

**AUGEO® CRYSTAL**

Revision Date 06.10.2021

The United Kingdom (UK) has left the European Union (EU) officially on 31/01/2020, however the classification and labelling regime is still based on the existing EU regulatory regime during a transition period to provide continuity for businesses. Therefore this document is still aligned on EU standards to ensure the safe use of the substance. It will be updated as the UK publishes new classification and labelling regulation diverging from the legal framework currently applied.

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

**1.1 Product identifier**

- |                 |  |
|-----------------|--|
| - Trade name    | AUGEO® CRYSTAL   |
| - Chemical name | Racemic mixture (+/-)-2,2-dimethyl-4-hydroxymethyl-1,3-dioxolane |
| - 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**

RHODIA Opérations  
52 Rue de la Haie Coq  
93306 Aubervilliers Cedex - France  
Tel : +33 (0)1.53.56.50.00

Solvay Solutions UK Limited  
P.O.Box 80 Trinity Street  
Oldbury West Midlands B69 4LN  
England  
Telephone:+44 (0)121 552 3333  
Fax: +44 (0)121 541 3235

**E-mail address**

manager.sds@solvay.com

**1.4 Emergency telephone number**

+44(0)1235 239 670 [CareChem 24]

**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**

**Pictogram**



**Signal word**

- Warning

**Hazard statements**

- H319 Causes serious eye irritation.

**Precautionary statements**

Prevention

- P264 Wash skin thoroughly after handling.
- P280 Wear 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**

**Results of PBT and vPvB assessment**

- 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).

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

**3.1 Substance**

- Chemical name Racemic mixture (+/-)-2,2-dimethyl-4-hydroxymethyl-1,3-dioxolane
- Synonyms (+/-)-2,2-dimethyl-1,3-dioxolane-4-methanol, Isopropylidene glycerol
- Formula C6H12O3

**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  self classification	Eye irritation, Category 2 ; H319	>= 99 - <= 100

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**

- First aider needs to protect himself.
- Show this safety data sheet to the doctor in attendance.

- Place affected clothing in a sealed bag for subsequent decontamination.
- When symptoms persist or in all cases of doubt seek medical advice.

**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 immediately with soap and plenty of water.
- Use a mild soap if available.
- 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.
- Immediate medical attention is required.

**In case of ingestion**

- Do not induce vomiting without medical advice.
- Rinse mouth with water.
- Do not give anything to drink.
- Keep at rest.
- Consult a physician if necessary.

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

- no data available

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

- no data available

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

- Extinguishing media - small fires
- Water spray
- Multi-purpose powders
- Carbon dioxide (CO<sub>2</sub>)
- Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)
  
- Extinguishing media - large fires
- Water spray
- Multi-purpose powders
- Alcohol Resistant Aqueous Film Forming Foam (AR-AFFF)

**Unsuitable extinguishing media**

- Do not use a solid water stream as it may scatter and spread fire.

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

- Combustible liquid.
- The pressure in sealed containers can increase under the influence of heat.
- Hazardous decomposition products formed under fire conditions.
- High concentrations of toxic or harmful products may remain in the residual liquid once the fire has been extinguished.

### 5.3 Advice for firefighters

#### Special protective equipment for firefighters

- Wear full protective clothing and self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

#### Specific fire fighting methods

- Stay upwind.
- Fight fire with normal precautions from a reasonable distance.
- Do not use a solid water stream as it may scatter and spread fire.
- Cool down the containers/equipment exposed to heat with a water spray. Ensure that there is NO direct contact between the water and the product.
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Further information

- Evacuate personnel to safe areas.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- Never approach containers which have been exposed to fire, without cooling them sufficiently.
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## SECTION 6: Accidental release measures

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

- Avoid inhalation, ingestion and contact with skin and eyes.
- Wear chemical resistant personal protective equipment
- Wear suitable gloves.
- Wear suitable protective clothing.
- Wear as appropriate:
  - Face-shield
  - Tightly fitting safety goggles
- In the case of dust or aerosol formation use respirator with an approved filter.
- In the case of vapour formation use a respirator with an approved filter.
- Eliminate all ignition sources if safe to do so.
- Stop leak if safe to do so.
- For further information refer to section 8 "Exposure controls/personal protection".

### 6.2 Environmental precautions

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by bunding.
- The product should not be allowed to enter drains, water courses or the soil.

