

Safety Data Sheet

Material Name: Sulfamic Acid or Sulphamic Acid

ID: C1-156

*** Section 1 - Chemical Product and Company Identification ***

Chemical Name: Sulfamic Acid, Crystal Grade or Sulphamic Acid

Product Use: For Commercial Use

Synonyms: Amidosulfonic Acid, Amidosulfuric Acid, Aminosulfonic Acid, Sulfamidic Acid

Supplier Information:

Chem One Ltd.

14140 Westfair East Drive

Houston, Texas 77041-1104

Phone: (713) 896-9966

Fax: (713) 896-7540

Emergency # (800) 424-9300 or +1- (703) 527-3887

General Comments: FOR COMMERCIAL USE ONLY; NOT TO BE USED AS A PESTICIDE.

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

*** Section 2 - Hazards Identification ***

GHS HAZARD

Hazard Classes

Acute toxicity, oral

Skin irritation

Eye irritation

Harmful to aquatic life with long lasting effects

Hazard Categories

Category 4

Category 2

Category 2A

Category 3

Signal Word: Warning



Pictograms:

Hazard Statements

PHYSICAL HAZARDS:

None

HEALTH HAZARDS:

H302 harmful if swallowed

H315 Causes mild skin irritation.

H319 Causes eye irritation

ENVIRONMENTAL HAZARDS:

H412 Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENTS:

P102: Keep out of reach of children

P202: Do not handle until all safety precautions have been read and understood

P261: Avoid breathing dust

P280: Wear protective gloves, clothing and eye protection

RESPONSE STATEMENTS:

P301 +310+ P331: IF SWALLOWED: USA Immediately call the National POISON CENTER at 800-222-1222. DO NOT induce vomiting

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P303+P361+353: IF ON SKIN Take off immediately all contaminated clothing. Rinse skin with water

P304+340: IF INHALED, Remove to fresh air and keep comfortable for breathing

P305+P351: IF IN EYES rinse cautiously with water for at least 15 minutes

P306+P361: IF ON CLOTHING, Take off contaminated clothing

STORAGE STATEMENTS:

P403: None

DISPOSAL STATEMENTS:

P501: Dispose of content and/or container in accordance with local, regional, national or international regulations

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
5329-14-6	Sulfamic Acid	100 % *

* The data provided in this section are to be used for product safety handling purposes. Please refer to Product Data Sheets, Certificates of Conformity or Certificates of Analysis for chemical and physical data for determinations of quality and for formulation purposes.

Synonyms: Amidosulfonic Acid, Amidosulfuric Acid, Aminosulfonic Acid, Sulfamidic Acid

Supplier Information:

* * * Section 4 - First Aid Measures * * *

Emergency Overview

Sulfamic Acid is a white, crystalline, odorless solid. Harmful or fatal if swallowed. Corrosive to skin and respiratory tract. Can cause permanent damage to eyes. Fire may produce irritating, corrosive and/or toxic vapors. Firefighters should use full protective equipment and clothing.

Hazard Statements

CORROSIVE. CAUSES SKIN, EYE AND RESPIRATORY TRACT BURNS. HARMFUL IF SWALLOWED OR INHALED. Can cause irritation of eyes and skin. May cause respiratory tract irritation, and in extreme cases, ulceration and perforation of the respiratory tract. Avoid contact with eyes and skin. Avoid breathing dusts. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Keep from contact with clothing and other combustible materials.

Potential Health Effects: Eyes

Exposure to particulates or solution of this product may cause redness, pain and blurred vision. Prolonged contact may cause corneal injury.

Potential Health Effects: Skin

This product can cause irritation of the skin with pain, itching and redness. Depending on the duration of skin contact, skin overexposures may cause chemical burns resulting in blistering of skin and possible scarring. Repeated skin overexposures can result in dermatitis.

Potential Health Effects: Ingestion

Harmful if swallowed. May cause gastrointestinal irritation with symptoms such as nausea, vomiting, and diarrhea.

Potential Health Effects: Inhalation

May irritate the nose, throat and respiratory tract. Symptoms can include sore throat, coughing and shortness of breath. In severe cases, ulceration and perforation of the nasal septum and upper respiratory tract can occur. In severe cases, pulmonary edema may occur that could potentially lead to death.

First Aid: Eyes

In case of contact with eyes, rinse immediately with plenty of water for at least 20 minutes. Seek immediate medical attention.

