Safety Data Sheet (SDS)

Note: For demonstration only. Please send an inquiry to obtain the official version of the SDS file.

Section 1: Identification

1.1 Product Identification

Product Name: Cyclohexylamine Carbonate

Product Number: Sigma-1492025195

Brand: Sigma

CAS Number: 20227-92-3

EC Number: Not specified

Molecular Formula: $C_7H_{15}NO_3$

Molecular Weight: 161.20 g/mol

Website: Sigma Chemical

1.2 Supplier Details

Company Name: Sigma Chemical Co., Ltd.

Address: Room 2-1-2301, Jiahe Xinxing, No.130, Shandong Road, Shibei District, Qingdao City, Shandong Province, China

Phone Number: +8618661891880

Email: chemweb3@foxmail.com

Business Hours:

Monday to Friday: 9:00AM - 6:00PM

Saturday: 9:00AM - 1:00PM

Sunday: Closed

1.3 Emergency Contact Number

Emergency Contact: +8618661891880

1.4 Recommended Use and Restrictions

Recommended Use: For research and development purposes only. Not for use as a drug, household product, or in any other unapproved application.

Section 2: Hazard Identification

2.1 GHS Classification

Acute Toxicity:

Oral: Category 4, H302 (Harmful if swallowed)

Inhalation: Category 4, H332 (Harmful if inhaled)

Specific Target Organ Toxicity (Repeated Exposure):

Inhalation: Category 2, H373 (May cause damage to organs through prolonged or repeated exposure)

2.2 GHS Label Elements

Pictogram: Warning

Signal Word: Warning

Hazard Statements:

H302: Harmful if swallowed

H332: Harmful if inhaled

H373: May cause damage to organs through prolonged or repeated exposure

Precautionary Statements:

Prevention:

P260: Do not breathe dust/fume/gas/mist/vapours/spray

P264: Wash thoroughly after handling

P270: Do not eat, drink, or smoke when using this product

Response:

P301+P312+P330: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

P304+P312: IF INHALED: Call a POISON CENTER/doctor if you feel unwell.

Disposal:

P501: Dispose of contents/container in accordance with local/regional/national/international regulations

2.3 Physical and Chemical Hazards

Physical and Chemical Hazards: Non-flammable. Ignition sources may release hazardous products.

2.4 Health Hazards

Health Hazards:

H302: Harmful if swallowed

H332: Harmful if inhaled

H373: May cause damage to organs through prolonged or repeated exposure

2.5 Environmental Hazards

Environmental Hazards: No environmental hazards identified based on current data.

Section 3: Composition/Information on Ingredients

3.1 Substance

Synonyms: Cyclohexylamine Carbonate, Cyclohexylammonium Hydrogen Carbonate, Cyclohexylamine Bicarbonate

Molecular Formula: $C_7H_{15}NO_3$

Molecular Weight: 161.20 g/mol

CAS Number: 20227-92-3

EC Number: Not specified

Hazardous Components:

Component: Cyclohexylamine Carbonate

Classification:

Acute Toxicity: Category 4 (Oral), H302

Acute Toxicity: Category 4 (Inhalation), H332

Specific Target Organ Toxicity (Repeated Exposure): Category 2, H373

Section 4: First Aid Measures

4.1 First Aid Measures

Inhalation: Remove victim to fresh air. If feeling unwell, call a POISON CENTER/doctor.

Skin Contact: Immediately wash with plenty of water for at least 15 minutes. Remove contaminated clothing and wash before reuse. Get medical attention if irritation persists.

Eye Contact: Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention if eye irritation persists.

Ingestion: Do NOT induce vomiting. Rinse mouth with water. Call a POISON CENTER/doctor if feeling unwell.

4.2 Most Important Symptoms and Effects

Symptoms: Difficulty in breathing. Symptoms of overexposure may include headache, dizziness, tiredness, nausea, and vomiting.

4.3 Immediate Medical Attention and Special Treatment

Medical Treatment: Treat symptoms as necessary.

Section 5: Firefighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Agents: Use fire extinguishing methods suitable for the surrounding environment. Solid water stream may be used.

5.2 Specific Hazards Arising from the Chemical

Hazardous Combustion Products: Carbon monoxide (CO), Carbon dioxide (CO_2), Gaseous hydrogen fluoride (HF)

5.3 Firefighting Precautions

Protective Equipment: Wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective equipment.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment as required. Ground all equipment used when handling the product. Avoid contact with skin, eyes, or clothing. Remove all sources of ignition. Take precautionary measures against static discharge.

