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

1.1 Product identifier  
Identification of the substance: Caesium chloride  
Article number: 7878  
Registration number (REACH): 01-2119977124-35-xxxx  
EC number: 231-600-2  
CAS number: 7647-17-8

1.2 Relevant identified uses of the substance or mixture and uses advised against  
Relevant identified uses: laboratory chemical, laboratory and analytical use

1.3 Details of the supplier of the safety data sheet  
Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany  
Telephone: +49 (0) 721 - 56 06 0  
Telefax: +49 (0) 721 - 56 06 149  
e-mail: sicherheit@carlroth.de  
Website: www.carlroth.de  
Competent person responsible for the safety data sheet: Abteilung Arbeitssicherheit  
e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number  
Emergency information service: Poison Centre Munich: +49/(0)89 19240

**SECTION 2: Hazards identification**

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
<td>Hazard class</td>
</tr>
<tr>
<td>3.7</td>
<td>reproductive toxicity</td>
</tr>
</tbody>
</table>

 Classification acc. to 67/548/EEC

<table>
<thead>
<tr>
<th>Category/ies of danger</th>
<th>Abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>toxic for reproduction</td>
<td>Repr. Cat. 3; R62</td>
</tr>
</tbody>
</table>
Caesium chloride  ≥99,9 %, extra pure, for biochemistry

article number: 7878

Remarks
For full text of R-phrases and Hazard- and EU Hazard-statements: see SECTION 16.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word: Warning

Pictograms

Hazard statements
H361 Suspected of damaging fertility or the unborn child.

Precautionary statements

Precautionary statements - prevention
P280 Wear protective clothing/eye protection.

Precautionary statements - response
P308+P313 IF exposed or concerned: get medical advice/attention.

Labelling of packages where the contents do not exceed 125 ml
Signal word: Warning
Symbol(s).

H361 Suspected of damaging fertility or the unborn child.
P308+P313 IF exposed or concerned: get medical advice/attention.

2.3 Other hazards
There is no additional information.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance: Caesium chloride
Registration number (REACH): 01-2119977124-35-xxxx
EC number: 231-600-2
CAS number: 7647-17-8
Molecular formula: ClCs
Molar mass: 168.4 g/mol
SECTION 4: First aid measures

4.1 Description of first aid measures

General notes
Take off contaminated clothing.

Following inhalation
Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact
Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact
Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion
Rinse mouth. Do not induce vomiting. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

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
Co-ordinate fire-fighting measures to the fire surroundings
water spray, water mist, dry extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
The product itself does not burn.
Hazardous combustion products
In case of fire may be liberated: hydrogen chloride (HCl)

5.3 Advice for firefighters
Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.
Collect contaminated firefighting water separately.
Special protective equipment for firefighters
Chemical resistant gloves. Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles.
Caesium chloride ≥99,9 %, extra pure, for biochemistry

article number: 7878

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
   For non-emergency personnel
   Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Do not breathe dust.

6.2 Environmental precautions
   Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up
   Advices on how to contain a spill
   Covering of drains.
   Advices on how to clean up a spill
   Take up mechanically. Control of dust.
   Other information relating to spills and releases
   Place in appropriate containers for disposal.

Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling
   • Measures to prevent fire as well as aerosol and dust generation
     Removal of dust deposits.
     Advice on general occupational hygiene
     Wash hands after use. Do not to eat, drink and smoke in work areas.

7.2 Conditions for safe storage, including any incompatibilities
   Store in a dry place.
   Incompatible substances or mixtures
   Observe hints for combined storage.
   • Control of effects
   • Protect against external exposure, such as humidity
   Consideration of other advice
     Not required.
   • Ventilation requirements
     Use local and general ventilation.
   • Specific designs for storage rooms or vessels
     Recommended storage temperature: 15 - 25 °C.
   • Packaging compatibilities
     Keep only in original container.
7.3 Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
National limit values

Occupational exposure limit values (Workplace Exposure Limits)

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of agent</th>
<th>CAS No</th>
<th>Notation</th>
<th>Identifier</th>
<th>TWA [ppm]</th>
<th>TWA [mg/m³]</th>
<th>STEL [ppm]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>dust</td>
<td></td>
<td>i</td>
<td>WEL</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>EH40/2005</td>
</tr>
<tr>
<td>UK</td>
<td>dust</td>
<td></td>
<td>r</td>
<td>WEL</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>EH40/2005</td>
</tr>
</tbody>
</table>

Notation
i  Inhalable fraction
r  Respirable fraction

STEL  Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified
TWA  Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average

Relevant DNELs/DMELs/PNECs and other threshold levels

• human health values

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>4.18 mg/kg</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>1.47 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
</tbody>
</table>

• environmental values

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>0.49 mg/cm³</td>
<td>marine sediment</td>
<td>continuous</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.13 mg/cm³</td>
<td>marine water</td>
<td>continuous</td>
</tr>
<tr>
<td>PNEC</td>
<td>4.9 mg/cm³</td>
<td>freshwater sediment</td>
<td>continuous</td>
</tr>
<tr>
<td>PNEC</td>
<td>1.25 mg/cm³</td>
<td>freshwater</td>
<td>continuous</td>
</tr>
<tr>
<td>PNEC</td>
<td>100.3 mg/cm³</td>
<td>sewage treatment plant (STP)</td>
<td>continuous</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.25 mg/cm³</td>
<td>soil</td>
<td>continuous</td>
</tr>
<tr>
<td>PNEC</td>
<td>1.25 mg/l</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.13 mg/l</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>100.3 mg/l</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>4.9 mg/kg</td>
<td>freshwater sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.49 mg/kg</td>
<td>marine sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.25 mg/kg</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.37 mg/l</td>
<td>water</td>
<td>continuous</td>
</tr>
</tbody>
</table>
Use safety goggles with side protection.