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* * * Section 4 - First Aid Measures Continued * * *

First Aid: Skin

Remove all contaminated clothing. For skin contact, wash thoroughly with soap and water for at least 20 minutes. Seek immediate medical attention if irritation develops or persists.

First Aid: Ingestion

DO NOT INDUCE VOMITING. If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to a victim who is unconscious or having convulsions. Contact a physician or poison control center immediately.

First Aid: Inhalation

Remove source of contamination or move victim to fresh air. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Get immediate medical attention.

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

As a solid, Sulfamic Acid is not combustible, however as a solution, it is corrosive and presents a severe inhalation and contact hazard to firefighters. Aqueous solutions of Sulfamic Acid are highly corrosive, which react violently with bases. When involved in a fire, this material may decompose and produce corrosive and/or toxic gases (i.e. ammonia and sulfur oxides).

Hazardous Combustion Products

Nitrogen oxides, carbon oxides, sulfur oxides, and ammonia.

Extinguishing Media

Dry chemical, foam, carbon dioxide, water fog. Use water to cool fire-exposed containers and to protect personnel.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing including self-contained breathing apparatus. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

NFPA Ratings: Health: 3 Fire: 0 Reactivity: 0 Other:

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures

Stop the flow of material, if this can be done without risk. Contain the discharged material. If sweeping of a contaminated area is necessary use a dust suppressant agent, which does not react with product (see Section 10 for incompatibility information).

Clean-Up Procedures

For small releases, clean-up spilled liquid wearing gloves, goggles, faceshield, and suitable body protection. Sweep-up or vacuum spilled solid. Decontaminate the area thoroughly. Neutralize spill residue with hydrated lime (calcium oxide), soda ash or sodium bicarbonate. Test area with litmus paper to ensure neutralization. Place all spill residues in a suitable container. Thoroughly wash the area after clean-up. Prevent spill rinsate from contamination of storm drains, sewers, soil or groundwater.

Evacuation Procedures

Evacuate the area promptly and keep upwind of the spilled material. Isolate the spill area to prevent people from entering. Keep materials which burn away from spilled material. In case of large spills, follow all facility emergency response procedures.

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*** Section 6 - Accidental Release Measures Continued ***

Special Procedures

Remove soiled clothing and launder before reuse. Avoid all skin contact with the spilled material. Have emergency equipment readily available.

*** Section 7 - Handling and Storage ***

Handling Procedures

All employees who handle this material should be trained to handle it safely. Do not breathe dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling.

Storage Procedures

Keep container tightly closed when not in use. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Storage areas should be made of corrosion- and fire-resistant materials. Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Use corrosion-resistant structural materials, lighting, and ventilation systems in the storage area. Floors should be sealed to prevent absorption of this material. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Have appropriate extinguishing equipment in the storage area (i.e., sprinkler system, portable fire extinguishers). Empty containers may contain residual particulates; therefore, empty containers should be handled with care. Do not cut, grind, weld, or drill near this container. Never store food, feed, or drinking water in containers which held this product. Keep this material away from food, drink and animal feed. Do not store this material in open or unlabeled containers. Limit quantity of material stored.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines

A: General Product Information

Follow the applicable exposure limits.

B: Component Exposure Limits

The exposure limits given are for Particulates Not Otherwise Classified.

OSHA: 15 mg/m³ TWA (Total dust)
5 mg/m³ TWA (Respirable fraction)

DFG MAKs 4 mg/m³ TWA (Inhalable fraction)
1.5 mg/m³ TWA (Respirable fraction)

Engineering Controls

Use mechanical ventilation such as dilution and local exhaust. Use a corrosion-resistant ventilation system and exhaust directly to the outside. Supply ample air replacement. Provide dust collectors with explosion vents.

PERSONAL PROTECTIVE EQUIPMENT

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent Standards of Canada. Please reference applicable regulations and standards for relevant details.

Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields (or goggles) and a face shield, if this material is made into solution. If necessary, refer to U.S. OSHA 29 CFR 1910.133.

Personal Protective Equipment: Skin

Wear impervious gloves, boots and coveralls to avoid skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138.

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*** Section 8 - Exposure Controls / Personal Protection Continued ***

Personal Protective Equipment: Respiratory

If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998). If airborne concentrations are above the applicable exposure limits, use NIOSH-approved respiratory protection. If airborne concentrations are above the applicable exposure limits, use acid/gas cartridge respirator or other NIOSH-approved respiratory protection.