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

- No sparking tools should be used.
- Stop leak if safe to do so.

- Dam up with sand or inert earth (do not use combustible materials).
- Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
- Shovel or sweep up.
- Keep in suitable, closed containers for disposal.
- Never return spills in original containers for re-use.
  
- Wash non-recoverable remainder with large amounts of water.
- Clean contaminated surface thoroughly.
- Recover the cleaning water for subsequent disposal.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
  
- Dispose of in accordance with local regulations.

#### **Additional advice**

- Material can create slippery conditions.

#### **6.4 Reference to other sections**

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

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

#### **7.1 Precautions for safe handling**

- Provide adequate ventilation.
- Provide sufficient air exchange and/or exhaust in work rooms.
  
- Ensure all equipment is electrically grounded before beginning transfer operations.
  
- Handle in accordance with good industrial hygiene and safety practice.
  
- Wear personal protective equipment.
- Wear suitable protective clothing.
  
- Avoid inhalation, ingestion and contact with skin and eyes.
  
- Avoid splashes.
- Avoid formation of aerosol.
  
- For personal protection see section 8.

#### **Hygiene measures**

- Handle in accordance with good industrial hygiene and safety practice.
- Use clean, well-maintained personal protection equipment.
- Regular cleaning of equipment, work area and clothing.
- When using do not eat, drink or smoke.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash hands before breaks and immediately after handling the product.
- Contaminated work clothing should not be allowed out of the workplace.
  
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.

#### **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.
- Note: To ensure the product's validity period, it is recommended to inert with nitrogen (N<sub>2</sub>) in storage.
- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Keep locked up or in an area accessible only to qualified or authorised persons.
- Keep containers tightly closed in a dry, cool and well-ventilated place.
- Keep away from open flames, hot surfaces and sources of ignition.
- Keep away from incompatible materials to be indicated by the manufacturer
- Keep away from: Hazardous reactions may occur on contact with certain chemicals. (Refer to the list of incompatible materials section 10: Stability-Reactivity).

**Packaging material**

**Suitable material**

- Unlined steel
- Polyethylene terephthalate (PET)
- Plastic container of HDPE

**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 above their regulatory reporting threshold.

**Predicted No Effect Concentration ( PNEC )**

Product name	Compartment	Value	Remarks
2,2-dimethyl-1,3-dioxolan-4-ylmethanol	Oral (secondary poisoning)		No PNEC derivation as there is no potential for bioaccumulation.

## 8.2 Exposure controls

### Control measures

#### **Engineering measures**

- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.
  
- Effective exhaust ventilation system
- Ensure adequate ventilation.
  
- Extract at emission point.
- Ensure that extracted air cannot be returned to the workplace through the ventilation system.
  
- Avoid splashes.
- Avoid formation of aerosol.

### Individual protection measures

#### **Respiratory protection**

- This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation.
- 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.
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
  
- The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

#### **Eye protection**

- Tightly fitting safety goggles
- Face-shield

#### **Skin and body protection**

- Full protective suit
- Footwear protecting against chemicals
  
- Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### **Hygiene measures**

- Handle in accordance with good industrial hygiene and safety practice.
- Use clean, well-maintained personal protection equipment.
- Regular cleaning of equipment, work area and clothing.
- When using do not eat, drink or smoke.
- Smoking, eating and drinking should be prohibited in the application area.
- Wash hands before breaks and immediately after handling the product.
- Contaminated work clothing should not be allowed out of the workplace.
  
- The user is responsible for monitoring the working environment in accordance with local laws and regulations.

#### **Protective measures**

- Emergency equipment immediately accessible, with instructions for use.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- 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 CEN standards and in cooperation with the supplier of the protective equipment.

#### **Environmental exposure controls**

- Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.
- Prevent further leakage or spillage if safe to do so.
- Contain the spilled material by bunding.
- The product should not be allowed to enter drains, water courses or the soil.

