

SAFETY DATA SHEET

PRODUCT NAME: SULPHAMIC ACID

Issue Date: September 22

IDENTIFICATION

Product Name: Sulphamic Acid
Other Names: Sulfamic acid; Aminosulfuric acid; Sulfamidic acid; Amidosulfonic acid; Amidosulfuric acid.
Product Code: ZSULPA
Uses: Metal and ceramic cleaning, nitrate removal in azo dye operations, gas liberating compositions, organic synthesis, analytical acidimetric standard, amine sulphamates used as plasticisers and fire retardants, stabilising agent for chlorine and hypochlorite in swimming pools, bleaching paper pulp/textiles, catalyst for urea-formaldehyde resins, sulphonating agent, pH control, hard water scale removal and electroplating.
Supplier: HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton
 Phone: 079744971 Web: www.hamchem.nz Email: info@hamchem.nz

- In emergency dial 111, and then ask for Fire, Ambulance or Police as necessary.
- In case of poisoning phone National Poisons Centre – 0800 764 766

HAZARD IDENTIFICATION



GHS Classifications

Corrosive to Metals – Category 1
 Acute Toxicity (Oral) – Category 4
 Skin Corrosion – Category 1C
 Serious Eye Damage – Category 1
 Specific Target Organ Toxicity (Single Exposure) – Category 3
 Hazardous to the Aquatic Environment (Chronic) – Category 3

Signal Word: Danger

Hazard Statements

H290 May be corrosive to metals
 H302 Harmful if swallowed
 H314 Causes severe skin burns and serious eye damage
 H318 Causes serious eye damage
 H335 May cause respiratory irritation
 H412 Harmful to aquatic life with long lasting effects

Prevention

P234 Keep only in original packaging
 P264 Wash hands thoroughly after handling
 P270 Do not eat, drink or smoke when using this product
 P260 Do not breathe dusts or mists
 P280 Wear protective gloves/clothing and eye/face protection
 P271 Use only outdoors or in a well-ventilated area
 P273 Avoid release to the environment

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Response

P390 Absorb spillage to prevent material damage

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

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

P363 Wash contaminated clothing before reuse

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

P310 Immediately call a POISON CENTRE or Doctor

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 CENTRE or Doctor

Storage

P405 Store locked up

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal

P501 Dispose of contents/container to approved waste facility in accordance with local regulations

COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Entity

Sulphamic Acid

CAS No.

5329-14-6

Proportion (%)

> 90%

FIRST AID MEASURES

This material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

If swallowed: If swallowed, do NOT induce vomiting. Get medical aid immediately. If the victim is fully conscious, rinse mouth with water, then give a cupful of water to drink or as much as the casualty can comfortably drink. Never give anything by mouth to an unconscious person.

If in eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye, and moving the eyelids by occasionally lifting the upper and lower lids. Get medical attention.

If on skin: Immediately wash skin with soap and plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Do not scrub skin roughly. Get medical attention. Wash clothing before re-use.

If inhaled: If inhaled, remove to fresh air. Keep warm. If breathing is difficult, give oxygen and keep at rest in a position comfortable for breathing. Get medical attention. Effects may be delayed. Emergency shower and eyewash station required.

Advice to Doctor: Persons with pre-existing skin disorders or impaired respiratory or pulmonary function may be at an increased risk to the effects of this substance. Treat symptomatically and supportively.

NOTE: In an emergency dial 111, for advice, contact a Poison Centre (0800-764-766).

FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media suitable for surrounding area; water spray, dry chemical, foam or carbon dioxide.

Special Firefighting Instructions: Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water courses. Use firefighting procedures suitable for surrounding area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazard: Non-combustible, substance does not burn but may decompose upon heating.

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Hazardous Products of Combustion: Combustion products include sulphur oxides and nitrogen oxides.

Personal Protective Equipment: Firefighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots and gloves). Clear fire area of all non-emergency personnel. Stay upwind. Eliminate ignition sources.

Hazchem Code: 2X

ACCIDENTAL RELEASE MEASURES

Minor spills: Clean up all spills immediately. Remove all ignition sources. Wear protective clothing, impervious gloves and safety glasses. Avoid contact with skin and eyes. Use dry clean up procedures and avoid generating dust. Sweep up and shovel into suitable containers and store for later disposal. Refer to major spills.

Major spills: Personnel involved in the clean-up should wear full protective clothing. Evacuate all unnecessary personnel. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Do NOT let product reach drains or waterways. If product does enter a waterway, advise EPA or your local Waste Authority. Collect in a labelled chemical waste container and seal for disposal. Wash spill area with plenty of water after removal of contaminant.

