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

1.1 Product identifier

- Trade name AUGEO CLEAN MULTI

CAS-No. 100-79-8

- REACH : Registration number 01-2120066005-66-0000

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

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

Hazardous products which must be listed on the label

• CAS-No. 100-79-8

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

Pictogram



Signal word

- Warning

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Hazard statements

- H319 Causes serious eye irritation.

Precautionary statements

Prevention

P264
 P280
 Wash skin thoroughly after handling.
 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

Information on Components and Impurities

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

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

3.2 Mixture

- Not applicable, this product is a substance.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

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

In case of inhalation

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

In case of skin contact

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

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In case of eye contact

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

In case of ingestion

- Do NOT induce vomiting.
- Rinse mouth with water.
- Do not give anything to drink.
- 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

Notes to physician

- Treat symptomatically.
- There is no specific antidote available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

- Foam
- Dry powder
- Water mist
- Carbon dioxide (CO2)
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

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

5.3 Advice for firefighters

Special protective equipment for firefighters

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

Further information

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Keep away from flames and sparks.
- Store away from heat.
- Evacuate personnel to safe areas.
- Avoid contact with the skin and the eyes.
- Use personal protective equipment.

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- For personal protection see section 8.
- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Remove all incompatible materials as quickly as possible
- Mark the contaminated area with signs and prevent access to unauthorized personnel.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Recovery

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

Neutralization

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

Decontamination/cleaning

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

Disposal

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

Additional advice

- Remove all incompatible materials as quickly as possible

6.4 Reference to other sections

- no data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

Hygiene measures

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

7.2 Conditions for safe storage, including any incompatibilities

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Technical measures/Storage conditions

- The floor of the depot should be impermeable and designed to form a water-tight basin.
- Keep only in the original container.
- Keep away from heat and sources of ignition.
- Keep in a dry, cool and well-ventilated place.
- Note: To ensure the product's validity period, it is recommended to inert with nitrogen (N2) in storage.

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.

8.2 Exposure controls

Individual protection measures

Respiratory protection

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

Hand protection

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

Eye protection

- Tightly fitting safety goggles

Skin and body protection

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

Hygiene measures

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

Protective measures

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

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Environmental exposure controls

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<u>Appearance</u> <u>Form</u>: liquid

Physical state: liquid

Colour: colourless

<u>Odour</u> slight

Odour Threshold No data available

Molecular weight 132.16 g/mol

<u>pH</u> Not applicable

Melting point/freezing point Freezing point: -99 °C

<u>Initial boiling point and boiling range</u> Boiling point/boiling range: 191 °C (1,013.25 hPa)

Flash point 91 °C closed cup

100 °C open cup

Evaporation rate (Butylacetate = 1) 0.03

Flammability (solid, gas)No data availableFlammability (liquids)No data availableFlammability/Explosive limitNo data available

<u>Auto-ignition temperature</u> 390 °C (1,013 hPa)

Method: EU Test Guideline A15

<u>Vapour pressure</u> 0.05 hPa (20 °C)

Vapour density 2.6

Density

Relative density 1.069 (20 °C)
Solubility Water solubility:

(20 °C)completely soluble

Solubility in other solvents:

Alcohol : miscible

Esters: miscible

Ether: miscible

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Aromatic hydrocarbons: miscible

petroleum ether. : miscible

petrol: miscible

Partition coefficient: n-octanol/water No data available

Decomposition temperature No data available

<u>Viscosity</u>, <u>dynamic</u>: 11 mPa.s (20 °C)

Explosive propertiesNo data available

Oxidizing properties No data available

9.2 Other information

Surface tension 33.5 mN/m (20 °C)

SECTION 10: Stability and reactivity

10.1 Reactivity

- Not classified as a reactivity hazard.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

- Vapours may form explosive mixture with air.

10.4 Conditions to avoid

- Heat, flames and sparks.

10.5 Incompatible materials

- Strong oxidizing agents
- Strong acids

10.6 Hazardous decomposition products

Hazardous decomposition products

- On combustion or on thermal decomposition (pyrolysis) releases:
- (Carbon oxides (CO + CO2)).
- Acetic acid
- Ethanol

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LD50: 7,000 mg/kg - Rat

Not classified as hazardous for acute oral toxicity according to GHS.

