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

1.1 Product identifier

Identification of the substance: Tin(II) chloride dihydrate
Article number: KK07
EC number: 231-868-0
CAS number: 10025-69-1

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

Identified uses: laboratory chemical

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: Department Health, Safety and Environment

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>Section</th>
<th>Hazard class</th>
<th>Hazard class and category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1O</td>
<td>acute toxicity (oral)</td>
<td>(Acute Tox. 4)</td>
<td>H302</td>
</tr>
<tr>
<td>3.2</td>
<td>skin corrosion/irritation</td>
<td>(Skin Corr. 1B)</td>
<td>H314</td>
</tr>
<tr>
<td>3.3</td>
<td>serious eye damage/eye irritation</td>
<td>(Eye Dam. 1)</td>
<td>H318</td>
</tr>
<tr>
<td>3.4S</td>
<td>skin sensitisation</td>
<td>(Skin Sens. 1)</td>
<td>H317</td>
</tr>
<tr>
<td>4.1A</td>
<td>hazardous to the aquatic environment - acute hazard</td>
<td>(Aquatic Acute 3)</td>
<td>H402</td>
</tr>
<tr>
<td>4.1C</td>
<td>hazardous to the aquatic environment - chronic hazard</td>
<td>(Aquatic Chronic 3)</td>
<td>H412</td>
</tr>
</tbody>
</table>
Tin(II) chloride dihydrate  ≥98 %, p.a., max. 0,005 ppm Hg

article number: KK07

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

2.2 Label elements

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

Signal word: Danger

Pictograms

Hazard statements

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Precautionary statements - prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - response

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363 Wash contaminated clothing before reuse.

Precautionary statements - disposal

P501 Dispose of contents/container to industrial combustion plant.

Labelling of packages where the contents do not exceed 125 ml
Signal word: Danger

Symbol(s)

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
P303+P361+P353 IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363 Wash contaminated clothing before reuse.
There is no additional information.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Tin(II) chloride dihydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC number</td>
<td>231-868-0</td>
</tr>
<tr>
<td>CAS number</td>
<td>10025-69-1</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>Cl₂Sn*2H₂O</td>
</tr>
<tr>
<td>Molar mass</td>
<td>225,6 g/mol</td>
</tr>
</tbody>
</table>

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**General notes**
Take off immediately all contaminated clothing. Self-protection of the first aider.

**Following inhalation**
If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Medical treatment necessary.

**Following skin contact**
After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure. In case of skin reactions, consult a physician.

**Following eye contact**
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

**Following ingestion**
Rinse mouth immediately and drink plenty of water. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). Do NOT induce vomiting. Call a physician immediately.

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

Irritation, Corrosion, Allergic reactions, Cough, Dyspnoea, Vomiting, Nausea, Risk of serious damage to eyes

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

none
Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO2)
water jet
Non-combustible.
In case of fire may be liberated: hydrogen chloride (HCl), in case of fire and/or explosion do not breathe fumes
Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

**SECTION 5: Firefighting measures**

5.1 Extinguishing media

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

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture

Non-combustible.

Hazardous combustion products
In case of fire may be liberated: hydrogen chloride (HCl), in case of fire and/or explosion do not breathe fumes

5.3 Advice for firefighters

Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

**SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Use personal protective equipment as required. Do not breathe dust. Avoid contact with skin, eyes and clothes.

6.2 Environmental precautions
Keep away from drains, surface and ground water. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

Advises on how to contain a spill
Covering of drains.

Advises 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

Avoid dust formation. Provide adequate ventilation. Handle and open container with care.

- **Measures to prevent fire as well as aerosol and dust generation**
  
  Removal of dust deposits.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and after work.

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

Keep container tightly closed. Store in a dry place.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Consideration of other advice**

- **Ventilation requirements**
  
  Use local and general ventilation.

- **Specific designs for storage rooms or vessels**
  
  Recommended storage temperature: 15 - 25 °C.

### 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>Notation</th>
<th>Identifier</th>
<th>TWA [mg/m³]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP</td>
<td>particulates not otherwise classified</td>
<td>dust</td>
<td>OEL</td>
<td>8</td>
<td></td>
<td>JSOH</td>
</tr>
<tr>
<td>JP</td>
<td>particulates not otherwise classified</td>
<td>r</td>
<td>OEL</td>
<td>2</td>
<td></td>
<td>JSOH</td>
</tr>
<tr>
<td>JP</td>
<td>dust</td>
<td>less3silica, dust</td>
<td>OEL</td>
<td>4</td>
<td></td>
<td>JSOH</td>
</tr>
<tr>
<td>JP</td>
<td>dust</td>
<td>less3silica, r</td>
<td>OEL</td>
<td>1</td>
<td></td>
<td>JSOH</td>
</tr>
</tbody>
</table>

**Notation**

- dust: As dust
- less3silica: Containing less than 3% crystalline silica
- 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
8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection
Use safety goggles with side protection. Wear face protection.