HANDLING & STORAGE

Handling advice: Use good occupational work practice. Avoid generating and breathing dust. Avoid contact with skin and eyes. Avoid contact with incompatible materials. Avoid all ignition sources. Avoid sources of heat. Avoid physical damage to containers. Handle and open container with care. Use in a well-ventilated area. Always add sulphamic acid to water to prevent a violent reaction from occurring. Always wash hands with soap and water after handling or if accidental exposure occurs. Work clothes should be laundered separately. Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices. Take precautionary measures against static discharges by bonding and grounding equipment.

Container: Original packaging. Check all containers are clearly labelled and free from leaks.

Dangerous Goods: The UN Packaging specification number as well as the UN packaging Logo is to be printed on the bags.

Storage incompatibility: Store away from oxidizing agents, strong bases and metals.

Storage advice: Store locked up. Store in original packaging. Keep containers securely sealed. No smoking, naked lights or ignition sources.

Store in a cool, dry, well-ventilated area, out of direct sunlight. Store away from incompatible materials and foodstuffs. Protect containers against physical damage and check regularly for leaks.

EXPOSURE CONTROLS & PERSONAL PROTECTION

Exposure standards: Total dust – TWA = 10 mg/m³
Respirable dust – TWA = 3 mg/m³

No exposure limits set for CAS 5329-14-6 by WorkSafe New Zealand or Safe Work Australia.

Personal Protection Equipment: The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

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. Refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal respirators: An approved dust mask e.g. a P1 respirator, is recommended when using this product in dusty conditions or when the nuisance dust exposure limits are exceeded. For more information see Australian/New Zealand Standard, AS/NZS 1715:2009 and AS/NZS 1716:2003. If in doubt, seek expert occupational hygiene advice.

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Skin protection: Wear impervious protective clothing, including chemical resistant boots, rubber gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Refer to AS/NZS 2161.1:2000 Occupational Protective Gloves – Selection, use and maintenance; AS/NZS 2210.1:2010 for Safety footwear; AS/NZS 4501.1:2008 Occupational protective clothing – Guidelines on the selection, use, care and maintenance of protective clothing.

Eye protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Refer to Personal eye protection Part 1: Eye and face protectors for occupational applications, Australian/New Zealand Standard: AS/NZS 1337.1:2010.

Maintain eye wash fountain and quick-drench facilities in work area.

PHYSICAL & CHEMICAL PROPERTIES

Appearance:	White crystalline (or brownish grey for technical grades), odourless solid.
Physical properties:	Non-hygroscopic. Soluble in water giving highly acid solutions.
State:	Solid
Molecular Weight:	97.10
Melting Range (°C):	205
Boiling Range (°C):	Not applicable
Solubility in water (g/L):	220, Moderate with slow hydrolysis
pH (1% solution):	1.2
pH (as supplied):	Not available
Specific Gravity (water=1):	Not applicable
Bulk Density (g/ml):	2.15
Volatile Component (%vol):	Nil
Relative Vapour Density (air=1):	Not available
Vapour Pressure (kPa):	Not available
Autoignition Temp (°C):	Not available
Flash Point (°C):	Not applicable
Lower Explosive Limit (%):	Not available
Upper Explosive Limit (%):	Not available
Decomposition Temp (°C):	209
Viscosity:	Not applicable
Evaporation Rate:	Evaporation at 20°C is negligible

STABILITY & REACTIVITY

Chemical Stability: Product is stable under normal conditions of use, storage and temperature.

Conditions to Avoid: Avoid excessive heat, direct sunlight, static discharges, moisture, and temperature extremes. Always add sulphamic acid to water to prevent a violent reaction from occurring.

Materials to Avoid: Incompatible with alkalis, metals and strong oxidisers. Contact with alkaline material liberates heat. Keep containers dry and tightly closed to avoid moisture absorption and contamination.

Hazardous Decomposition Products: Thermal decomposition can lead to release of nitrogen oxides and oxides of sulphur.

Hazardous Polymerisation: Hazardous polymerisation will not occur.

TOXICOLOGICAL INFORMATION

Toxicity data:

Acute Oral Toxicity, Guinea Pig, LD50: 1050mg/kg.

Acute Oral Toxicity, Rat, LD50: 3160 mg/kg.

Acute Dermal Toxicity, LD50: No data available.

Acute Inhalation Toxicity, LC50: No data available.

REMARK: Effects of short-term exposure: The aerosol is corrosive to the eyes, the skin and the respiratory tract. Inhalation of sulfamic acid aerosols may cause lung oedema. The symptoms of lung oedema often do not

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become manifest until a few hours have passed and they are aggravated by physical effort. REFERENCE SOURCE: International Chemical Safety Card [INCHEM].