Published data

Acute inhalation toxicity

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2,2-dimethyl-1,3-dioxolan-4-ylmethanol LC50 (dust/mist): > 5.11 mg/l - Rat, male and female

Method: OECD Test Guideline 403

Not classified as hazardous for acute inhalation toxicity according to GHS.

Aerosol

No mortality observed at this concentration.

Unpublished internal reports

Acute dermal toxicity

2,2-dimethyl-1,3-dioxolan-4-ylmethanol LD50: 2,000 mg/kg - Rat, male and female

Method: OECD Test Guideline 402

Not classified as hazardous for acute dermal toxicity according to GHS.

Unpublished internal reports

Acute toxicity (other routes of

administration)

No data available

Skin corrosion/irritation

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

No skin irritation

Method: OECD Test Guideline 404 Unpublished internal reports

Serious eye damage/eye irritation

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

irritating

Method: OECD Test Guideline 405 Unpublished internal reports

Respiratory or skin sensitisation

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Maximisation Test - Guinea pig

Does not cause skin sensitisation. Method: OECD Test Guideline 406 Unpublished internal reports

Mutagenicity

Genotoxicity in vitro

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

with and without metabolic activation

negative

Method: OECD Test Guideline 471 Unpublished internal reports

Genotoxicity in vivo

2,2-dimethyl-1,3-dioxolan-4-ylmethanol In vivo micronucleus test - Mouse

male

Intraperitoneal route

Method: OECD Test Guideline 474

negative

Unpublished internal reports

<u>Carcinogenicity</u> No data available

Toxicity for reproduction and development

Toxicity to reproduction/Fertility

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

Reproduction/developmental toxicity screening test - Rat, male and female, Oral

Fertility NOAEL Parent: 1,000 mg/kg bw/day

Method: OECD Test Guideline 422

Highest dose tested, no impairment of fertility has been observed, Unpublished

internal reports

Developmental Toxicity/Teratogenicity

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Rat, male and female, Oral

General Toxicity Maternal NOAEL: 1,000 mg/kg bw/day

Teratogenicity NOAEL F1:1,000mg/kg bw/day

Embryo-foetal toxicity NOAEL F1: 1,000 mg/kg bw/day

Method: OECD Test Guideline 414

Highest dose tested, no embryotoxic or teratogenic effects have been observed,

Unpublished internal reports

STOT

STOT - single exposure

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Exposure routes: Ingestion, Skin contact, Inhalation

The substance or mixture is not classified as specific target organ toxicant, single

exposure according to GHS criteria.

internal evaluation

STOT - repeated exposure

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Exposure routes: Ingestion, Inhalation

The substance or mixture is not classified as specific target organ toxicant,

repeated exposure according to GHS criteria.

internal evaluation

2,2-dimethyl-1,3-dioxolan-4-ylmethanol Oral - Rat , male and female

NOAEL: 1000 mg/kg

Method: OECD Test Guideline 422

Highest dose tested

No significant adverse effects were reported A testing proposal has been submitted to ECHA.

Unpublished internal reports

Inhalation (aerosol) 90-day - Rat , male and female

NOAEC: > 5 mg/l

Method: OECD Test Guideline 413

Highest dose tested

No significant adverse effects were reported

Unpublished internal reports

Experience with human exposure No data available

<u>Aspiration toxicity</u> No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

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2,2-dimethyl-1,3-dioxolan-4-ylmethanol LC50 - 96 h: 16.7 g/l - Pimephales promelas (fathead minnow)

flow-through test Analytical monitoring: yes

Method: according to a standardised method

Published data

Not harmful to fish (LC/LL50 > 100 mg/L)

Acute toxicity to daphnia and other aquatic invertebrates

2,2-dimethyl-1,3-dioxolan-4-ylmethanol EC50 - 48 h : > 96 mg/l - Daphnia similis (water flea)

static test

Analytical monitoring: yes

Method: OECD Test Guideline 202

Not harmful to aquatic invertebrates. (EC/EL50 > 100 mg/L)

Unpublished internal reports

Toxicity to aquatic plants

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

static test

Analytical monitoring: yes

Method: OECD Test Guideline 201 Not harmful to algae (EC/EL50 > 100 mg/L)

Unpublished internal reports

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

static test

Analytical monitoring: yes

Method: OECD Test Guideline 201

No adverse chronic effect observed up to and including the threshold of 1 mg/L.

