

MATERIAL SAFETY DATA SHEET

SULFAMIC ACID

1. Product Identification

Synonyms: Amidosulfonic acid; amidosulfuric acid; aminosulfonic acid; sulfamidic acid

CAS No.: 5329-14-6

Molecular Weight: 97.09

Chemical Formula: H₂NSO₃H

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sulfamic Acid	5329-14-6	90 - 100%	Yes

3. Hazards Identification//Emergency Overview

DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES SEVERE IRRITATION AND BURNS TO EVERY AREA OF CONTACT. MAY CAUSE LUNG DAMAGE.

Health Rating: 3 - Severe

Flammability Rating: 0 - None

Reactivity Rating: 2 - Moderate

Contact Rating: 3 - Severe (Corrosive)

Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation: Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. May cause pulmonary edema, a medical emergency. Pulmonary edema may be delayed up to 48 hours.

Ingestion: Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea.

Skin Contact: Corrosive. Symptoms of redness, pain, and severe burn can occur.

Eye Contact: Corrosive. Can cause blurred vision, redness, pain, severe tissue burns and eye damage.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: No information found.

4. First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

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: Not considered to be a fire hazard.

Explosion: Not considered to be an explosion hazard.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

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.

6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

7. Handling and Storage

Keep in a 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 warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits: None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls as needed to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: White to colorless crystals.

Odor: Odorless.

Solubility: Soluble in water.

Density: 2.1

pH: 1.18 (1% solution @ 25C (77F))

% Volatiles by volume @ 21C (70F): 0

Boiling Point: Decomposes.

Melting Point: 205C (401F)

Vapor Density (Air=1): 3.3

Vapor Pressure (mm Hg): No information found.

Evaporation Rate (BuAc=1): No information found.

10. Stability and Reactivity

Stability:

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

Hazardous Decomposition Products:

May emit ammonia, oxides of sulfur, oxides of nitrogen, and oxides of carbon.

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

Oral rat LD50: 3160 mg/kg; Irritation data: skin human, standard Draize:4%/5D-I mild. Skin rabbit, standard Draize, 500 mg/24H severe. Eye rabbit, standard Draize: 250 ug/24H Severe.

12. Ecological Information

Environmental Fate: No information found.

Environmental Toxicity: No information found.

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.)

Proper Shipping Name: SULFAMIC ACID

Hazard Class: 8 **UN/NA:** UN2967

Packing Group: III

Information reported for product/size: 25KG

International (Water, I.M.O.)

Proper Shipping Name: SULPHAMIC ACID

Hazard Class: 8 **UN/NA:** UN2967

Packing Group: III

Information reported for product/size: 25KG

International (Air, I.C.A.O.)

Proper Shipping Name: SULPHAMIC ACID

Hazard Class: 8

UN/NA: UN2967

Packing Group: III

Information reported for product/size: 25KG

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
------------	------	----	-------	-----------

Sulfamic Acid (5329-14-6)	Yes	Yes	Yes	Yes
---------------------------	-----	-----	-----	-----

-----\Chemical Inventory Status - Part 2\-----

--Canada--

Ingredient	Korea	DSL	NDSL	Phil.
------------	-------	-----	------	-------

Sulfamic Acid (5329-14-6)	Yes	Yes	No	Yes
---------------------------	-----	-----	----	-----

-----\Federal, State & International Regulations - Part 1\-----

-SARA 302-----SARA 313-----

Ingredient	RQ	TPQ	List	Chemical Catg.
------------	----	-----	------	----------------

Sulfamic Acid (5329-14-6)	No	No	No	No
---------------------------	----	----	----	----

-----\Federal, State & International Regulations - Part 2\-----

-RCRA- -TSCA-

Ingredient	CERCLA	261.33	8(d)
------------	--------	--------	------

Sulfamic Acid (5329-14-6)	No	No	No
---------------------------	----	----	----

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No

Reactivity: No (Pure / Solid)

Australian Hazchem Code: 2T

Poison Schedule: S6

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **3** Flammability: **0** Reactivity: **0**

Label Hazard Warning:

DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES SEVERE IRRITATION AND BURNS TO EVERY AREA OF CONTACT. MAY CAUSE LUNG DAMAGE.

Label Precautions:

Do not get in eyes, on skin, or on clothing.

Do not breathe dust.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

Product Use: Laboratory Reagent.

Disclaimer:

We provide the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. WE MAKE NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, WE WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.