Skin protection

• hand protection
Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. 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
Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). Type: B-P2 (combined filters for acidic gases and particles, colour code: Grey/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

<table>
<thead>
<tr>
<th>Physical state</th>
<th>solid (crystalline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Other physical and chemical parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (value)</td>
<td>1 - 2 (100 g/l, 20 °C)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>38 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>652 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>These information are not available</td>
</tr>
</tbody>
</table>
9.2 Other information
There is no additional information.

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
Violent reaction with: Strong acid, Hydrogen peroxide, Ethylene oxide, Carbide, Danger of explosion: Hydrazine, Nitrate, Alkali metals, Strong oxidiser

10.4 Conditions to avoid
There are no specific conditions known which have to be avoided.

10.5 Incompatible materials
There is no additional information.
10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>LD50</td>
<td>700 mg/kg</td>
<td>rat</td>
<td>RTECS</td>
<td>anhydr.</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Causes severe burns.

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitisation
May cause an allergic skin reaction. May cause sensitisation by skin contact.

Summary of evaluation of the CMR properties
Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• 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

• If swallowed
If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects), gastrointestinal complaints

• If in eyes
causes burns, Causes serious eye damage, risk of blindness

• If inhaled
Irritation to respiratory tract, cough, Dyspnoea

• If on skin
causes severe burns, causes poorly healing wounds

Other information
Other adverse effects: Vomiting, Nausea, Liver and kidney damage
**SECTION 12: Ecological information**

12.1 **Toxicity**
Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

**Aquatic toxicity (acute)**
Harmful to aquatic organisms.

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>19,5 mg/l</td>
<td>daphnia magna</td>
<td>GESTIS</td>
<td>48 h</td>
</tr>
</tbody>
</table>

**Aquatic toxicity (chronic)**
May cause long-term adverse effects in the aquatic environment.

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

12.3 **Bioaccumulative potential**
Data are not available.

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 regulations.

**Sewage disposal-relevant information**
Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

**Waste treatment of containers/packagings**
It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

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
3260

### 14.2 UN proper shipping name
**CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.**

### 14.3 Transport hazard class(es)
Class 8 (corrosive substances)

### 14.4 Packing group
II (substance presenting medium danger)

### 14.5 Environmental hazards
none (non-environmentally hazardous acc. to the dangerous goods regulations)

### 14.6 Special precautions for user
Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.8 Information for each of the UN Model Regulations
- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

  | UN number | 3260 |
  | Proper shipping name | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. |
  | Particulars in the transport document | UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S., (Tin(II)chloride dihydrate), 8, II, (E) |
  | Class | 8 |
  | Classification code | C2 |
  | Packing group | II |
  | Danger label(s) | 8 |

- **Special provisions (SP)**
  274

- **Excepted quantities (EQ)**
  E2

- **Limited quantities (LQ)**
  1 kg

- **Transport category (TC)**
  2

- **Tunnel restriction code (TRC)**
  E

- **Hazard identification No**
  80

- **International Maritime Dangerous Goods Code (IMDG)**

  | UN number | 3260 |
  | Proper shipping name | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. |
  | Particulars in the shipper's declaration | UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S., (Tin(II)chloride dihydrate), 8, II |
  | Class | 8 |
Tin(II) chloride dihydrate ≥98 %, p.a., max. 0.005 ppm Hg

article number: KK07

<table>
<thead>
<tr>
<th>Packing group</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger label(s)</td>
<td>8</td>
</tr>
</tbody>
</table>

Special provisions (SP) 274
Excepted quantities (EQ) E2
Limited quantities (LQ)  1 kg
EmS                  F-A, S-B
Stowage category      B
Segregation group     1 - Acids

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)

- Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC) Not listed.
- Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS) Not listed.
- Restrictions according to REACH, Annex XVII not listed
- List of substances subject to authorisation (REACH, Annex XIV) not listed

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II not listed

Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR) not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD) not listed

National inventories
Substance is listed in the following national inventories:

- EINECS/ELINCS/NLP (Europe)
- REACH (Europe)
No Chemical Safety Assessment has been carried out for this substance.

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>CMR</td>
<td>Carcinogenic, Mutagenic or toxic for Reproduction</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>JSOH</td>
<td>Japan Society of Occupational Health &quot;Journal of Occupational Health&quot;: Recommendation of Occupational Exposure Limits</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>OEL</td>
<td>workplace exposure limit</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Réglement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>STEL</td>
<td>short-term exposure limit</td>
</tr>
<tr>
<td>TWA</td>
<td>time-weighted average</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

Key literature references and sources for data

- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H317</td>
<td>may cause an allergic skin reaction</td>
</tr>
<tr>
<td>H318</td>
<td>causes serious eye damage</td>
</tr>
<tr>
<td>H402</td>
<td>harmful to aquatic life</td>
</tr>
</tbody>
</table>
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.

### Disclaimer

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.

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>H412</td>
<td>harmful to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>