Personal Protective Equipment: General

Have an eyewash fountain and safety shower available in the work area. Use good hygiene practices when handling this material, including changing and laundering work clothes after use. Discard contaminated shoes and leather goods.

Protective Clothing Pictograms:



Splash Goggles



Gloves



Protective Apron



Dust Respirator

*** Section 9 - Physical & Chemical Properties ***

Physical Properties: Additional Information

The data provided in this section are to be used for product safety handling purposes. Please refer to Product Data Sheets, Certificates of Conformity or Certificates of Analysis for chemical and physical data for determinations of quality and for formulation purposes.

Appearance:	White crystalline solid	Odor:	Odorless
Physical State:	Solid	pH:	1.18 (1% solution) at 20 deg C
Vapor Pressure:	Not applicable	Vapor Density:	Not applicable
Boiling Point:	Decomposes @ 408 deg F(209 deg C)	Freezing/Melting Point:	205 deg C (401 deg F)
Solubility (H2O):	14.7% at 0 deg C	Specific Gravity:	2.125 (H2O = 1)
Decomposition Temp.	209 deg C (408.2 deg F)	Bulk Density:	68.5 lb/ft ³ (2.126 g/ cm ³)
Method Used:	Not applicable	Chemical Formula:	NH ₂ SO ₃ H
Lower Flammable Limit (LEL):	9.3% [solution]	Upper Flammable Limit (UEL):	9.3% (v/v) [solution]
Rate of Burning:	Not available	Flammability Classification:	Not available

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

Stable when dry, but slowly hydrolyzes in solution. Sulfamic Acid begins to decompose at 209 deg C (408 deg F). At room temperature, dilute solutions of Sulfamic Acid is stable for many months. At higher temperatures and especially in stronger solutions, hydrolysis of the acid and its ammonium salt occurs, forming ammonium hydrogen sulfate and ammonium sulfate. This reaction occurs much more rapidly as the pH lowers (concentration of the acid increases).

Chemical Stability: Conditions to Avoid

Avoid dispersion of Sulfamic Acid particulates into air and contact with heat. Avoid the use of non-vented containers if concentrated solutions of the acid are made and heated, as a runaway hydrolysis reaction will occur, generating sufficient steam in the container to cause an explosion.

Incompatibility

Incompatible with chlorine and chlorine compounds, cyanides, sulfides, nitrites, nitrates, carbonates, metal oxides, strong oxidizing agents and strong bases. Chlorination of Sulfamic Acid with acidic ammonium chloride solutions gives the powerfully explosive oil, nitrogen trichloride. Heating mixtures of barium, potassium or sodium amidosulfates or Sulfamic Acid, with sodium or potassium nitrates or nitrites, leads to reactions which may be explosive. Mixing Sulfamic Acid with fuming nitric acid results in violent release of nitrous oxide.

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*** Section 10 - Chemical Stability & Reactivity Information Continued ***

Hazardous Decomposition

Nitrogen oxides, carbon oxides, sulfur oxides and ammonia gas. Concentrated solutions, when heated, will release sulfur dioxide, and sulfur trioxide. Aqueous solutions of Sulfamic Acid slowly hydrolyze to form ammonium sulfate and ammonium bisulfate.

Hazardous Polymerization

Will not occur.

*** Section 11 - Toxicological Information ***

Acute and Chronic Toxicity

A: General Product Information

Harmful or fatal if swallowed. Product is an eye and skin irritant, and can cause burns. Sulfamic Acid is a respiratory tract irritant, and inhalation may cause nose irritation, sore throat, coughing, and chest tightness and possibly, ulceration and perforation of the nasal septum. Inhalation exposure to high levels could cause pulmonary edema (buildup of fluid in the lungs) which could result in death. Ingestion can result in severe gastric distress with possible circulatory collapse, kidney failure and liver and heart damage. The following data are available regarding corrosivity of this compound.

Skin-Human 4%/5 days-intermittent: Mild irritation effects; Skin-Rabbit, adult 500 mg/24 hours: Severe irritation effects; Eye effects-Rabbit, adult 20 mg Moderate irritation effects; Eye effects-Rabbit, adult 250 mg/24 hours: Severe irritation effects

Chronic: Long term skin overexposure to this product may lead to dermatitis and eczema. Prolonged or repeated eye contact may cause conjunctivitis and possibly corneal abnormalities.