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- **Hand protection**
  Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- **Type of material**
  NBR (Nitrile rubber)

- **Material thickness**
  >0,11 mm.

- **Breakthrough times of the glove material**
  >480 minutes (permeation: level 6)

- **Other protection measures**
  Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

**Respiratory protection**
Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

**Environmental exposure controls**
Keep away from drains, surface and ground water.

### SECTION 9: Physical and chemical properties

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

**Appearance**

- **Physical state**: solid (crystalline)
- **Colour**: white
- **Odour**: odourless
- **Odour threshold**: No data available

**Other physical and chemical parameters**

- **pH (value)**: 5 - 9 in 100 g/l water at 20 °C
- **Melting point/freezing point**: 642 °C at 1,013 hPa
- **Initial boiling point and boiling range**: 1,297 °C
- **Flash point**: not applicable
- **Evaporation rate**: no data available
- **Flammability (solid, gas)**: Non-flammable
- **Explosive limits**: not relevant (non-combustible)
- **Explosion limits of dust clouds**: these information are not available
- **Vapour pressure**: This information is not available.
### Caesium chloride ≥99.9%, extra pure, for biochemistry

**article number: 7878**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Density</strong></td>
<td>3.97 g/cm³ at 20 °C</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td>This information is not available.</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td>2,000 kg/m³</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Information on this property is not available.</td>
</tr>
<tr>
<td><strong>Solubility(ies)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>1,900 g/l at 20 °C</td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td></td>
</tr>
<tr>
<td>n-octanol/water (log KOW)</td>
<td>This information is not available.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>&gt;400 °C - ECHA</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>not relevant (solid matter)</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>none</td>
</tr>
<tr>
<td><strong>Oxidising properties</strong></td>
<td>none</td>
</tr>
</tbody>
</table>

### 9.2 Other information

- There is no additional information.
- **Surface tension**
  - 72.8 mN/m at 20 °C

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### 10.3 Possibility of hazardous reactions

- **Exothermic reaction with**: Oxidisers

#### 10.4 Conditions to avoid

- **Physical stresses which might result in a hazardous situation and have to be avoided**
  - high temperatures

#### 10.5 Incompatible materials

- There is no additional information.

#### 10.6 Hazardous decomposition products

- Hazardous combustion products: see section 5.
11.1 Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Exposure route</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>LD50</td>
<td>2600 mg/kg</td>
<td>rat</td>
<td></td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin. Frequently or prolonged contact with skin may cause dermal irritation.

**Serious eye damage/eye irritation**

Causes slight to moderate irritation.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**Summary of evaluation of the CMR properties**

Reproductive toxicity.

Suspected of damaging fertility or the unborn child.

- **Specific target organ toxicity - single exposure**

  Shall not be classified as a specific target organ toxicant (single exposure).

- **Specific target organ toxicity - repeated exposure**

  Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Symptoms related to the physical, chemical and toxicological characteristics**

- **First symptoms at low exposures**

  malaise

- **If swallowed**

  data are not available

- **If in eyes**

  causes tears

- **If inhaled**

  data are not available

- **If on skin**

  data are not available
SECTION 12: Ecological information

12.1 Toxicity
acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.
Aquatic toxicity (acute)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>37.4 mg/l</td>
<td>aquatic invertebrates</td>
<td>ECHA</td>
<td>48 hours</td>
</tr>
<tr>
<td>EC50</td>
<td>134.3 mg/l</td>
<td>Pseudokirchneriella subcapitata</td>
<td>ECHA</td>
<td>72 hours</td>
</tr>
<tr>
<td>LC50</td>
<td>&gt;100 mg/l</td>
<td>zebra fish (Danio rerio)</td>
<td>ECHA</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

12.2 Process of degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
Does not significantly accumulate in organisms.

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Other adverse effects
Slightly hazardous to water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulation.
Sewage disposal-relevant information
Do not empty into drains.

13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.
SECTION 14: Transport information

14.1 UN number (not subject to transport regulations)
14.2 UN proper shipping name not relevant
14.3 Transport hazard class(es) not relevant
   Class -
14.4 Packing group not relevant
14.5 Environmental hazards none (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 Special precautions for user
   There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
   The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations
   • Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)
     Not subject to ADR, RID and ADN.
   • International Maritime Dangerous Goods Code (IMDG)
     Not subject to IMDG.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
   Relevant provisions of the European Union (EU)
   • Restrictions according to REACH, Annex XVII
     None of the ingredients are listed.
   • List of substances subject to authorisation (REACH, Annex XIV)
     None of the ingredients are listed.

National inventories
   Substance is listed in the following national inventories:
   - EINECS/ELINCS/NLP (Europe)
   - REACH (Europe)

15.2 Chemical Safety Assessment
   No Chemical Safety Assessment has been carried out for this substance.
The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.