Environmental Precautions: Prevent seepage into sewage systems, workpits, and surface or ground water.

6.2 Methods and Materials for Containment and Clean-Up

Containment: For small leaks, absorb with inert absorbent material (e.g., sand, diatomite, acid binders, universal binders) or collect in a tightly sealable container. For large leaks, enclose with banks to prevent outflow and lead the leakage to a safe place for disposal.

Clean-Up: Dispose of collected material in accordance with local/regional/national/international regulations.

6.3 Reference to Other Sections

Other Sections: See Section 8 for personal protection equipment and Section 13 for disposal methods.

Section 7: Handling and Storage

7.1 Handling Precautions

Handling: Ensure adequate ventilation. Wear personal protective equipment/face protection. Use spark-proof tools and explosion-proof equipment. Keep away from open flames, hot surfaces, and sources of ignition. Avoid contact with skin, eyes, or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid ingestion and inhalation. Take precautionary measures against static discharge.

7.2 Storage Conditions

Storage: Store in a dry, cool, and well-ventilated place. Keep container tightly closed. Keep away from heat, sparks, and flame. Store in a flammable area. Keep container tightly closed in a dry and well-ventilated place. Incompatible materials include strong oxidizing agents, strong acids, strong bases, strong reducing agents, and moisture.

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

Exposure Limits: No occupational exposure limits established by regional regulatory authorities.

8.2 Exposure Controls

Engineering Measures: Ensure adequate ventilation, especially in confined areas.

8.3 Personal Protective Equipment

Respiratory Protection: Use self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) if exposure limits are exceeded.

Hand Protection: Wear nitrile gloves.

Eye Protection: Wear safety goggles or a face shield.

Skin Protection: Wear chemical-resistant clothing, such as lab coats or coveralls.

Section 9: Physical and Chemical Properties

Appearance: White crystalline solid

Odor: Odorless

Melting Point: ≈ 110–120 °C

Boiling Point: Not applicable

Solubility in Water: Soluble

Solubility in Organic Solvents: Soluble in ethanol and other common organic solvents

pH: Slightly basic when dissolved in water

Stability: Stable, but may decompose upon heating to release CO_2 and revert to cyclohexylamine

Section 10: Stability and Reactivity

10.1 Reactivity

Reactivity: Stable under normal conditions. Avoid contact with strong oxidizing agents, strong acids, strong bases, and strong reducing agents.

10.2 Hazardous Decomposition Products

Decomposition Products: Carbon dioxide (CO_2), cyclohexylamine

10.3 Conditions to Avoid

Conditions to Avoid: High temperatures, exposure to moisture

Section 11: Toxicological Information

11.1 Acute Toxicity

Oral: Category 4, H302 (Harmful if swallowed)

Inhalation: Category 4, H332 (Harmful if inhaled)

11.2 Specific Target Organ Toxicity (Repeated Exposure)

Inhalation: Category 2, H373 (May cause damage to organs through prolonged or repeated exposure)

11.3 Other Toxicological Information

Irritation: May cause irritation to skin, eyes, and respiratory tract.

Sensitization: Not known to be a sensitizer.

Section 12: Ecological Information

12.1 Ecotoxicity

Ecotoxicity: No significant ecotoxicological hazards identified based on current data.

12.2 Persistence and Degradability

Persistence: Not known to be persistent in the environment.

Degradability: Likely to degrade under normal environmental conditions.

12.3 Bioaccumulation Potential

Bioaccumulation: Not known to bioaccumulate in organisms.

12.4 Mobility in Soil

Mobility: Not known to have significant mobility in soil.

Section 13: Disposal Considerations

13.1 Disposal Methods

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

13.2 Contaminated Packaging

Packaging: Dispose of contaminated packaging in accordance with local/regional/national/international regulations.

Section 14: Transport Information

14.1 UN Number

UN Number: Not applicable

14.2 Transport Hazard Class

Hazard Class: Not classified for transport

14.3 Packing Group

Packing Group: Not applicable

Section 15: Regulatory Information

15.1 Regulatory Information

Regulatory Information: Complies with relevant national and international regulations for chemical substances.