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

1.1. Product identifier

Product form: Substance
Name: Sodium Carbonate
EC-No.: 207-838-8
CAS-No.: 497-19-8
REACH registration No: 01-2119485498-19-0081
Formula: Na₂CO₃

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

1.2.1. Relevant identified uses

Use of the substance/mixture: Pharmaceutical industry

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer
JOST CHEMICAL CO.
8150 Lackland
P.O. Box MO 63114
Saint Louis - USA
T +1 314-428-4300 - F +1 314-428-4366
sds@jostchemical.com

Distributor
JOST CHEMICAL EUROPE SPRL
Rue du Bois Portal 30/1-3
5300 Andenne - BELGIQUE
T +32 85 552 655 - F +32 85 552 654
info@josteurope.com

1.4. Emergency telephone number

Emergency number: For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night
United States and Canada: 1-800-424-9300 / +1 703-527-3887
Global: +1 703-741-5970

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>National Poisons Information Centre</td>
<td>PO Box 1297 Beaumont Road 9 Dublin</td>
<td>+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Eye Irrit. 2  H319

Full text of hazard classes and H-statements: see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye irritation. Presents no particular risk to the environment, provided the disposal requirements (see section 13) and national or local regulations are complied with. Not classified as flammable by EC criteria.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

<table>
<thead>
<tr>
<th>Signal word (CLP)</th>
<th>Hazard statements (CLP)</th>
<th>Precautionary statements (CLP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning</td>
<td>H319 - Causes serious eye irritation.</td>
<td>P280 - Wear eye protection. 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.</td>
</tr>
</tbody>
</table>
2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Carbonate</td>
<td>(CAS-No.) 497-19-8 (EC-No.) 207-838-8 (REACH-no) 01-2119485498-19-0081</td>
<td>Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Move the affected person away from the contaminated area and into the fresh air. If symptoms persist call a doctor.
First-aid measures after skin contact: Take off immediately all contaminated clothing and wash it before reuse. Wash with soapy water. If symptoms persist call a doctor.
First-aid measures after eye contact: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult an eye specialist.
First-aid measures after ingestion: Rinse mouth out with water. If the person is fully conscious, make him/her drink water. Never give an unconscious person anything to drink. Never attempt to induce vomiting. Get medical advice and attention if you feel unwell.

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

Symptoms/effects after eye contact: Irritation. Blurred vision.
Symptoms/effects after ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Dry powder. Water fog. Carbon dioxide (CO2).

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire: On combustion or on thermal decomposition (pyrolysis) releases: flammable gases which may generate fire or explosion hazards, Carbon oxides (CO, CO2).

5.3. Advice for firefighters

Firefighting instructions: Contain the extinguishing fluids by bunding.
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Complete protective clothing. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Avoid contact with skin and eyes. Avoid creating or spreading dust. Do not breathe dust.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Do not allow product to spread into the environment. Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

For containment: Sweep up or vacuum up the product. Avoid creating or spreading dust. Collect up the product and place it in a spare container suitably labelled.
Methods for cleaning up: Wash contaminated area with large amounts of water.
Other information: Dispose of contaminated materials in accordance with current regulations.
Na₂CO₃
Sodium Carbonate

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Dust extraction (suction). Avoid contact with skin and eyes. Avoid the formation or spread of dust in the atmosphere.

Hygiene measures: Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.

Storage conditions: Keep container tightly closed and dry. Store in a cool, well-ventilated place. Protect from light.


Packaging materials: Polyethylene.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Sodium Carbonate (497-19-8)</th>
<th>DNEL/DMEL (Workers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term - local effects, inhalation</td>
<td>10 mg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls:
Ensure good ventilation of the work station. Extraction to remove dust at its source. Eye fountain.

Hand protection:
Neoprene rubber gloves. Protective gloves made of rubber. The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN 374. Breakthrough time: refer to the recommendations of the supplier.

