

## Material Safety Data Sheet

Revision Date: 10/11/2021

# SULFAMIC ACID

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Identification of the substance or mixture

Product name : Sulfamic Acid  
Chemical formula :  $\text{H}_2\text{NSO}_3\text{H}$   
CAS No. : 5329-14-6

### Use of the Substance/Mixture

**Recommended Use**

- Decolorizer and strong acid cleaner.
- Food industry.
- Pigment production industry
- Agricultural industry
- Detergent industry, sulfation of fatty alcohols.
- Water, electricity and oil industries
- Paper industry
- Chemical industry as an intermediate

### Company/Undertaking Identification

Address : **Novichem Co.**  
**No.30, Magnolia Str, Qaem Maqam Farahani Ave.**  
**Tehran15886/13941 IRAN**

### Emergency and contact telephone numbers

Contact telephone number (product information): : **+98-21-88329799 (Hunting)**

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture GHS Classification

Skin Corrosion (1C) - H314  
Eye Damage (1) - H318  
Aquatic Acute (2) - H401

### GHS Label Elements Pictograms:



**Signal word: DANGER**

**Hazard and precautionary statements**

**Hazard Statements**

H314 - Causes severe skin burns and eye damage

H401 - Toxic to aquatic life

**Precautionary Statements**

P260 - Do not breathe dust

P264 - Wash exposed skin thoroughly after handling

P273 - Avoid release to the environment

P280 - Wear protective gloves, eye protection, protective clothing

P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a poison center/doctor

P363 - Wash contaminated clothing before reuse P405 - Store locked up

P501 - Dispose of contents/container to comply with local, state and federal regulations

**First-Aid Measures**

**General:** Check the vital functions.

**Unconscious:** Maintain adequate airway and respiration.

**Respiratory arrest:** Artificial respiration or oxygen.

**Cardiac arrest:** Perform resuscitation.

**Victim conscious with labored breathing:** Half-seated.

**Victim in shock:** On his back with legs slightly raised.

**Vomiting:** Prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain.

**Depending on the victim's condition:** Doctor/hospital.

**Inhalation:** Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

Doctor: administration of corticoid spray.

**Skin contact:** Wash immediately with lots of water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

**Eye contact:** Rinse immediately with plenty of water. Take victim to an ophthalmologist if irritation persists.

**Ingestion:** Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Call Poison Information Center. Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Do not give chemical antidote.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Common Name** : Sulfamic Acid  
**Synonym(s)** : Amidosulfonic Acid  
**Formula** : NH<sub>2</sub>SO<sub>3</sub>H  
**CAS Number** : 5329-14-6

<b>COMPONENT</b>	<b>CAS NUMBER</b>	<b>CONCENTRATION</b>
Sulfamic Acid	5329-14-6	99.8%

### 4. FIRST AID MEASURES

**Flammability of the Product:** Non-flammable  
**Auto-Ignition Temperature:** Not applicable  
**Flash Points:** Not applicable  
**Flammable Limits:** Not applicable  
**Products of Combustion:** Not available  
**Fire Hazards in Presence of Various Substances:** Not applicable

#### ***Explosion Hazards in Presence of Substances***

**Risks of explosion of the product in presence of mechanical impact:** Not available  
**Risks of explosion of the product in presence of static discharge:** Not available  
**Firefighting Media and Instructions:** Adapt extinguishing media to the environment Precautionary measures fire:  
**Exposure to fire/heat:** keep upwind.  
**Exposure to fire/heat:** Consider evacuation.  
**Exposure to fire/heat:** Have neighborhood close doors and windows.  
**Firefighting instructions:** Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.  
**Protection during firefighting - Heat/fire exposure:** compressed air/oxygen apparatus.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Material in powder form is capable of creating a dust explosion.

### 5. FIREFIGHTING MEASURES

**Flammability of the Product:** Non-flammable  
**Auto-Ignition Temperature:** Not applicable  
**Flash Points:** Not applicable  
**Flammable Limits:** Not applicable  
**Products of Combustion:** Not available  
**Fire Hazards in Presence of Various Substances:** Not applicable

**Explosion Hazards in Presence of Substances**

**Risks of explosion of the product in presence of mechanical impact:** Not available

**Risks of explosion of the product in presence of static discharge:** Not available

**Firefighting Media and Instructions:** Adapt extinguishing media to the environment

**Precautionary measures fire:** Exposure to fire/heat: keep upwind.

**Exposure to fire/heat:** Consider evacuation.

**Exposure to fire/heat:** Have neighborhood close doors and windows.

**Firefighting instructions:** Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

**Protection during firefighting - Heat/fire exposure:** compressed air/oxygen apparatus.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Material in powder form is capable of creating a dust explosion.

