frequency and duration of use

Exposure duration	:	< 8 h
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##### Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor
Remarks	:	Use in closed process

##### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

##### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

##### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

#### 8.2.2 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises, PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities

##### Product characteristics

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Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**8.2.3 Contributing scenario controlling worker exposure for: PROC7 Industrial spraying****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)  
Risk of aerosols formation, Wear respiratory protection.

**8.2.4 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, PROC10 Roller application or brushing, PROC13 Treatment of articles by dipping and pouring****Product characteristics**

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Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**8.3. Exposure estimation and reference to its source****Human Health**

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

**8.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Risk management measures are based on qualitative risk characterisation.  
 Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**9. ES9 : Use at industrial site, Industrial use, Use as an intermediate****9.1. Scenario description**

Main User Groups	:	<b>SU 3</b>	Industrial uses: Uses of substances as such or in preparations at industrial sites
Process category	:	<b>PROC1</b>	Use in closed process, no likelihood of exposure
	:	<b>PROC2</b>	Use in closed, continuous process with occasional controlled exposure
	:	<b>PROC3</b>	Use in closed batch process (synthesis or formulation)
	:	<b>PROC4</b>	Use in batch and other process (synthesis) where opportunity for exposure arises
	:	<b>PROC8b</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
	:	<b>PROC15</b>	Use as laboratory reagent
	:	<b>PROC8a</b>	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

**9.2. Conditions of use affecting exposure****9.2.1 Contributing scenario controlling worker exposure for: PROC1 Use in closed process, no likelihood of exposure, PROC2 Use in closed, continuous process with occasional controlled exposure, PROC3 Use in closed batch process (synthesis or formulation), General process exposures from enclosed processes, OC9 Outdoor****Product characteristics**

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

**Frequency and duration of use**

Exposure duration	:	< 1 h
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**Other operational conditions affecting workers exposure**

Outdoor / Indoor	:	Outdoor
Remarks	:	Use in closed process

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**9.2.2 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation), OC8 Indoor****Product characteristics**

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	liquid
Process Temperature	:	<= 40 °C
Remarks	:	Low vapour pressure

**Frequency and duration of use**

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Exposure duration : < 1 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor  
Remarks : Use in closed process

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

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### 9.2.3 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises, PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, <1 hr, OC8 Indoor

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#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 1 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor  
Remarks : Semi-closed system, With occasional controlled exposure.

#### Technical conditions and measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

#### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

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### 9.2.4 Contributing scenario controlling worker exposure for: PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises, PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, OC9 Outdoor

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#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure

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**Frequency and duration of use**

Exposure duration : &lt; 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

Remarks : Semi-closed system, With occasional controlled exposure.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**9.2.5 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, <15 min, OC8 Indoor****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : &lt; 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

Remarks : Semi-closed system, With occasional controlled exposure.

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**9.2.6 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, <15 min, OC9 Outdoor****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : &lt; 15 min

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**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor  
 Remarks : Semi-closed system, With occasional controlled exposure.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**9.2.7 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
 Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

**9.2.8 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, OC8 Indoor****Product characteristics**

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
 Physical Form (at time of use) : liquid  
 Process Temperature : <= 40 °C  
 Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

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**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**9.2.9 Contributing scenario controlling worker exposure for: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, OC9 Outdoor****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor

**Organisational measures to prevent /limit releases, dispersion and exposure**

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants), Use suitable eye protection.

**9.2.10 Contributing scenario controlling worker exposure for: PROC1 Use in closed process, no likelihood of exposure, PROC2 Use in closed, continuous process with occasional controlled exposure, Storage, CS56 with sample collection, OC8 Indoor****Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	: liquid
Process Temperature	: <= 40 °C
Remarks	: Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
Remarks : Use in closed process

**Technical conditions and measures**

Provide a basic standard of general ventilation (1 to 3 air changes per hour) .