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

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

<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>Melting point/freezing point</u></b>	<u>Freezing point</u> : -99 °C
<b><u>Initial boiling point and boiling range</u></b>	<u>Boiling point/boiling range</u> : 183 - 191 °C ( 1,013.25 hPa)
<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>Flash point</u></b>	91 °C closed cup 100 °C open cup
<b><u>Auto-ignition temperature</u></b>	No data available
<b><u>Decomposition temperature</u></b>	No data available
<b><u>pH</u></b>	Not applicable
<b><u>Viscosity</u></b>	<u>Viscosity, dynamic</u> : 11 mPa.s ( 20 °C)
<b><u>Solubility</u></b>	<u>Water solubility</u> : ( 20 °C)completely soluble  <u>Solubility in other solvents</u> : 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>Vapour pressure</u></b>	0.05 hPa ( 20 °C)
<b><u>Density</u></b>	1.069 g/cm <sup>3</sup> ( 20 °C)
<b><u>Relative density</u></b>	1.069 ( 20 °C)
<b><u>Relative vapor density</u></b>	2.6
<b><u>Particle characteristics</u></b>	No data available
<b><u>Evaporation rate (Butylacetate = 1)</u></b>	0.027

## 9.2 Other information

<b><u>Self-ignition</u></b>	390 °C ( 1,013 hPa) Method: EU Test Guideline A15
<b><u>Surface tension</u></b>	33.5 mN/m ( 20 °C)
<b><u>Molecular weight</u></b>	132.16 g/mol

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

- Stable at normal ambient temperature and pressure.

### 10.2 Chemical stability

- Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

- No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

- Keep away from open flames, hot surfaces and sources of ignition.
- Avoid high temperatures.
- Avoid excessive heat for prolonged periods of time.

### 10.5 Incompatible materials

- Strong oxidizing agents
- Strong acids
- Strong reducing agents
- Strong bases

### 10.6 Hazardous decomposition products

#### Hazardous decomposition products

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

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

<b>Acute oral toxicity</b>	Not classified as hazardous for acute oral toxicity according to GHS. Based on data from similar materials
<b>Acute inhalation toxicity</b>	Not classified as hazardous for acute inhalation toxicity according to GHS. Based on data from similar materials
<b>Acute dermal toxicity</b>	Not classified as hazardous for acute dermal toxicity according to GHS. Based on data from similar materials
<b>Acute toxicity (other routes of administration)</b>	No data available

#### Skin corrosion/irritation

Not classified as irritating to skin  
Based on data from similar materials

#### Serious eye damage/eye irritation

Irritating to eyes.  
Based on data from similar materials

#### Respiratory or skin sensitisation

Does not cause skin sensitisation.  
Based on data from similar materials

#### Mutagenicity

<b>Genotoxicity in vitro</b>	Product is not considered to be genotoxic Based on data from similar materials
<b>Genotoxicity in vivo</b>	Product is not considered to be genotoxic Based on data from similar materials

#### Carcinogenicity

The product is not considered to be carcinogenic.  
Based on data from similar materials

#### Toxicity for reproduction and development

<b>Toxicity to reproduction/Fertility</b>	The product is not considered to affect fertility., Based on data from similar materials
<b>Developmental Toxicity/Teratogenicity</b>	The product is not considered to be toxic for development., The product is not considered to be teratogenic., Based on data from similar materials

#### STOT

<b>STOT - single exposure</b>	The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria. Based on data from similar materials
<b>STOT - repeated exposure</b>	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria. Based on data from similar materials  No data is available on the product itself.
<b><u>Experience with human exposure</u></b>	No data available
<b><u>Aspiration toxicity</u></b>	No aspiration toxicity classification

## SECTION 12: Ecological information

### 12.1 Toxicity

PRCO90076230  
Version : 7.00 / GB ( EN )  
www.solvay.com



### Aquatic Compartment

<b>Acute toxicity to fish</b>	The product itself has not been tested.
<b>Acute toxicity to daphnia and other aquatic invertebrates</b>	The product itself has not been tested.
<b>Toxicity to aquatic plants</b>	The product itself has not been tested.
<b>Toxicity to microorganisms</b>	The product itself has not been tested.
<b>Chronic toxicity to fish</b>	The product itself has not been tested.
<b>Chronic toxicity to daphnia and other aquatic invertebrates</b>	The product itself has not been tested.

### Sediment compartment

<b>Toxicity to benthic organisms</b>	The product itself has not been tested.
--------------------------------------	---

### Terrestrial Compartment

<b>Toxicity to soil dwelling organisms</b>	The product itself has not been tested.
<b>Toxicity to terrestrial plants</b>	The product itself has not been tested.
<b>Toxicity to above ground organisms</b>	The product itself has not been tested.