Eye protection:
Safety glasses

Skin and body protection:
Dustproof clothing

Respiratory protection:
In case of dust formation use respirator with filter: P2 / FFP2

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystalline powder.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>105.99 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>White.</td>
</tr>
<tr>
<td>Odour</td>
<td>None.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>851 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable (Test method EU A.10) (Published data)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
</tbody>
</table>
**Sodium Carbonate**

**Safety Data Sheet**

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative density</td>
<td>2.52 - 2.53 (20°C) (OECD 109 method) (Published data)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: 212.5 g/l (20 °C)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>Not applicable (inorganic substance)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Non oxidizing material.</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**SECTION 10: Stability and reactivity**

10.1. Reactivity
Reacts exothermically with (some) acids.

10.2. Chemical stability
Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions
Stable under normal conditions of use.

10.4. Conditions to avoid
Moisture.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified (Based on available data, the classification criteria are not met)</td>
<td></td>
</tr>
</tbody>
</table>

**Sodium Carbonate (497-19-8)**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>2800 mg/kg (Aqueous solution - 20%)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg (EPA 16 CFR 1500.40)</td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>2.3 mg/l/2h (Published data)</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Not classified (Based on available data, the classification criteria are not met)

Additional information:
Not irritating to rabbits on cutaneous application (OECD 404 method)

Serious eye damage/irritation
Causes serious eye irritation.

pH: Not applicable

Additional information:
Irritating to rabbits on ocular application (EPA 16 CFR 1500.42)

Respiratory or skin sensitisation
Not classified (Based on available data, the classification criteria are not met)

Additional information:
No sensitizing effect known

Germ cell mutagenicity
Not classified (Based on available data, the classification criteria are not met)

Additional information:
Bacterial mutation test: Negative (Published data)

Carcinogenicity
Not classified (Based on available data, the classification criteria are not met)

Reproductive toxicity
Not classified (Based on available data, the classification criteria are not met)

Additional information:
NOAEL (oral, rat) : ≥ 245 mg/kg/j
NOAEL (oral, rabbit) : ≥ 179 mg/kg/d
NOAEL (oral, mouse) : ≥ 340 mg/kg/d (Published data)

STOT-single exposure
Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure
Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard
Not classified (Technical impossibility to obtain the data)
**Sodium Carbonate**

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

**SECTION 12: Ecological information**

12.1. **Toxicity**
- Acute aquatic toxicity: Not classified (Based on available data, the classification criteria are not met)
- Chronic aquatic toxicity: Not classified (Based on available data, the classification criteria are not met)

**Sodium Carbonate (497-19-8)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish</td>
<td>300 mg/l/96h (Lepomis macrochirus) (Published data)</td>
</tr>
<tr>
<td>EC50 Daphnia</td>
<td>265 mg/l/48 h (Daphnia magna) (Published data)</td>
</tr>
</tbody>
</table>

12.2. **Persistence and degradability**
- No additional information available

12.3. **Bioaccumulative potential**

**Sodium Carbonate (497-19-8)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>Not applicable (inorganic substance)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Not bioaccumulable.</td>
</tr>
</tbody>
</table>

12.4. **Mobility in soil**
- No additional information available

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

**Sodium Carbonate (497-19-8)**

- This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
- This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. **Other adverse effects**
- No additional information available

**SECTION 13: Disposal considerations**

13.1. **Waste treatment methods**

<table>
<thead>
<tr>
<th>Waste treatment methods</th>
<th>Dispose of in accordance with relevant local regulations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product/Packaging disposal</td>
<td>Destroy at an authorised site.</td>
</tr>
<tr>
<td>Additional information</td>
<td>The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.</td>
</tr>
</tbody>
</table>

**SECTION 14: Transport information**

In accordance with ADR / IMDG / IATA

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1. UN number</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.2. UN proper shipping name</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.3. Transport hazard class(es)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.4. Packing group</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>14.5. Environmental hazards</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

14.6. **Special precautions for user**

- **Overland transport**
  - Not applicable

- **Transport by sea**
  - Not applicable

- **Air transport**
  - Not applicable

14.7. **Transport in bulk according to Annex II of Marpol and the IBC Code**
- Not applicable
Sodium Carbonate
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
Sodium Carbonate is not on the REACH Candidate List
Sodium Carbonate is not on the REACH Annex XIV List

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

A chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:
This sheet was updated (refer to the date at the top of this page). SDS changed sections : 2-3.