Unpublished internal reports

Toxicity to microorganisms

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

static test

Analytical monitoring: no

Method: OECD Test Guideline 209 Unpublished internal reports

Chronic toxicity to fish No data available

Chronic toxicity to daphnia and other aquatic invertebrates

2,2-dimethyl-1,3-dioxolan-4-ylmethanol semi-static test

NOEC: 10 mg/l - 21 Days - Daphnia magna (Water flea)

flow-through test

Analytical monitoring: yes End point: Reproduction

Method: OECD Test Guideline 211

No adverse chronic effect observed up to and including the threshold of 1 mg/L.

Terrestrial Compartment

Toxicity to soil dwelling organisms

2,2-dimethyl-1,3-dioxolan-4-ylmethanol NOEC: 250 mg/kg - 56 Days - Eisenia fetida (earthworms)

End point: Reproduction

Method: OECD Test Guideline 222 Unpublished internal reports

NOEC: 12.5 mg/kg - 28 Days - soil micro-organisms

End point: Nitrogen transformation Method: OECD Test Guideline 216

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Unpublished internal reports

12.2 Persistence and degradability

Abiotic degradation

Stability in water

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

pH: 4.0

Temperature of hydrolysis: 25 °C Degree of hydrolysis: 50 % Hydrolysis time: 0.959 Days Method: OECD Test Guideline 111 Unpublished internal reports

Physical- and photo-chemical

<u>elimination</u>

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 internal 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 Conc. in standard unit mg/l: 10 mg/l Unpublished internal reports

Degradability assessment

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

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

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

ylmethanol

Not potentially bioaccumulable

Bioconcentration factor (BCF) No data available

12.4 Mobility in soil

Adsorption potential (Koc)

 $\hbox{2,2-dimethyl-1,3-dioxolan-4-ylmethanol} \quad \hbox{Adsorption/Soil}$

Log Koc: < 1.25

Method: OECD Test Guideline 121 Unpublished internal reports

Known distribution to environmental

compartments

No data available

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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

2,2-dimethyl-1,3-dioxolan-4-ylmethanol The product does not have any known adverse effects on the aquatic organisms

tested

Long-term (chronic) aquatic hazard

2,2-dimethyl-1,3-dioxolan-4-ylmethanol No adverse chronic effect observed up to and including the threshold of 1 mg/L.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

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

Advice on cleaning and disposal of packaging

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

SECTION 14: Transport information

ADN/ADNR

not regulated

<u>ADR</u>

not regulated

<u>RID</u>

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

Requirements of Annex XVII to Regulation (EC) 1907/2006 apply to this

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manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) 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

Inventory Information	Status
United States TSCA Inventory	- On TSCA Inventory
Canadian Domestic Substances List (DSL)	All components of this product are on the Canadian DSL
Australia Inventory of Chemical Substances (AICS)	- On the inventory, or in compliance with the inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- On the inventory, or in compliance with the inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- On the inventory, or in compliance with the inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	If product is purchased from Solvay in Europe it is in compliance with REACH, if not please contact the supplier.
New Zealand. Inventory of Chemical Substances	- On the inventory, or in compliance with the inventory

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

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- 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

- Update
- Exposure scenario

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

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Annex

Scenario List

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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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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

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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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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
Temperature : Outdoor
: <= 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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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
Temperature : Indoor
: <= 40 °C

Remarks : Use in closed process, With occasional controlled exposure.

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Technical conditions and measures

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

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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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
Temperature : Indoor
: <= 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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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

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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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (unless stated differently).

Physical Form (at time of use) : Liquid

Remarks : Low vapour pressure

Frequency and duration of use

Duration of the activity : \leq 8 h

Human factors not influenced by risk management

Dermal exposure : Two hands (960 cm2)

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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (unless stated differently).