## 12.2 Persistence and degradability

### Abiotic degradation

#### **Stability in water**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol

DT50:  
Hydrolysis  
pH: 4.0

Temperature of hydrolysis: 15 °C  
Hydrolysis time: 6.59 Days

Temperature of hydrolysis: 20 °C  
Hydrolysis time: 3.51 Days

Temperature of hydrolysis: 25 °C  
Hydrolysis time: 0.959 Days

Method: OECD Test Guideline 111  
Unpublished reports

### Physical- and photo-chemical elimination

No data available

### Biodegradation

#### **Biodegradability**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol

Ready biodegradability study:  
Method: OECD Test Guideline 301 D  
4 % - 28 Days

The substance does not fulfill the criteria for ready biodegradability and ultimate aerobic biodegradability  
Theoretical oxygen demand  
Inoculum: activated sludge  
Unpublished reports

Inherent biodegradability study  
Method: OECD Test Guideline 302 B  
25 % - 28 Days  
The substance fulfills the criteria for inherent primary biodegradability  
Dissolved organic carbon (DOC)  
Inoculum: activated sludge  
Unpublished internal reports

#### **Degradability assessment**

The product is not considered to be rapidly degradable in the environment

#### **12.3 Bioaccumulative potential**

##### **Partition coefficient: n-octanol/water**

2,2-dimethyl-1,3-dioxolan-4-ylmethanol

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

##### **Bioconcentration factor (BCF)**

No data available

#### **12.4 Mobility in soil**

##### **Adsorption potential (Koc)**

Adsorption/Soil  
Log Koc: < 1.25  
Method: OECD Test Guideline 121  
Highly mobile in soils  
Unpublished reports

##### **Known distribution to environmental compartments**

No data available

#### **12.5 Results of PBT and vPvB assessment**

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**

##### **Ecotoxicity assessment**

##### **Short-term (acute) aquatic hazard**

No acute environmental hazard identified  
Information given is based on data obtained from similar substances.

##### **Long-term (chronic) aquatic hazard**

No chronic environmental hazard identified.  
Information given is based on data obtained from similar substances.

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

#### **13.1 Waste treatment methods**

##### **Product Disposal**

###### ***Prohibition***

- Do not discharge directly into the environment.
- Dispose of in accordance with local regulations.

##### **Advice on cleaning and disposal of packaging**

###### ***Prohibition***

- Do NOT dispose of untreated packaging with industrial waste.
- Do not dispose of with domestic refuse.
- Empty remaining contents.

- Clean using steam.
- Monitor the residual vapours.
- Dispose of rinse water in accordance with local and national regulations.
  
- Containers that cannot be cleaned must be treated as waste.
  
- Dispose of contents/ container to an approved waste disposal plant.
- Dispose of in accordance with local regulations.
  
- Where possible recycling is preferred to disposal or incineration.
- The recycled material must be completely dry and free of pollutants.

## SECTION 14: Transport information

### ADN/ADNR

not regulated

### ADR

not regulated

### RID

not regulated

### IMDG

not regulated

### IATA

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

#### **REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)**

Requirements of Annex XVII to Regulation (EC) 1907/2006 apply to this product. The precise list of restricted uses is available in the corresponding entry of this annex.  
Number on list: 3

Shall not be used in: - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, - tricks and jokes, - games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

#### Notification status

<b>Inventory Information</b>	<b>Status</b>
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory; we have not determined if this product contains substances with regulatory obligations and/or restrictions.
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory

Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.
Korea. Act on Registration and Evaluation of Chemicals	- When purchased from a Solvay legal entity based in Korea, this product is compliant with "Act on Registration and Evaluation of Chemicals" (AREC or K-REACH, Article 10) as all its components are either excluded, exempt, and/or (pre)registered. When purchased from a legal entity outside of Korea, please contact your local representative for additional information.

## 15.2 Chemical safety assessment

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

## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3.

- H319: Causes serious eye irritation.

### Key or legend to abbreviations and acronyms used in the safety data sheet

- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Instructions for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.

- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- GHS/CLP/SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

**Not all acronyms listed above are referenced in this SDS.**

**Further information**

- Distribute new edition to clients
- Update
- See section 1

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.