Data sources

Other information
This product must not be used for other applications that mentioned in §1. Safety data sheet
established by : LISAM SERVICES - TELEGIS
17 rue de la Couture F-60400 Passel

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>H</th>
<th>EUH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>

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

#### Table of contents of the Annex

<table>
<thead>
<tr>
<th>Identified Uses</th>
<th>Es N°</th>
<th>Short title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use as industrial processing aid</td>
<td>1</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>
# Sodium Carbonate Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

## 1. ES1: Use as industrial processing aid

### 1.1. Title section

Use as industrial processing aid

<table>
<thead>
<tr>
<th>ES Ref.: ES1</th>
<th>ES Type: Worker</th>
</tr>
</thead>
</table>

#### Environment

Contributing scenario controlling environmental exposure

<table>
<thead>
<tr>
<th>Worker Contributing Scenario</th>
<th>ERC4</th>
</tr>
</thead>
</table>

#### Worker

Worker Contributing Scenario

<table>
<thead>
<tr>
<th>Worker Contributing Scenario</th>
<th>PROC1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Worker Contributing Scenario</th>
<th>PROC3</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Worker Contributing Scenario</th>
<th>PROC8a</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Worker Contributing Scenario</th>
<th>PROC15</th>
</tr>
</thead>
</table>

Processes, tasks, activities covered

<table>
<thead>
<tr>
<th>Industrial use</th>
</tr>
</thead>
</table>

### 1.2. Conditions of use affecting exposure

#### 1.2.1. Control of environmental exposure: Contributing scenario controlling environmental exposure (ERC4)

**ERC4**

Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

#### 1.2.2. Control of worker exposure: Worker Contributing Scenario (PROC1)

**PROC1**

Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

#### Product (article) characteristics

- **Physical form of product**: Powder
- **Concentration of substance in product**: > 25%

#### Amount used (or contained in articles), frequency and duration of use/exposure

- **Use frequency**: > 4 h/day
- **Every day**

#### Technical and organisational conditions and measures

- Provide local exhaust or general room ventilation. Extraction to remove dust at its source
- Handle in accordance with good industrial hygiene and safety practice

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

- In the event of exposure to high concentrations of dust: Wear suitable respiratory equipment
- Wear safety glasses with side shields.
- Wear suitable gloves. Protective clothing

#### Other conditions affecting workers exposure

- Solid, medium dustiness
- Indoor or outdoor use

#### 1.2.3. Control of worker exposure: Worker Contributing Scenario (PROC3)

**PROC3**

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

#### Product (article) characteristics

- **Physical form of product**: Powder
- **Concentration of substance in product**: > 25%

#### Amount used (or contained in articles), frequency and duration of use/exposure

- **Use frequency**: > 4 h/day
- **Every day**

#### Technical and organisational conditions and measures

- Provide local exhaust or general room ventilation
- Handle in accordance with good industrial hygiene and safety practice

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

- In the event of exposure to high concentrations of dust: Wear suitable respiratory equipment
- Wear safety glasses with side shields.
- Wear suitable gloves. Protective clothing
### Sodium Carbonate

**Safety Data Sheet**

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

---

### Other conditions affecting workers exposure

<table>
<thead>
<tr>
<th>Solid, medium dustiness</th>
<th>Indoor or outdoor use</th>
</tr>
</thead>
</table>

### 1.2.4. Control of worker exposure: Worker Contributing Scenario (PROC8a)

**PROC8a**

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

#### Product (article) characteristics

<table>
<thead>
<tr>
<th>Physical form of product</th>
<th>Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration of substance in product</td>
<td>&gt; 25 %</td>
</tr>
</tbody>
</table>

