

Safety Data Sheet (SDS)

Section 1: Identification

1.1 Product Identification

- Product Name: Aminoguanidine bicarbonate
- Product Number: Sigma-AC149060051
- Brand: Sigma
- CAS Number: 2582-30-1
- EC Number: Not specified
- Molecular Formula: C₂H₈N₄O₃
- Molecular Weight: 136.11 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 application without proper authorization.

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 gases.

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 information.

Section 3: Composition/Information on Ingredients

3.1 Substance

- Synonyms: Aminoguanidine bicarbonate, aminoguanidine hydrogen carbonate, N''-aminoguanidine carbonic acid, 1-aminoguanidine carbonate, guanyldiazine bicarbonate salt
- Molecular Formula: C₂H₈N₄O₃
- Molecular Weight: 136.11 g/mol
- CAS Number: 2582-30-1
- EC Number: Not specified
- Hazardous Components:
 - Component: Aminoguanidine bicarbonate
 - 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 irritation.

4.3 Immediate Medical Attention and Special Treatment

- Medical Treatment: Treat symptomatically.

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 (CO₂), Nitrogen oxides (NO_x)

5.3 Firefighting Precautions

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

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.

6.3 Reference to Other Sections

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

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 non-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 bodies.

8.2 Exposure Controls

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

Section 9: Physical and Chemical Properties

- Appearance: White crystalline powder; hygroscopic (absorbs moisture from the air)
- Melting Point/Range: 170–172 °C (with decomposition)
- Boiling Point/Range: Approximately 422.4 °C
- Density: 1.6 g/cm³
- Bulk Density: 700 kg/m³
- Solubility: Soluble in water at 2.7 g/L (at 20 °C); generally low solubility in most solvents
- Storage: Recommended to store below +30 °C in a cool, dry place
- Purity: Commercially available at 97–99% purity levels

Section 10: Stability and Reactivity

- Stability: Stable under normal conditions.
 - Conditions to Avoid: Temperatures above 50°C, incompatible products, and moisture.
 - Incompatible Materials: Acids, strong oxidizing agents, strong bases, strong reducing agents.
 - Hazardous Decomposition Products: Carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO_x)
 - Hazardous
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