## Annex

### Scenario List

1. ES1 : Formulation of biocidal products .....	16
2. ES2 : Use into insect repellent products .....	22
3. ES3 : Formulation, On site .....	24
4. ES4 : Formulation, Used for formulation of homecare products, Used for formulation of personal care products .....	28
5. ES5 : Professional end-use of polishes and wax blends (IFRA GES 5) .....	36
6. ES6 : Use in formulation, end-products .....	40
7. ES7 : Industrial use, Use in formulation, Cosmetic products .....	47
8. ES8 : Industrial use, end-products .....	54
9. ES9 : Professional use, end-products .....	66
10. ES10 : Use at industrial site, Use in Cleaning Agents .....	79
11. ES11 : Use at industrial site, Industrial use, Use as an intermediate .....	82
12. ES12 : Consumers end-use of washing and cleaning products (IFRA GES 6) .....	88
13. ES13 : Consumer end-use of air care products (IFRA GES 7) .....	89
14. ES14 : Consumers end-use polishes and wax blends (IFRA GES 9) .....	91
15. ES15 : Consumer use, End use of cosmetic products .....	92

### 1. ES1 : Formulation of biocidal products

#### 1.1. Scenario description

Main User Groups	: SU 3	Industrial uses: Uses of substances as such or in preparations at industrial sites
Process category	: PROC8b	Transfer of substance or mixture (charging/discharging) at dedicated facilities
	PROC3	Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC5	Mixing or blending in batch processes
	PROC15	Use as laboratory reagent

#### 1.2. Conditions of use affecting exposure

##### 1.2.1 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or mixture (charging/discharging) at dedicated facilities, Loading bulk raw material, < 8h, 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
Remarks	: Low vapour pressure

#### Frequency and duration of use

Duration of the activity	: <= 8 h
--------------------------	----------

#### Other operational conditions affecting workers exposure



Outdoor / Indoor : Outdoor  
Temperature : <= 40 °C

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

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

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

Avoid direct eye contact with product, also via contamination on hands.  
Use suitable eye protection.  
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: PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition, < 8h, 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  
Remarks : Low vapour pressure

**Frequency and duration of use**

Duration of the activity : <= 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Outdoor  
Temperature : <= 40 °C  
Remarks : Use in closed process, With occasional controlled exposure.

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

Avoid splashing.

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

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

---

**1.2.3 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation), < 8h, OC8 Indoor, CS110 without local exhaust ventilation**

---

**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  
Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 8 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
Temperature : <= 40 °C  
Remarks : Use in closed process, 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.

---

#### 1.2.4 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation), < 8h, OC8 Indoor, CS109 with local exhaust ventilation

---

##### 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  
Remarks : Low vapour pressure

##### Frequency and duration of use

Exposure duration : < 8 h

##### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor  
Temperature : <= 40 °C  
Remarks : Use in closed process, 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 (for dermal), Dermal exposure (Effectiveness (of a measure): 90 %)  
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.

---

#### 1.2.5 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, < 8h, 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  
Remarks : Low vapour pressure

##### Frequency and duration of use

Duration of the activity : <= 8 h

##### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

PRCO90076230

Version : 7.00 / GB ( EN )

www.solvay.com



Temperature : <= 40 °C

#### 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 %)  
with local exhaust ventilation, Dermal exposure (Effectiveness (of a measure): 95 %)

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

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

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

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

---

#### 1.2.6 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, < 8h, 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  
Remarks : Low vapour pressure

#### Frequency and duration of use

Duration of the activity : <= 8 h

#### Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm<sup>2</sup>)

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor  
Temperature : <= 40 °C

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

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

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

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

---

#### 1.2.7 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  
Remarks : Low vapour pressure

PRCO90076230

Version : 7.00 / GB ( EN )

www.solvay.com



#### Frequency and duration of use

Exposure duration : < 8 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor  
Temperature : <= 40 °C

#### Technical conditions and measures

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

---

### 1.2.8 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  
Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 8 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor  
Temperature : <= 40 °C

#### 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 %)  
with local exhaust ventilation, Dermal 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): 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		
For all PROC	Qualitative approach used to conclude safe use.	All routes		

RCR = Risk characterisation ratio

For all PROC  
For all PROC

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

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 : Use into insect repellent products

### 2.1. Scenario description

Main User Groups	:	<b>SU 21</b>	Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC8</b>	Biocidal products

### 2.2. Conditions of use affecting exposure

#### 2.2.1 Contributing scenario controlling consumer exposure for: PC8 Biocidal products 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).