## 6. ACCIDENTAL RELEASE MEASURES

***For non-emergency personnel***

**Protective equipment:** Gloves. Face-shield. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Dust cloud production: dust-tight suit. See "Material-Handling" to select protective clothing.

**Emergency procedures:** Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. **Measures in case of dust release:** In case of dust production, keep upwind. Have neighborhood close doors and windows.

***For emergency personnel***

**Protective equipment:** Equip cleanup crew with proper protection. Do not breathe dust.

**Emergency procedures:** Ventilate area. Stop release.

**Environmental precautions:** Stop release. Ventilate area.

***Methods and material for containment and cleaning up***

**For containment:** Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapor with water curtain. Knock down/dilute dust cloud with water spray.

**Methods for cleaning up:** Prevent dust cloud formation. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Spill must not return in its original container. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

## 7. HANDLING AND STORAGE

**Precautions:** Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

**Storage:** Store in a dry area. Meet the legal requirements.

**KEEP SUBSTANCE AWAY FROM:** heat sources, oxidizing agents, strong acids, (strong) bases, halogens, water/moisture.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

**Personal Protection:** Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent.

**Personal Protection in Case of spill:** Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult specialist BEFORE handling this product.

**Exposure Limits:** Not available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state and Appearance:** Solid.

**Molecular Weight:** 97.09 g/mol

**pH (1% soln/water):** 1 [Acidic.]

**Boiling Point:** Not Available

**Melting Point:** Decomposes. (205°C/401°F)

**Critical Temperature:** Not available.

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coefficient:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Odor: Not available Taste:** Not available.

**Color: Not available Solubility:** Soluble in cold water.

## 10. STABILITY AND REACTIVITY

**Stability:** The product is stable

**Instability Temperature:** Not available

**Conditions of Instability:** Not available

**Incompatibility with various substances:** Not available

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Not available

**Special Remarks on Corrosivity:** Not available

**Polymerization:** Not occur

## 11. TOXICOLOGICAL INFORMATION

**Routes of Entry:** Eye contact. Inhalation. Ingestion. Dermal contact.

**Toxicity to Animals:** Acute oral toxicity (LD50): 3160 mg/kg [Rat].

**Chronic Effects on Humans:** The substance is toxic to lungs, mucous membranes.

**Other Toxic Effects on Humans:** Extremely hazardous in case of skin contact (corrosive irritant), of ingestion, of inhalation. Very hazardous in case of skin contact (sensitizer). Hazardous in case of skin contact (permeate)

**Special Remarks on Toxicity to Animals:** Not available

**Special Remarks on Chronic Effects on Humans:** Not available

**Special Remarks on other Toxic Effects on Humans:** No available

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** Hazardous to the aquatic environment - Acute Hazard Category 2

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are as toxic as the original product.

**Special Remarks on the Products of Biodegradation:** Not available.

## 13. DISPOSAL CONSIDERATIONS

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state and federal environmental control regulations.

## 14. TRANSPORT INFORMATION

**In accordance with DOT Transport document description:** UN2967 Sulfamic acid, 8, III

**UN-No. (DOT):** UN2967

**Proper Shipping Name (DOT):** Sulfamic acid

**Transport hazard class(es) (DOT):** Class 8 - Corrosive material 49 CFR 173.136

**Hazard labels (DOT):** 8 - Corrosive

**Packing group (DOT):** III - Minor Danger

**DOT Packaging Non Bulk (49 CFR 173.xxx):** 213

**DOT Packaging Bulk (49 CFR 173.xxx):** 240

**DOT Special Provisions (49 CFR 172.102):** IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures

above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

**DOT Packaging Exceptions (49 CFR 173.xxx):** 154

**DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27):** 25 kg

**DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75):** 100 kg

**DOT Vessel Storage Location:** A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

## 15. REGULATORY INFORMATION

### Federal and State Regulations

**TSCA 8(b) inventory:** Sulfamic Acid

#### Other Regulations

**OSHA:** Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

#### Other Classification

**WHMIS (Canada):** Class E: Corrosive solid.

**DSCL (EEC):** R35 - Causes severe burns. R43- May cause sensitization by skin contact

#### HMIS Rating

**Health:** 3

**Flammability:** 0

**Reactivity:** 1 Personal

**Protection:** J

#### NFPA Rating

**Health:** 3

**Flammability:** 0

**Reactivity:** 1

**Aquatic Acute 2:** Hazardous to the aquatic environment - Acute Hazard Category 2

**Eye Dam. 1:** Serious eye damage/eye irritation Category 1

**Skin Corr. 1C:** Skin corrosion/irritation Category 1C

**H314** Causes severe skin burns and eye damage

**H318** Causes serious eye damage

**H401** Toxic to aquatic life

## 16. OTHER INFORMATION

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.