TIMURAYA TUNGGAL pt.
Chemicals & Fertilizers

Sulfamic Acid

Choose Category of Information :

1. Product Identification

Identification of the product
Product Name: Sulfamic acid

Use of the substance :
- Manufacture of sodium cyclamates/sweeteners
- Manufacture of flame retardents
- Descaling
- Acid cleaning
- Nitrite removal
- Anodizing metals
- Electroplating

2. Composition / Information on Ingredients

Synonyms: Amidosulfonic acid, Amidosulfuric acid, Aminosulfonic acid, Sulfamidic acid
CAS No.: 5329-14-6
EC no.: 226-218-8
Molecular Weight: 97.09 g/mol
Chemical Formula: HOSO$_2$NH$_2$
3. Hazards Identification

Emergency overview

**Label hazard warning : Danger ! Corrosive !**  May be fatal if swallowed. Harmful if inhaled. Causes severe irritation and burn to every area or contact. May causes lung damage

**National Fire Protection Association (NFPA) Rating**

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>NFPA</th>
<th>HMIS</th>
</tr>
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<tbody>
<tr>
<td>Health</td>
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<td>2</td>
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<tr>
<td>Fire</td>
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<td>Reactivity</td>
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<td>Contact</td>
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<td>3 *</td>
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* Corrosive

<table>
<thead>
<tr>
<th>Hazard Category</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>Extreme/severe</td>
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<tr>
<td>3</td>
<td>High/serious</td>
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<tr>
<td>2</td>
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<tr>
<td>1</td>
<td>Slight</td>
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<tr>
<td>0</td>
<td>Minimum</td>
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</table>

**Storage Color Code :** White (Corrosive)

**Exposure Limits :** Have not been established by either OSHA or ACGIH. Recommended an 8 hour time weighted average of 1 mg/m$^3$ in air.

**Aggravation of Pre-existing Conditions :** Unknown

**Potential Health Effects**

**Inhalation :** Dust may irritate nose and throat.

**Ingestion :** Ingestion may cause gastrointestinal pain.

**Skin Contact :** Dust may irritate skin.

**Eye Contact :** Corrosive causes eye irritation or burns.

4. First Aid Measures

**Inhalation :** Take care of fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion :** If swallowed, DO NOT INDUCE VOMITING. Drink a lot of water. Call a physician.

**Skin Contact :** Flush skin with plenty of water.

**Eye Contact :** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**Note to Physician :** For severe exposures, monitor for delayed onset of pulmonary edema

5. Fire-fighting measures

**Fire and Explosion Hazards :** Not Considered to be a fire and an explosion hazard
Fire Extinguishing Media: Carbon dioxide, dry chemical powder or appropriate foam.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Unusual fire and explosion hazard: Emits toxic fumes under fire condition

6. Accidental Release Measures

Ventilate area of leak or spill. Pick up and place in a suitable container for reclamation or disposal. Sweep up spillage and flush the area with large quantities of water to waste water treatment area. May be neutralized with alkalis.

7. Handling and Storage

Keep in tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat moisture and incompatibilities. Containers of this material may be hazardous when empty since they retain product residues (dust, solids), observe all warning and precautions for the product.

8. Exposure Controls / Personal Protection

Airborne Exposure Limits: None established
Ventilation: Good general ventilation should be provided
Respiratory Protection: Respirator with dust filter
Skin Protection: Wear protective clothing, boots, rubber gloves, lab coat
Eye Protection: Chemical splash goggles

9. Physical and Chemical Properties

Colour: White
Odour: Odourless

pH value
at 10 g/l H2O (25 °C) 1.18

Melting Point 205 °C (decomposition)
Boiling Point not available
Ignition temperature not available
Flash point not available
Explosion limits lower not available
Vapour Pressure

upper not available
0.0078 hPa

Solubility in water

(20 °C) 213 g/l
(80 °C) 470 g/l

Density

(20 °C) 2.13 g/cm³

Bulk density

~ 1360 kg/m³

log Pow

-4.34 (calculated)

Thermal decomposition

209 °C

10. Stability and Reactivity

Stability: Stable under ordinary conditions of use storage. Solutions are acidic. In water solution slowly hydrolyzes to form ammonium sulfate and bisulfate.

Hazardous Decomposition Products: Sulfur Dioxide (SO₂), Sulfur Trioxide (SO₃), and Ammonia Gas (NH₃).

Hazardous Polymerization: Will not occur.

Incompatibilities: Strong oxidizers, Nitric Acid, Chlorine. Solutions are strong acids and react violently with bases.

Conditions to Avoid: Dusting and incompatibles.

11. Toxicological Information

Acute Toxicity

LD₅₀ (oral, rat): 3160 mg/kg

Specific symptoms in animal studies:

Eye irritation test (rabbit): Severe irritations (OECD 405)
Skin irritation test (rabbit): Irritations (OECD 404)

Subacute to chronic toxicity

No sensitizing effect

Bacterial mutagenicity: Ames test: negative
Mutagenicity (mammal cell test): micronucleus negative

Further toxicological information

After inhalation of dust: Irritation symptoms in the respiratory tract. Coughing, dyspnoea.
After skin contact: Severe irritations.
After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Further data

The product should be handled with the care usual when dealing with chemicals.
12. Ecological Information

Biologic degradation:
Methods for the determination of biodegradability are not applicable to inorganic substances.

Behaviour in environmental compartments:
Distribution: log p(o/w): -4.34 (calculated)
No bioaccumulation is to be expected (log P(o/w <1)

Ecotoxic effects:
Biological effects:
Harmful effects on aquatic organisms. May cause long-term adverse effect in the aquatic environment.
Harmful effect due to pH shift
Fish toxicity: Pimephales Promelas LC50: 70.3 mg/l/96 h
Bacterial toxicity: Pseudomonas Putida EC10: ≥1000 mg/l/16 h
Further ecological data:
Do not allow to enter waters, waste water, or soil!

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

**Domestic (Land, D.O.T.)**
**International (Water, I.M.O.)**
**International (Air, I.C.A.O.)**

**Proper Shipping Name:** SULPHAMIC ACID
**UN/NA:** UN2967
**Packing Group:** III
**Label required:** Corrosive
**Freight Class:** 50
**NMGC Code:** 43090

Hazard Class: 8

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Revised: Feb 2008
Review date: Jan 2011
15. Regulatory Information

Labelling according to EC Directives

Symbol: Xi Irritant
R-phrases: 36/38-52/53 Irritating to eyes and skin. Harmful to aquatic organism, may cause long-term adverse effects in the aquatic environment.
S-phrases: 26-28-61 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Avoid release to environment. Refer to special instructions/Safety data sheets.
EC-No.: 226-218-8 EC label

Reduced labelling (1999/45/EC,Art.10,4)

Symbol: Xi Irritant
R-phrases: 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases: ---

16. Other Information

Revision information: General update

The information accumulated here in is believed to be accurate but is not warranted to be whether originating with the company or not.
Health and Safety Data Sheet should be used only as a guide to the safe handling of the product, and is not intended as a technical specification.

Prepared by: Quality Assurance Division
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