##### Amount

Amount used per event : <= 10 g/event

##### Frequency and duration of use

Exposure duration : 0.01 h  
Frequency of use : 5 events/day

##### Human factors not influenced by risk management

Dermal exposure : whole body

##### Other given operational conditions affecting consumers exposure

Outdoor / Indoor : Indoor

##### Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Assumes a good basic standard of occupational hygiene is implemented.  
Consumer Measures : General measures (eye irritants)  
Consumer Measures : Avoid direct eye contact with product, also via contamination on hands.  
Consumer Measures : Avoid splashing.

#### 2.2.2 Contributing scenario controlling consumer exposure for: PC8 Biocidal products 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).

##### Amount

Amount used per event : <= 10 g/event

##### Frequency and duration of use

Exposure duration : 0.01 h  
Frequency of use : 5 events/day

##### Human factors not influenced by risk management

Dermal exposure : whole body

##### Other given operational conditions affecting consumers exposure

Outdoor / Indoor : Outdoor

**Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)**

- Consumer Measures : Assumes a good basic standard of occupational hygiene is implemented.  
Consumer Measures : General measures (eye irritants)  
Consumer Measures : Avoid direct eye contact with product, also via contamination on hands.  
Consumer Measures : Avoid splashing.

**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 : Formulation, On site

#### 3.1. 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>PROC3</b> <b>PROC8b</b> <b>PROC15</b> <b>PROC5</b>	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)

#### 3.2. Conditions of use affecting exposure

##### 3.2.1 Contributing scenario controlling worker exposure for: PROC3 Use in closed batch process (synthesis or formulation), < 8h, 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, 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.

##### 3.2.2 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
Remarks	:	Low vapour pressure

###### Frequency and duration of use

Duration of the activity	:	<= 8 h
--------------------------	---	--------



**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
Temperature : <= 40 °C

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

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

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

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

---

**3.2.3 Contributing scenario controlling worker exposure for: PROC8b Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, <15 min, 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  
Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 15 min

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
Temperature : <= 40 °C

**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 %)

---

**3.2.4 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  
Remarks : Low vapour pressure

**Frequency and duration of use**

Exposure duration : < 1 h

**Other operational conditions affecting workers exposure**

Outdoor / Indoor : Indoor  
Temperature : <= 40 °C

#### 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 %)

---

### 3.2.5 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 100 % (unless stated differently).  
Physical Form (at time of use) : liquid  
Remarks : Low vapour pressure

#### Frequency and duration of use

Exposure duration : < 8 h

#### Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor  
Temperature : <= 40 °C

#### 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 %)

### 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 : Formulation, Used for formulation of homecare products, Used for formulation of personal care 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>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	

### 4.2. Conditions of use affecting exposure

#### 4.2.1 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
-------------------	---	-------

#### 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)

---

**4.2.2 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**

---

**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) .

**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 %)

---

**4.2.3 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 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): 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 %)

**4.2.4 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.

**4.2.5 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**

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 %)

---

#### 4.2.6 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 %)

---

#### 4.2.7 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 %)

#### 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 %)

---

#### 4.2.8 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 %)

---

#### 4.2.9 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



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 %)

---

#### 4.2.10 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.

---

#### 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 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

PRCO90076230

Version : 7.00 / GB ( EN )

www.solvay.com



**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) .  
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 %)

---

**4.2.12 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 : <= 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.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

---

**4.2.13 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 %

PRCO90076230  
Version : 7.00 / GB ( EN )

www.solvay.com



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)

**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 : Professional end-use of polishes and wax blends (IFRA GES 5)

### 5.1. Scenario description

Main User Groups	:	<b>SU 22</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

### 5.2. Conditions of use affecting exposure

#### 5.2.1 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, < 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
------------------	---	--------

##### 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: PROC11 Non 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	:	< 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)

---

#### 5.2.3 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, maintenance products, Furniture care product, Leather care product, < 4h

---

##### 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 : < 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.

---

#### 5.2.4 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, Without gloves, Without respiratory protection

---

##### 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), Use suitable eye protection.

---

#### 5.2.5 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 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

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: PROC8a Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities, Gloves, Respiratory protection

---

##### 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

PRCO90076230  
Version : 7.00 / GB ( EN )

[www.solvay.com](http://www.solvay.com)



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 %)

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

### 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.

### 5.4. 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.

## 6. ES6 : Use in formulation, 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>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	

### 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, 5-25 %

##### 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.

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



**AUGEO® CRYSTAL**

Revision Date 06.10.2021

**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**

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)

---

**6.2.3 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 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)

---

**6.2.4 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

PRCO90076230

Version : 7.00 / GB ( EN )

www.solvay.com



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)

---

**6.2.5 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 : < 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)

---

**6.2.6 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

**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.

---

**6.2.7 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 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 : < 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.

