

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: Raviraj Chemicals
Product Name: Sulphamic Acid
Synonyms: AMIDOSULFONIC ACID; AMIDOSULFURIC ACID; AMINOSUNFONIC ACID; SULPHAMIC ACID.
Product Code: 5329-14-6
Chemical Family: Inorganic Acid
Emergency telephone: +91 2646 225586.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: SULFAMIC ACID
Formula: $\text{NH}_2\text{SO}_3\text{H}$
EC NO: 226-218-8
Molar Mass: 97.09 g/mol
CAS NO. 5329-14-6
PERCENT: 98% MIN
HAZARDOUS: YES

SECTION 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: 2-Moderate
FLAMMABILITY RATING: 0-None
REACTIVITY RATING: 2-Moderate
CONTACT RATING: 3- Severe (Corrosive)
LAB PROTECTIVE EQUIP: Goggles; Labcoat; Proper Gloves
STORAGE COLOR CODE: White (Corrosive)



Signal Word Warning Corrosive
POTENTIAL HEALTH EFFECTS

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

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

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

Inhalation: Extremely destructive to tissue 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.

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SECTION 4: FIRST AID MEASURES

Eye:	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Skin:	Immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. 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.
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

SECTION 5: FIRE-FIGHTING MEASURES

Fire	:	Not considered to be a fire hazard.
Explosion	:	Not considered to be a 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 face piece operated in the pressure demand or other positive pressure mode.

SECTION 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. Spill: pick up and suitable for reclamation or disposal, using a method that does not generate dust.

SECTION 7: HANDLING AND STORAGE

Pack the Product in tightly closed container/bag. Protect from physical damage. Store in cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Container of this material may be hazardous when empty since they retain product residues, observe all warning and precaution listed for the product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Air borne exposure Limits	:	Not 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 emission of the contaminant as its sources, 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.
Respiratory Protection:		For condition 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.
Eye Protection	:	Use chemical safety goggles and full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.
SKIN PROTECTION	:	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls As needed to prevent skin contact.

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Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentration and quantities of the hazardous substances handled.

The chemical resistance of the equipment should be enquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hand and face after working with substance.

Eye / face protection

Safety glasses

Hand protection

full contact :

Glove material : Nitrile rubber

Glove thickness : 0.11 mm

Break through time : > 480 min

splash contact :

Glove material : Nitrile rubber

Glove thickness : 0.11 mm

Break through time : > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Other protective equipment :

Protective clothing

Respiratory protection

Required when dust are generated.

Recommended filter type : Filter B-(P2)

Environmental exposure controls

Do not empty into drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to colorless powder.
Odour:	Odorless.
Solubility:	213 g/l at 20°C
pH AS SUPPLIED:	1.18(1% solution @ 25°C (77°F))
% Volatiles by volume @ 21c (70F):	0
Boiling Point:	Decomposes.
Melting Point:	205°C (401°F)
Vapour Pressure:	0.0075 hPa
Relative Vapour Density:	3.35
Relative Density:	2.13 g/cm ³ 20°C
Decomposition Temperature:	209°C
Explosive Properties:	Non Explosive

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Oxidizing Properties: Not Oxidizing
Bulk Density: 1300 kg/m³

SECTION 10: STABILITY AND REACTIVITY

STABILITY : Stable under ordinary conditions of use and storage. Solutions are acidic. In water solution
slowlyHAZARDOUS DECOMPOSITION hydrolyzes to form ammonium sulfate and bisulfate.
CONDITIONS TO AVOID : Dusting and incompatibles.
PRODUCTS : May emit ammonia, oxides of sulfur, oxide of nitrogen, and oxides of carbon.
HAZARDOUS POLYMERIZATION : Will not occur.
INCOMPATIBILITY : Strong oxidizers, nitric acid, chlorine. Solutions are strong acids and react violently with bases.

SECTION 11: TOXICOLOGICAL INFORMATION

Oral rat LD 50: 3160mg/kg
Irritation date: skin human, standard/
Draize: 4%/5D-I mild. Skin rabbit, standard Draize 500mg/24H sever./
Eye rabbit, standard draize :2580ug/24H Severe.
-----/Cancer Lists/-----NTP Carcinogen-----
Ingredient Known Anticipated IARC Category

Sulphamic Acid (5329-14-6) No No None

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish

LC₅₀
Species : pimephalespromelas (fathead minnow)
Dose : 70,3 mg/lit
Exposure time : 96 hr
Method : OECD test guideline 203

Persistence and degradability

No information available

Bioaccumulative potential

Partition coefficient : n-octanol/water
Log Pow : 0,10
Method : (experimental) (Lit.) Bioaccumulation is not expected (log Pow< 1)

Mobility in soil

No information available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects.

Biological effects : Harmful effect due to pH shift.

Further information on ecology : Do not allow to run into surface waters, wastewater, or soil.

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SECTION 13: DISPOSAL CONSIDERATIONS

Whatever cannot be said for recovery or recycled 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 wastes and require appropriate analysis to determine specific disposals requirements. Processing, use or contamination of this product may change the waste management options. State and local dispose of container unused contents in accordance with federal, state and local requirements.

SECTION 14: TRANSPORT INFORMATION

Domestic (Land, D.O.T)

PROPER SHIPPING NAME	:	Corrosive solid, N.O.S. (Sulphamic Acid)
HAZARD CLASS	:	8
UN NUMBER	:	UN 2967
PACKING GROUP	:	III

International (Water, I.M.O)

PROPER SHIPPING NAME	:	Sulphamic Acid
HAZARD CLASS	:	8
ID NUMBER	:	UN 2967
PACKING GROUP	:	III
EmS	:	F-A, S-B

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

PROPER SHIPPING NAME	:	Sulphamic Acid
HAZARD CLASS	:	8
ID NUMBER	:	UN 2967
PACKING GROUP	:	III

SECTION 15: REGULATORY INFORMATION

Labelling:



Irritant

Approved code of Practice

Classification and Labelling of Substances and Preparations Dangerous for Supply. COSHH essentials: Easy steps to control chemicals. Control of Substances Hazardous to Health Regulations

The statements contained herein are offered for informational purposes only and are based upon technical data. Sea star Chemicals Inc believes them to be accurate but does not purpose to be all-inclusive. The above staled product in intended for use only by persons having the necessary technical skill and facilities for handling the product all their discretion and risk. Since condition and manner of use are outside our control, we (Sea star chemicals Inc) make no warranty of merchantability or any such warranty, express or implied with respect to information and we assume no liability resulting from the above product or its use. User s should make their own investigations to determine solubility of product for their particular purposes.

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SECTION 16: OTHER INFORMATION

NFPA Rating:	
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 Precaution	: Do not get in eyes or on skin or on clothing. Do not breathe dust. Keep container closed use only with Adequate ventilation was thoroughly handling.
Label First aid	: If swallowed, DO NOT INDUCESVOMITING. 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 case contact, immediately flush eyes or skin with plenty of water least 15 minutes while removing contaminated clothing and shoes. Wash clothing before refuse. In get medical attention immediately.
for at all cases	
Created	: 10/10/2013 12:22
Last Updated	: 01/01/2019 11:30

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.