**Organisational measures to prevent /limit releases, dispersion and exposure**

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Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

#### 9.2.11 Contributing scenario controlling worker exposure for: PROC1 Use in closed process, no likelihood of exposure, PROC2 Use in closed, continuous process with occasional controlled exposure, Storage, CS56 with sample collection, OC9 Outdoor

##### Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).  
Physical Form (at time of use) : liquid  
Process Temperature : <= 40 °C  
Remarks : Low vapour pressure

##### Frequency and duration of use

Exposure duration : < 8 h

##### Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor  
Remarks : Use in closed process

##### Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.  
Avoid splashing.

#### Conditions and measures related to personal protection, hygiene and health evaluation

Avoid direct eye contact with product, also via contamination on hands., General measures (eye irritants)

#### 9.3. Exposure estimation and reference to its source

##### Human Health

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC Exposure Assessment Method : Qualitative approach used to conclude safe use.

#### 9.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Risk management measures are based on qualitative risk characterisation.  
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

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## 10. ES10 : Consumers end-use of washing and cleaning products (IFRA GES 6)

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### 10.1. Scenario description

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Main User Groups	:	<b>SU 21</b>	Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC35</b>	Washing and cleaning products (including solvent based products)

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### 10.2. Conditions of use affecting exposure

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#### 10.2.1 Contributing scenario controlling consumer exposure for: **PC35 Washing and cleaning products (including solvent based products)** ,

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According to REACH regulation, a chemical safety assessment need not be performed for a substance which is present in a preparation if the concentration of the substance in the preparation is less than the lowest concentration indicated in article 14.2 of REACH regulation

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### 10.3. Exposure estimation and reference to its source

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**11. ES11 : Consumer end-use of air care products (IFRA GES 7)****11.1. Scenario description**

Main User Groups	:	<b>SU 21</b>	Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC3</b>	Air care products

**11.2. Conditions of use affecting exposure****11.2.1 Contributing scenario controlling consumer exposure for: PC3 Air care products aerosol,****Product characteristics**

Physical Form (at time of use) : aerosol

**Amount**

Covers concentrations up to .... : 0.002 %  
Amount per Application : 10 g/event

**Frequency and duration of use**

Exposure duration : 0.25 h  
Frequency of use : 4 events/day

**Human factors not influenced by risk management**

Dermal exposure : negligible

**11.2.2 Contributing scenario controlling consumer exposure for: PC3 Air care products ,****Product characteristics**

Physical Form (at time of use) : liquid, solid

**Amount**

Covers concentrations up to .... : 0.05 %  
Amount used per event : 50 g

**Frequency and duration of use**

Exposure duration : 8 h  
Frequency of use : 1 events/day

**Human factors not influenced by risk management**

Dermal exposure : Assumes that potential dermal contact is limited to fingertips.

**11.3. Exposure estimation and reference to its source****Human Health**

Contributing Scenario	Specific conditions	Value type	Level of Exposure	RCR
For all PC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PC Exposure Assessment Method : Qualitative approach used to conclude safe use.

**11.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Risk management measures are based on qualitative risk characterisation.

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



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**12. ES12 : Consumers end-use polishes and wax blends (IFRA GES 9)**

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**12.1. Scenario description**

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Main User Groups	:	<b>SU 21</b>	Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC31</b>	Polishes and wax blends

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**12.2. Conditions of use affecting exposure**

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**12.2.1 Contributing scenario controlling consumer exposure for: PC31 Polishes and wax blends ,**

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According to REACH regulation, a chemical safety assessment need not be performed for a substance which is present in a preparation if the concentration of the substance in the preparation is less than the lowest concentration indicated in article 14.2 of REACH regulation

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**12.3. Exposure estimation and reference to its source**

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### 13. ES13 : Consumer use, End use of cosmetic products

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#### 13.1. Scenario description

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Main User Groups	:	<b>SU 21</b>	Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC39</b> <b>PC28</b>	Cosmetics, personal care products Perfumes, fragrances
Further information	:		In accordance to the Article 14 (5b) of the REACH Regulation (EC) No 1907/2006, exposure estimation and risk characterisation for human health does not need to be performed for end uses in cosmetic products within the scope of Directive 76/768/EEC., Covered by the Cosmetic Regulation (European Regulation (EC) N°1223/2009).

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#### 13.2. Conditions of use affecting exposure

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