---

**6.2.8 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 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

PRCO90076230

Version : 7.00 / GB ( EN )

www.solvay.com



**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)

---

**6.2.9 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent, < 1%**

---

**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)

---

**6.2.10 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 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.

---

**6.2.11 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

**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)

---

**6.2.12 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 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.

---

**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 : Industrial use, Use in formulation, Cosmetic products

### 7.1. 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)

### 7.2. Conditions of use affecting exposure

#### 7.2.1 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
-------------------	---	-------

##### 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.

#### 7.2.2 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 %
-----------------------------------	--	---

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)

---

**7.2.3 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)

---

**7.2.4 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



**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)

---

**7.2.5 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 : < 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)

---

**7.2.6 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

**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.

---

**7.2.7 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 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

**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.

---

**7.2.8 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 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**

PRCO90076230  
Version : 7.00 / GB ( EN )

www.solvay.com



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)

---

**7.2.9 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 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)

---

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

---

**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**

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.

### 7.2.11 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)

### 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 : Industrial use, end-products

### 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>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

### 8.2. Conditions of use affecting exposure

#### 8.2.1 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 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	:	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 %)

#### 8.2.2 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 the percentage of the substance in the product up to 100 %
-----------------------------------	--	---

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) .  
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 %)

---

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

---

**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**

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 %)

---

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

---

#### 8.2.5 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 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 : 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 %)



---

**8.2.6 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**

---

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

---

**8.2.7 Contributing scenario controlling worker exposure for: PROC7 Industrial spraying, 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

**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 %)

---

### 8.2.8 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, OC9 Outdoor

---

#### Product characteristics

Concentration of the Substance in Mixture/Article	Covers 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

#### 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 %)

---

### 8.2.9 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 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.

---

**8.2.10 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 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), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

---

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

---

**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)

---

**8.2.12 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**

---

**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 (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 %)

---

**8.2.13 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 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)  
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 %)

---

#### 8.2.14 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 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) .  
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 %)

---

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

---

##### 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), Use suitable eye protection.

### 8.2.16 Contributing scenario controlling worker exposure for: PROC7 Industrial spraying, general surface cleaning products

#### Product characteristics

Concentration of the Substance in Mixture/Article : Covers 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)  
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 %)

### 8.2.17 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 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) .  
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 %)

---

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

---

##### 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 %)

---

#### 8.2.19 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 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 : 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): 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 %)

---

#### 8.2.20 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 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) .  
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 %)

---

#### 8.2.21 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 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) .  
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 %)

**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 : Professional use, end-products

### 9.1. Scenario description

Main User Groups	:	<b>SU 22</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

### 9.2. Conditions of use affecting exposure

#### 9.2.1 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 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), Use suitable eye protection.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)

#### 9.2.2 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

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

---

#### 9.2.3 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 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), Use suitable eye protection.

---

**9.2.4 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying, <1 hr., OC8 Indoor, 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

**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)

---

**9.2.5 Contributing scenario controlling worker exposure for: PROC10 Roller application or brushing, < 8h, OC8 Indoor, 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 : < 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 %)

---

### 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

---

#### 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 : 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 %)

---

### 9.2.7 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 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

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: PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact), < 8h, OC8 Indoor, 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 : < 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.

---

**9.2.9 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying, <15 min, OC8 Indoor, CS110 without local exhaust ventilation, 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 : < 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)  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of

a measure): 80 %)

---

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

---

#### 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 : < 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.

---

### 9.2.11 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 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), Use suitable eye protection.

---

### 9.2.12 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 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): 80 %)

---

### 9.2.13 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 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.  
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of a measure): 80 %)



---

**9.2.14 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 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 : 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 %)

---

**9.2.15 Contributing scenario controlling worker exposure for: PROC11 Non industrial spraying, 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 : 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 %)

---

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

---

**Product characteristics**

PRCO90076230  
Version : 7.00 / GB ( EN )  
www.solvay.com



**AUGEO® CRYSTAL**

Revision Date 06.10.2021

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

**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 %)

---

**9.2.17 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 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 : 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 %)

---

**9.2.18 Contributing scenario controlling worker exposure for: PROC11 Non 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

PRCO90076230

Version : 7.00 / GB ( EN )

www.solvay.com

**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)  
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 %)

---

**9.2.19 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 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 (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 %)

---

**9.2.20 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 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 : < 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 %)

---

#### 9.2.21 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

---

#### 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) .  
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 %)

---

### 9.2.22 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 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 : < 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 %)

---

### 9.2.23 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 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) .  
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

---

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.