#### Amount used (or contained in articles), frequency and duration of use/exposure

<table>
<thead>
<tr>
<th>Use frequency</th>
<th>&gt; 4 h/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td></td>
</tr>
</tbody>
</table>

#### Technical and organisational conditions and measures

- Provide local exhaust or general room ventilation
- Handle in accordance with good industrial hygiene and safety practice

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

In the event of exposure to high concentrations of dust:
- Wear suitable respiratory equipment
- Wear safety glasses with side shields.
- Wear suitable gloves. Protective clothing

### Other conditions affecting workers exposure

<table>
<thead>
<tr>
<th>Solid, medium dustiness</th>
<th>Indoor or outdoor use</th>
</tr>
</thead>
</table>

### 1.2.5. Control of worker exposure: Worker Contributing Scenario (PROC15)

**PROC15**

Use as laboratory reagent

#### Product (article) characteristics

<table>
<thead>
<tr>
<th>Physical form of product</th>
<th>Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration of substance in product</td>
<td>&gt; 25 %</td>
</tr>
</tbody>
</table>

#### Amount used (or contained in articles), frequency and duration of use/exposure

<table>
<thead>
<tr>
<th>Use frequency</th>
<th>&gt; 4 h/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td></td>
</tr>
</tbody>
</table>

#### Technical and organisational conditions and measures

- Provide local exhaust or general room ventilation. Extraction to remove dust at its source
- Handle in accordance with good industrial hygiene and safety practice

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

In the event of exposure to high concentrations of dust:
- Wear suitable respiratory equipment
- Wear safety glasses with side shields.
- Wear suitable gloves. Protective clothing

### Other conditions affecting workers exposure

<table>
<thead>
<tr>
<th>Solid, medium dustiness</th>
<th>Indoor or outdoor use</th>
</tr>
</thead>
</table>

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

#### 1.3.1. Environmental release and exposure Contributing scenario controlling environmental exposure (ERC4)

<table>
<thead>
<tr>
<th>Release route</th>
<th>Release rate</th>
<th>Release estimation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release to waste water from process, Insignificant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release to air from process, Low</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 1.3.2. Worker exposure Worker Contributing Scenario (PROC1)

<table>
<thead>
<tr>
<th>Route of exposure and type of effects</th>
<th>Exposure estimate</th>
<th>RCR</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term - Local - Inhalation</td>
<td>0.007 mg/m³</td>
<td>0.001</td>
<td>ECETOC TRA v3.1 Worker</td>
</tr>
</tbody>
</table>
### 1.3.3. Worker exposure Worker Contributing Scenario (PROC3)

<table>
<thead>
<tr>
<th>Route of exposure and type of effects</th>
<th>Exposure estimate</th>
<th>RCR</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term - Local - Inhalation</td>
<td>0.1 mg/m³</td>
<td>0.01</td>
<td></td>
</tr>
</tbody>
</table>

### 1.3.4. Worker exposure Worker Contributing Scenario (PROC8a)

<table>
<thead>
<tr>
<th>Route of exposure and type of effects</th>
<th>Exposure estimate</th>
<th>RCR</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term - Local - Inhalation</td>
<td>3.5 mg/m³</td>
<td>0.35</td>
<td></td>
</tr>
</tbody>
</table>

### 1.3.5. Worker exposure Worker Contributing Scenario (PROC15)

<table>
<thead>
<tr>
<th>Route of exposure and type of effects</th>
<th>Exposure estimate</th>
<th>RCR</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term - Local - Inhalation</td>
<td>0.35 mg/m³</td>
<td>0.035</td>
<td></td>
</tr>
</tbody>
</table>

### 1.4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

#### 1.4.1. Environment

| Guidance - Environment | No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for environment. |

#### 1.4.2. Health

| Guidance - Health | No additional risk management measures, besides those that are mentioned above, are needed to guarantee safe use for workers. |
| Health Scaling Method | ECETOC TRA v3.1 Worker |