Physical Form (at time of use) : liquid

Remarks : Low vapour pressure

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Frequency and duration of use

Exposure duration : < 8 h

Other operational conditions affecting workers exposure

Outdoor / Indoor
Temperature : Indoor
: <= 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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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
Temperature : Indoor
: <= 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 %)

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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 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.

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2. ES2: Use into insect repellent products

2.1. Scenario description

Main User Groups : SU 21 Consumer uses: Private households (= general public =

consumers)

Product category : PC8 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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (unless stated differently).

Amount

Amount used per event : $\leq 10 \text{ g/event}$

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

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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.

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3. ES3: Formulation, On site

3.1. Scenario description

Main User Groups : SU 3 Industrial uses: Uses of substances as such or in preparations at

industrial sites

Process category : **PROC3** Use in closed batch process (synthesis or formulation)

PROC8b Transfer of substance or preparation (charging/ discharging) from/

to vessels/ large containers at dedicated facilities

PROC15 Use as laboratory reagent

PROC5 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 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 : < 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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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

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Other operational conditions affecting workers exposure

Outdoor / Indoor
Temperature : Indoor
: <= 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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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
Temperature : Indoor
: <= 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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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

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Outdoor / Indoor
Temperature : Indoor
: <= 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 Covers the percentage of the substance in the product up to 100 %

Mixture/Article (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
Temperature : Indoor
: <= 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 %)

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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.

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4. ES4 : Formulation, Used for formulation of homecare products, Used for formulation of personal care products

4.1. Scenario description

Main User Groups : SU 3 Industrial uses: Uses of substances as such or in preparations at

industrial sites

Process category : **PROC1** Use in closed process, no likelihood of exposure

PROC14

PROC2 Use in closed, continuous process with occasional controlled

exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for

exposure arises

PROC15 Use as laboratory reagent

PROC8b Transfer of substance or preparation (charging/ discharging) from/

to vessels/ large containers at dedicated facilities

PROC5 Mixing or blending in batch processes for formulation of

preparations and articles (multistage and/ or significant contact)
Production of preparations or articles by tabletting, compression,

extrusion, pelletisation

PROC9 Transfer of substance or preparation into small containers

(dedicated filling line, including weighing)

PROC8a 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 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 : < 1 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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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 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 : < 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 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 : $<= 40 \, ^{\circ}\text{C}$

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.

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

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

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

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 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 : < 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 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

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

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

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

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

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 : < 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 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 : < 1 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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

Technical conditions and measures

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

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

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Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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

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 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 : < 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 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 : < 1 h

Other operational conditions affecting workers exposure

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Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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

4.2.10 Contributing scenario controlling worker exposure for: PROC14 Production of preparations or articles by tabletting, compression, extrusion, pelletisation

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 : < 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 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

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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 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 : < 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 %

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Mixture/Article (unless stated differently).

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor

Remarks : Use in closed process

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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.

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5. ES5: Professional end-use of polishes and wax blends (IFRA GES 5)

5.1. Scenario description

Main User Groups : SU 22 Professional uses: Public domain (administration, education,

entertainment, services, craftsmen)

Covers percentage substance in the product up to 1 %.

Process category : **PROC10** Roller application or brushing

PROC11 Non industrial spraying

PROC8a Transfer of substance or preparation (charging/ discharging) from/

to vessels/ large containers at non-dedicated facilities

PROC2 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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use)

: liquid

Process Temperature

: <= 40 °C

Remarks

: Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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.

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6. ES6: Use in formulation, end-products

6.1. Scenario description

SU 3 Main User Groups Industrial uses: Uses of substances as such or in preparations at

industrial sites

PROC8b Transfer of substance or preparation (charging/ discharging) from/ Process category

to vessels/ large containers at dedicated facilities

PROC2 Use in closed, continuous process with occasional controlled

exposure

PROC15 Use as laboratory reagent

PROC1 Use in closed process, no likelihood of exposure PROC3 Use in closed batch process (synthesis or formulation) PROC5 Mixing or blending in batch processes for formulation of

preparations and articles (multistage and/ or significant contact) Transfer of substance or preparation (charging/ discharging) from/

PROC8a to vessels/ large containers at non-dedicated facilities

> Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Covers the percentage of the substance in the product up to 25 %.

