

# SULFAMIC ACID- MATERIAL SAFETY DATA SHEET (MSDS)

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## 1. Chemical Product and Company Identification

- **Product Name:** Sulfamic Acid
  - **Synonyms:** Amidosulfonic acid, Amidosulfuric acid, Sulfamidic acid
  - **CAS No.:** 5329-14-6
  - **Molecular Formula:** H<sub>3</sub>NSO<sub>3</sub>
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## 2. Composition / Information on Ingredients

- **Chemical Name:** Sulfamic Acid
  - **CAS No.:** 5329-14-6
  - **Concentration:** 100% (pure substance)
  - **Hazardous Components:** Sulfamic Acid
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## 3. Hazards Identification

- **Hazard Classifications (GHS):**
    - Eye Irritation (Category 2A)
    - Skin Irritation (Category 2)
    - Acute Toxicity – Oral (Category 4)
  - **Signal Word:** Warning
  - **Hazard Statements:**
    - H302 – Harmful if swallowed
    - H315 – Causes skin irritation
    - H319 – Causes serious eye irritation
  - **Precautionary Statements:**
    - P264 – Wash hands thoroughly after handling
    - P280 – Wear protective gloves/eye protection
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## 4. First Aid Measures

- **Inhalation:** Move to fresh air. If symptoms persist, seek medical attention.
- **Skin Contact:** Wash thoroughly with soap and water. Seek medical help if irritation occurs.
- **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek medical advice.

- **Ingestion:** Do **not** induce vomiting. Rinse mouth. Get immediate medical attention.
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## 5. Fire-Fighting Measures

- **Suitable Extinguishing Media:** Water spray, CO<sub>2</sub>, foam, or dry chemical
  - **Hazards from Combustion:** May release toxic gases like sulfur oxides and nitrogen oxides.
  - **Protective Equipment:** Firefighters should wear self-contained breathing apparatus (SCBA) and full protective clothing.
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## 6. Accidental Release Measures

- **Personal Precautions:** Wear appropriate PPE (gloves, goggles, respirator if needed).
  - **Spill Cleanup:** Avoid dust formation. Sweep up and place in a suitable container. Ventilate area and wash spill site after material pickup.
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## 7. Handling and Storage

- **Handling:** Avoid contact with skin, eyes, and clothing. Prevent dust formation. Use with adequate ventilation.
  - **Storage:** Store in a tightly closed container in a cool, dry, well-ventilated place. Keep away from incompatible materials like bases and oxidizing agents.
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## 8. Exposure Controls / Personal Protection

- **Exposure Limits:** No specific OSHA or ACGIH limits established.
  - **Engineering Controls:** Use local exhaust ventilation.
  - **Personal Protective Equipment (PPE):**
    - Eye: Safety goggles
    - Skin: Protective gloves
    - Respiratory: Use appropriate respirator if exposure limits are exceeded or irritation is experienced
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## 9. Physical and Chemical Properties

- **Appearance:** White crystalline powder
  - **Odor:** Odorless
  - **pH (1% soln):** ~1.2
  - **Melting Point:** ~205°C (decomposes)
  - **Solubility:** Soluble in water
  - **Molecular Weight:** 97.1 g/mol
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## 10. Stability and Reactivity

- **Stability:** Stable under normal conditions
  - **Incompatible Materials:** Strong bases, oxidizing agents, nitrates, and nitrites
  - **Decomposition Products:** Sulfur oxides, nitrogen oxides, ammonia
  - **Hazardous Reactions:** May react with water or bases releasing heat
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## 11. Toxicological Information

- **Acute Toxicity:**
    - LD50 Oral (rat): ~3160 mg/kg
  - **Irritation:** Causes irritation to skin, eyes, and respiratory tract
  - **Chronic Effects:** Prolonged exposure may cause tissue damage
  - **Sensitization:** Not known to cause sensitization
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## 12. Ecological Information

- **Ecotoxicity:** Harmful to aquatic life in large quantities
  - **Persistence and Degradability:** Expected to be biodegradable
  - **Bioaccumulation Potential:** Low
  - **Mobility in Soil:** Water-soluble, may leach into groundwater
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## 13. Disposal Considerations

- **Waste Disposal:** Dispose in accordance with local, regional, and national regulations. Do not release into drains or environment.
- **Contaminated Packaging:** Dispose of as unused product