1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Carbamoylcholine chloride
Product Number : C4382
Brand : Sigma
Company : Sigma-Aldrich (Shanghai) Trading Co., Ltd
22A-B Century Ba-Shi Building,
398 Huai Hai Zhong Road
200020 SHANGHAI
CHINA
Telephone : +862161415566
Fax : +862161415567
Emergency Phone #: +8615921213336
E-mail address : china@sial.com

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
According to Regulation (EC) No1272/2008
Acute toxicity, Oral (Category 2)
Toxic if swallowed.

Label elements

Pictogram

Signal word Danger
Hazard statement(s) Fatal if swallowed.
H300
Precautionary statement(s)
Wash hands thoroughly after handling.
P264
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301 + P310
Hazard symbol(s)
T Toxic
R-phrase(s) Toxic if swallowed.
R25
S-phrase(s)
In case of accident or if you feel unwell, seek medical advice immediately
S45 (show the label where possible).

Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Carbachol
Carbamylcholine chloride
(2-Hydroxyethyl)trimethylammonium chloride carbamate

Formula : C₆H₁₅ClN₂O₂
Molecular Weight : 182.65 g/mol

<table>
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<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
<th>Concentration</th>
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<td>200-127-3</td>
<td>-</td>
<td>Acute Tox. 2; H300 T, R25</td>
<td>-</td>
</tr>
</tbody>
</table>

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

4. FIRST AID MEASURES

   General advice
   Consult a physician. Show this safety data sheet to the doctor in attendance.

   If inhaled
   If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

   In case of skin contact
   Wash off with soap and plenty of water. Consult a physician.

   In case of eye contact
   Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

   If swallowed
   Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

   Suitable extinguishing media
   Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

   Special protective equipment for fire-fighters
   Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

   Personal precautions
   Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

   Environmental precautions
   Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

   Methods and materials for containment and cleaning up
   Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

   Precautions for safe handling
   Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

   Conditions for safe storage
   Store in cool place. Keep container tightly closed in a dry and well-ventilated place. hygroscopic
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Handle with gloves.

Eye protection
Face shield and safety glasses

Skin and body protection
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form crystalline
Colour light yellow

Safety data
pH no data available
Melting point 210 °C - dec.
Boiling point no data available
Flash point no data available
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Water solubility no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
Avoid moisture.

Materials to avoid
Strong oxidizing agents
Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 40 mg/kg

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Potential health effects

Ihalation
May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion
Toxic if swallowed.

Skin
May be harmful if absorbed through skin. May cause skin irritation.

Eyes
May cause eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: GA0875000

12. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available
Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste
disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn
in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID
UN-Number: 2811  Class: 6.1  Packing group: II
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Carbamoylcholine chloride)

IMDG
UN-Number: 2811  Class: 6.1  Packing group: II  EMS-No: F-A, S-A
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Carbamoylcholine chloride)
Marine pollutant: No

IATA
UN-Number: 2811  Class: 6.1  Packing group: II
Proper shipping name: Toxic solid, organic, n.o.s. (Carbamoylcholine chloride)

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

- Acute Tox.  Acute toxicity
- H300  Fatal if swallowed.
- T  Toxic
- R25  Toxic if swallowed.

Further information
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terms and conditions of sale.