PROC14 Production of preparations or articles by tabletting, 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

liquid

PROC9

Physical Form (at time of use) <= 40 °C Process Temperature

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

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Covers the percentage of the substance in the product up to 25 %.

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Product characteristics

Concentration of the Substance in

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

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

Covers the percentage of the substance in the product up to 25 %.

Mixture/Article

Physical Form (at time of use)
Process Temperature

: liquid : <= 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

Covers the percentage of the substance in the product up to 25 %.

Mixture/Article

Physical Form (at time of use) : liquid

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Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 1 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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 Covers the percentage of the substance in the product up to 25 %.

Mixture/Article

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

Covers the percentage of the substance in the product up to 25 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

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Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 4 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

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Frequency and duration of use

Exposure duration : < 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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 1 h

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Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 tabletting, compression, extrusion, pelletisation

Product characteristics

Concentration of the Substance in Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 8 h

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Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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.

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7. ES7: Industrial use, Use in formulation, Cosmetic products

7.1. 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 preparation (charging/ discharging) from/

to vessels/ large containers at dedicated facilities

PROC2 Use in closed, continuous process with occasional controlled

exposure

PROC15 Use as laboratory reagent

PROC1 Use in closed process, no likelihood of exposure
PROC3 Use in closed batch process (synthesis or formulation)
PROC5 Mixing or blending in batch processes for formulation of

preparations and articles (multistage and/ or significant contact)
Transfer of substance or preparation (charging/ discharging) from/

PROC8a Transfer of substance or preparation (charging/ discharging) to vessels/ large containers at non-dedicated facilities

PROC9 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 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 : < 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 %

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Mixture/Article (unless stated differently).

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

7.2.3 Contributing scenario controlling worker exposure for: PROC15 Use as laboratory reagent, 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

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 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

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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 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 : < 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 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

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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 Covers the percentage of the substance in the product up to 25 %.

Mixture/Article

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 Covers the percentage of the substance in the product up to 25 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : $<= 40 \, ^{\circ}\text{C}$

Remarks : Low vapour pressure

Frequency and duration of use

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Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

Product characteristics

Concentration of the Substance in Covers the percentage of the substance in the product up to 25 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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 Covers the percentage of the substance in the product up to 25 %

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 : < 1 h

Other operational conditions affecting workers exposure

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Outdoor / Indoor : Indoor

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

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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 Covers the percentage of the substance in the product up to 25 %.

Mixture/Article

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.

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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.

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8. ES8: Industrial use, end-products

8.1. 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 preparation (charging/ discharging) from/

to vessels/ large containers at dedicated facilities

PROC2 Use in closed, continuous process with occasional controlled

exposure

PROC8a Transfer of substance or preparation (charging/ discharging) from/

to vessels/ large containers at non-dedicated facilities

PROC4 Use in batch and other process (synthesis) where opportunity for

exposure arises

PROC7 Industrial spraying

PROC10 Roller application or brushing

PROC13 Treatment of articles by dipping and pouring

Covers percentage substance in the product up to 1 %.

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

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 percentage substance in the product up to 1 %.

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Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

with local exhaust ventilation (Effectiveness (of a measure): 90 %)

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 8 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

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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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : $<= 40 \, ^{\circ}\text{C}$

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 1 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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

Product characteristics

Concentration of the Substance in Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 8 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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)

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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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : $<= 40 \, ^{\circ}\text{C}$

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.

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

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

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

Product characteristics

Concentration of the Substance in Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : $<= 40 \, ^{\circ}\text{C}$

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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

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

Covers percentage substance in the product up to 1 %.

Product characteristics

Concentration of the Substance in

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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

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Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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

Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : $<= 40 \, ^{\circ}\text{C}$

Remarks : Low vapour pressure

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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.