Irritation:

Eyes, Rabbit: Irritating. REFERENCE SOURCE: Albright & Wilson Ltd. Warley (40) Hoechst AG (1984) Unpublished investigation (84.0947). [IUCRID 2000] R PHRASE: R 41 Draize test, rabbit, eye, 250 µg/24h: Severe.
Draize test, rabbit, skin, 500 µg/24h: Severe.

Potential acute health effects

Ingestion: Considered an unlikely route of entry in commercial/industrial environments. The material is corrosive to the gastro-intestinal tract and capable of causing burns to mouth, throat, oesophagus, with extreme discomfort, pain. Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. Swelling of the epiglottis may make it difficult to breathe which may result in suffocation. More severe exposure may result in vomiting blood and thick mucus, shock, abnormally low blood pressure, fluctuating pulse, shallow respiration and clammy skin, inflammation of stomach wall, and rupture of oesophageal tissue. Untreated shock may eventually result in kidney failure. Severe cases may result in perforation of the stomach and abdominal cavity with consequent infection, rigidity and fever. There may be severe narrowing of the oesophageal or pyloric sphincters; this may occur immediately or after a delay of weeks to years. There may be coma and convulsions, followed by death due to infection of the abdominal cavity, kidneys or lungs.

Eye Irritant: The dust is highly discomforting to the eyes and is capable of causing burns. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

Skin Irritant: The solid/dust is discomforting to the skin. A solution of this material in moisture on the skin, or perspiration, may markedly increase skin corrosion and accelerate tissue destruction. The material may cause severe skin irritation after prolonged or repeated exposure and on contact may produce skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.

Inhalation: The solid/dust is corrosive to the upper respiratory tract and lungs. Inhalation of fumes may cause a burning sensation, coughing, shortness of breath or laryngitis.

Chronic health effects: Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts. No human exposure data available. For this reason health effects described are based on experience with chemically related materials. As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.

Carcinogenic effects: Not classified or listed by IARC, NTP, Ca Prop65 and ACGIH.

Mutagenic effects: Not available.

Reproductive or developmental effects: Not available.

Aspiration hazard: Not available.

Specific target organ toxicity: Not available.

Sensitisation (respiratory/contact): Not available.

ECOLOGICAL INFORMATION

Ecotoxicity (Aquatic): Harmful to aquatic life with long lasting effects.

Fish, (*Pimephales promelas*, Fathead minnow), 96h LC50: 14.2 mg/L [Static]

Crustacean, 48h EC50: No data available.

Algae, 72 or 96h EC50: No data available.

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Chronic: No data available.

Persistence and Degradability: Not rapidly degradable [NZ EPA CCID]

Mobility: Moderately soluble in water; hydrolysis will occur at elevated temperatures.

Bioaccumulation: Not expected to bioaccumulate. Log Kow: -4.34 (KowWin estimate) [NZ EPA CCID]

BOD and COD: No data available.

Products of Biodegradation: No data available.

Toxicity of the Products of Biodegradation: No data available.
DO NOT discharge into sewer or waterways.

DISPOSAL CONSIDERATIONS

Product: Recycle wherever possible. Special hazard may exist - specialist advice may be required. The product may be treated so that it is no longer hazardous by a means other than dilution. This includes incineration at an approved site or burial in a landfill in such a manner that it will not lead to any adverse health effects to any person or exceed any TEL (tolerable exposure limit) set by the Authority for this substance. Treatment in a biological wastewater treatment system with prior approval and arrangement is also permissible providing that the substance is rendered non-hazardous and does not pose any adverse effects to human health or the environment. Alternatively consult an approved Waste Management company for disposal options. Do not dispose with household rubbish.

Packaging: Recycle wherever possible. Special hazard may exist - specialist advice may be required. Packaging should be rendered incapable of containing any material. Puncture containers to prevent re-use and bury at an authorised landfill. Empty containers may be decontaminated. The residual contents of the package must be diluted to below the thresholds for the respective hazard and the diluted residue is 1% or less of the volume of the package. Alternatively, consult an approved Waste Management company for disposal options or dispose of at an approved waste disposal facility. Observe all label safeguards until containers are cleaned and destroyed. Where possible retain label warnings and SDS and observe all notices pertaining to the product. Must not be disposed of in household rubbish.

TRANSPORT INFORMATION

UN Number:	2967
Proper Shipping name:	Sulphamic Acid
Dangerous Goods Class:	8
Subsidiary Risk:	N/A
Packing group:	III
Hazchem Code:	2X

REGULATORY INFORMATION

HSNO Classifications: 8.1A, 6.1D (O), 8.2C, 8.3A, 6.1E, 9.1C

EPA Approval Code: HSR001549

OTHER INFORMATION

End of SDS.