B: Component Analysis - LD50/LC50

Sulfamic Acid (5329-14-6):

Oral-Rat LD₅₀: 3160 mg/kg ;Oral-Mouse LD₅₀: 1312 mg/kg ; Oral-Guinea Pig, adult LD₅₀: 1050 mg/kg; Oral-mouse LD₅₀: 1312 mg/kg; Behavioral: altered sleep time (including change in righting reflex), excitement, rigidity (including catalepsy)

C: Component Analysis - TDLo/LDLo

Sulfamic Acid (5329-14-6):

LDLo Intraperitoneal-Rat: 100 mg/kg

Carcinogenicity

A: General Product Information

No information available.

B: Component Carcinogenicity

No information available.

Epidemiology

No information available.

Neurotoxicity

No information available.

Mutagenicity

No information available.

Teratogenicity

No information available.

Other Toxicological Information

No information available.

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*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

Harmful to aquatic life in very low concentrations. Sulfamic Acid is toxic to fish and marine organisms when applied to streams, rivers, ponds or lakes.

B: Ecotoxicity

Sulfamic Acid (5329-14-6)

LC₅₀ (*Pimephales promelas*, fathead minnow) 96 hours = 58.8-84 mg/L, fresh water, 22 deg C

Environmental Fate

No information available.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

As shipped, this product has no EPA waste code. Solutions of this product may be considered D002, corrosivity waste under RCRA. Wastes should be tested to determine applicability.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

All wastes must be handled in accordance with local, state and federal regulations. Material can be converted to a less hazardous material by weak reducing agents followed by neutralization.

*** Section 14 – Transportation Information Ground ***

NOTE: The shipping classification information in this section (Section 14) is meant as a guide to the overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under 49 CFR, IATA and IMDG to assure regulatory compliance.

US DOT 49 CFR 100-185 Revised February 5, 2015 Information



UN/NA #: UN 2967

Shipping Name: Sulfamic acid

Hazard Class: 8

Packing Group: III

Required Label(s): 8

RQ Quantity: None

Special Provisions 172.102: IB8, IP3

Packaging: 173.154, 172.212, 173.240

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* * * Section 14 – Transportation Information Ground * * *

Additional Shipping Information



Limited Quantity Shipments: Shipments, except for air, need not be marked with the Proper Shipping Name of the contents, but shall be marked with a diamond. The top and bottom portions of the square-on-point must be black and the center white or of a suitable contrasting background. The mark must be at least 2 mm. Each side must have a minimum dimension of 100 mm. Small packages which cannot reasonably accommodate a 100 mm square-on-point mark may be marked with a square-on-point mark with a minimum side dimension of 50 mm. The total weight of each outer packaging cannot exceed 30 kg (66 pounds).

Small Quantities for Highway and Rail: The maximum quantity of this material per inner receptacle is limited to 30 g (1 ounce) per receptacle. The inner receptacles must be securely packed in an inside packaging with cushioning material to prevent movement of the inner receptacles and packed in a strong outer box with a gross mass not to exceed 29kg (64 pounds). The completed package must meet the drop test requirements of 173.4(6) (i). The outside of the package must be marked with the statement “**This package conforms to 49 CFR 173.4 for domestic highway or rail transport only.**”

Excepted Quantities: The maximum quantity of this material per inner receptacle is limited to 30 g (1 ounce) per receptacle and the aggregate quantity of this material per completed package does not exceed 500g (1.1 pounds). The inner receptacles must be securely packed in an inside packaging with cushioning material to prevent movement in the inner receptacles and packed in a strong outer box with a gross mass not to exceed 29kg (64 pounds). The completed package must meet a drop test. The requirements are found in 173.4(6) (i). The package must not be opened or otherwise altered until it is no longer in commerce. For highway or rail transportation no shipping paper is required. The package must be legibly marked with the following marking:



NOTE: The “**” must be replaced by the primary hazard class, or when assigned, the division of each of the hazardous materials contained in the package. The “***” must be replaced by the name of the shipper or consignee if not shown elsewhere on the package. The symbol shall be not less than 100 mm (3.9 inches) x 100 mm (3.9 inches), and must be durable and clearly visible.