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9. ES9: Professional use, end-products

9.1. Scenario description

Main User Groups : SU 22 Professional uses: Public domain (administration, education,

entertainment, services, craftsmen)

Process category : PROC8a Transfer of substance or preparation (charging/ discharging) from/

to vessels/ large containers at non-dedicated facilities

PROC11 Non industrial spraying Roller application or brushing

PROC8b Transfer of substance or preparation (charging/ discharging) from/

to vessels/ large containers at dedicated facilities

PROC2 Use in closed, continuous process with occasional controlled

exposure

PROC13 Treatment of articles by dipping and pouring

PROC4 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

Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

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

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Product characteristics

Concentration of the Substance in Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

Product characteristics

Concentration of the Substance in Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : $<= 40 \, ^{\circ}\text{C}$

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 8 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

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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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor : Indoor : 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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor Remarks : Use in closed process

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training. (Effectiveness (of

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a measure): 80 %)

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

Product characteristics

Concentration of the Substance in Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 1 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 1 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

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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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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

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

Outdoor

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

Outdoor / Indoor

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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

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Concentration of the Substance in

Mixture/Article

Covers percentage substance in the product up to 1 %.

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 8 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : $<= 40 \, ^{\circ}\text{C}$

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

Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

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Frequency and duration of use

Exposure duration : < 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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

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Frequency and duration of use

Exposure duration : < 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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid
Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

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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 Covers percentage substance in the product up to 1 %.

Mixture/Article

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 Covers percentage substance in the product up to 1 %.

Mixture/Article

Physical Form (at time of use) : liquid Process Temperature : <= 40 °C

Remarks : Low vapour pressure

Frequency and duration of use

Exposure duration : < 15 min

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Technical conditions and measures

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

with local exhaust ventilation

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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	All routes		
	use.			

RCR = Risk characterisation ratio

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

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

Risk management measures are based on qualitative risk characterisation.

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

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

10.1. Scenario description

Main User Groups : SU 3 Industrial uses: Uses of substances as such or in preparations at

industrial sites

Process category : 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)

PROC4 Use in batch and other process (synthesis) where opportunity for

exposure arises

PROC7 Industrial spraying

PROC8a Transfer of substance or preparation (charging/ discharging) from/

to vessels/ large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/ discharging) from/

to vessels/ large containers at dedicated facilities

PROC10 Roller application or brushing

PROC13 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 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 : < 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

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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 : < 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 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 : < 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

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Concentration of the Substance in

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

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.

Mixture/Article

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.

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

11.1. Scenario description

Main User Groups : SU 3 Industrial uses: Uses of substances as such or in preparations at

industrial sites

Process category : **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)

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

PROC15 Use as laboratory reagent

PROC8a 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 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 : < 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 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

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Exposure duration : < 1 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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 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 : < 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 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

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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 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 : 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 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

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Other operational conditions affecting workers exposure

Outdoor / Indoor : Outdoor

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

Organisational measures to prevent /limit releases, dispersion and exposure

Assumes a good basic standard of occupational hygiene is implemented.

Avoid splashing.

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

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

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

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 : < 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 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 : < 1 h

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoo

Technical conditions and measures

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

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Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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 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 : < 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 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 : < 8 h

Other operational conditions affecting workers exposure
Outdoor / Indoor : Indoor

Remarks : Use in closed process

Technical conditions and measures

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

Organisational measures to prevent /limit releases, dispersion and exposure

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

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

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

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 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 : < 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.

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

12.1. Scenario description

Main User Groups : SU 21 Consumer uses: Private households (= general public =

consumers)

Product category : PC35 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

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

13.1. Scenario description

Main User Groups : SU 21 Consumer uses: Private households (= general public =

consumers)

Product category : **PC3** Air care products

13.2. Conditions of use affecting exposure

13.2.1 Contributing scenario controlling consumer exposure for: PC3 Air care 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.

13.3. Exposure estimation and reference to its source

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

14.1. Scenario description

Main User Groups : SU 21 Consumer uses: Private households (= general public =

consumers)

Product category : **PC31** 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



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

15.1. Scenario description

Main User Groups : SU 21 Consumer uses: Private households (= general public =

consumers)

Product category : **PC39** Cosmetics, personal care products

PC28 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

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