## 10. ES10 : Use at industrial site, Use in Cleaning Agents

### 10.1. 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	

### 10.2. Conditions of use affecting exposure

#### 10.2.1 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
-------------------	---	-------

##### 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)

#### 10.2.2 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

PRCO90076230  
Version : 7.00 / GB ( EN )  
www.solvay.com



**AUGEO® CRYSTAL**

Revision Date 06.10.2021

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.

---

**10.2.3 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.

---

**10.2.4 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**

PRCO90076230  
Version : 7.00 / GB ( EN )

www.solvay.com





**AUGEO® CRYSTAL**

Revision Date 06.10.2021

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.

**10.3. 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.

**10.4. 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.

## 11. ES11 : Use at industrial site, Industrial use, Use as an intermediate

### 11.1. 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

### 11.2. Conditions of use affecting exposure

#### 11.2.1 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
-------------------	---	-------

#### 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)

#### 11.2.2 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

PRCO90076230

Version : 7.00 / GB ( EN )

[www.solvay.com](http://www.solvay.com)



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)

---

**11.2.3 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**

---

**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.

---

**11.2.4 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**

---

**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

PRCO90076230

Version : 7.00 / GB ( EN )

www.solvay.com



**Frequency and duration of use**

Exposure duration : < 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.

---

**11.2.5 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 : < 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.

---

**11.2.6 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 : < 15 min

**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.

---

**11.2.7 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)

---

**11.2.8 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) .

#### 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.

---

#### 11.2.9 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.

---

#### 11.2.10 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

PRCO90076230  
Version : 7.00 / GB ( EN )

www.solvay.com



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)

#### 11.2.11 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)

#### 11.3. 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.

#### 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.

## 12. ES12 : Consumers end-use of washing and cleaning products (IFRA GES 6)

### 12.1. Scenario description

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)

### 12.2. Conditions of use affecting exposure

#### 12.2.1 Contributing scenario controlling consumer exposure for: PC35 Washing and cleaning products (including solvent based products) ,

According to REACH regulation, there is no limit of concentration to use the product in all usages described in the exposure scenarios present in this document, once the safety assessment was done as a mandatory request for the Chemical Safety Report.

#### Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

Consumer Measures : Assumes a good basic standard of occupational hygiene is implemented., General measures (eye irritants), Avoid direct eye contact with product, also via contamination on hands., Avoid splashing.

### 12.3. Exposure estimation and reference to its source



## 13. ES13 : Consumer end-use of air care products (IFRA GES 7)

### 13.1. Scenario description

Main User Groups	:	<b>SU 21</b>	Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC3</b>	Air care products

### 13.2. Conditions of use affecting exposure

#### 13.2.1 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 .... : <= 0.25 %  
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

##### Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

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

#### 13.2.2 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 .... : <= 5 %  
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.

##### Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)

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

#### 13.2.3 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 .... : <= 100 %

**Frequency and duration of use**

Frequency of use : 1 events/day

**Other given operational conditions affecting consumers exposure**

Outdoor / Indoor : Indoor

---

**13.3. 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.

---

**13.4. 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.

---

## 14. ES14 : Consumers end-use polishes and wax blends (IFRA GES 9)

---

### 14.1. Scenario description

---

Main User Groups	:	<b>SU 21</b>	Consumer uses: Private households (= general public = consumers)
Product category	:	<b>PC31</b>	Polishes and wax blends

---

### 14.2. Conditions of use affecting exposure

---

#### 14.2.1 Contributing scenario controlling consumer exposure for: PC31 Polishes and wax blends ,

---

According to REACH regulation, there is no limit of concentration to use the product in all usages described in the exposure scenarios present in this document, once the safety assessment was done as a mandatory request for the Chemical Safety Report.

---

### 14.3. Exposure estimation and reference to its source

---

---

## 15. ES15 : Consumer use, End use of cosmetic products

---

### 15.1. Scenario description

---

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).

---

### 15.2. Conditions of use affecting exposure

---