De minimis Exceptions: The maximum quantity of this material per inner receptacle is limited to 1g (0.04 ounce) per receptacle and the aggregate quantity of this material per completed package does not exceed 100 g (0.22 pounds). The inner receptacles must be securely packed in an inside packaging with cushioning material to prevent movement in the inner receptacles and packed in a strong outer box with a gross mass not to exceed 29kg (64 pounds). The completed package must meet the drop test. The requirements are found in 173.4(6) (i). The package must not be opened or otherwise altered until it is no longer in commerce and may be transported by aircraft. If all of the above requirements are met, then this material is not regulated.

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*** Section 14 – Transportation Information Air ***

Please refer to the most recent edition of the “International Air Transport Association (IATA)” Regulations

*** SECTION 14 – Transportation Information Vessel ***

Please refer to the most recent Amendment of the “International Maritime Dangerous Goods (IMDG) Code”

*** Section 15 – Regulatory Information ***

US Federal Regulations

A: General Product Information

No additional information.

B: Component Analysis

This product does not contain any chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4):

SARA 302 (EHS TPQ): There are no specific Threshold Planning Quantities for Sulfamic Acid. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

C: Sara 311/312 Tier II Hazard Ratings:

Component	CAS #	Fire Hazard	Reactivity Hazard	Pressure Hazard	Immediate Health Hazard	Chronic Health Hazard
Sulfamic Acid	5329-14-6	No	No	No	Yes	Yes

State Regulations)

A: General Product Information

California Proposition 65

Sulfamic Acid is not on the California Proposition 65 chemical lists.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substance lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Sulfamic Acid	5329-14-6	No	No	No	No	Yes	No

Other Regulations

A: General Product Information

No other information available.

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Sulfamic Acid	5329-14-6	Yes	Yes	Yes

C: Component Analysis - WHMIS IDL

This product is listed under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Sulfamic Acid	5329-14-6	1%

ANSI LABELING (Z129.1): **DANGER!** MAY BE FATAL IF SWALLOWED. CAUSES SKIN AND EYE BURNS. HARMFUL IF INHALED. Do not taste or swallow. Do not get on skin or in eyes. Avoid breathing dusts or particulates. Keep container closed. Use

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only with adequate ventilation. Wash thoroughly after handling. Wear gloves, goggles, faceshields, suitable body protection, and NIOSH/MSHA-approved respiratory protection, as appropriate. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention. **IN CASE OF FIRE:** Use water fog, dry chemical, CO₂, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with inert material or neutralizing agent for bases. Place residue in suitable container. Consult Material Safety Data Sheet for additional information.

* * * Section 16 - Other Information * * *

Other Information

Chem One Ltd. ("Chem One") shall not be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this Information. In no event shall Chem One be responsible for damages of any nature whatsoever resulting from the use of this product or products, or reliance upon this Information. By providing this Information, Chem One neither can nor intends to control the method or manner by which you use, handle, store, or transport Chem One products. If any materials are mentioned that are not Chem One products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed. Chem One makes no representations or warranties, either express or implied of merchantability, fitness for a particular purpose or of any other nature regarding this information, and nothing herein waives any of Chem One's conditions of sale. This information could include technical inaccuracies or typographical errors. Chem One may make improvements and/or changes in the product (s) and/or the program (s) described in this information at any time. If you have any questions, please contact us at Tel. 713-896-9966 or E-mail us at Safety@chemone.com.

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration

Contact: Sue Palmer-Koleman, PhD

Contact Phone: (713) 896-9966

Revision Log

07/19/00 SEP Changed company name, Sect 1 and 16, from Corporation to Ltd.
08/08/00 SEP Change % Sulfamic Acid, Sect 2, from >99% to 100% *; copied/inserted statements from top of Sect 9 below Sulfamic Acid composition, Sect 2.
06/02/01 9:31 AM HDF Checked exposure limits; made changes to Sect 9; overall review, add SARA 311/312 Haz Ratings.
08/20/01 5:07 PM CLJ Changed contact to Sue, non-800 Chemtrec Num.
10/29/02 15:25 PM HDF Up-graded Section 10 Reactivity Information. Up-Dated entire Section 14 Transportation Information to include IATA, IMO transport information.
09/08/03 3:55 PM HDF General review of entire MSDS.
06/22/05 2:06 PM SEP Update IATA Section 14
09/05/06 4:49 PM SEP Updated DOT and IMO Section 14
10/15/08 10:33 AM DLY Changed Chem One Physical Address, Section 1
09/18/09 MMK Updated Section 14 limited and excepted quantities and exceptions
02/09/2015 GHS Revision all sections
This is the end of SDS # C1-156