

SAFETY DATA SHEET

**Section 1: IDENTIFICATION**

**Trade Name:** Sulfamic Acid  
**CAS Number:** 5329-14-6  
**Relevant Identified Uses:** Chemicals for various applications.  
**Recommended Use:** Drilling fluids additive  
**Supplier:** Bri-Chem Supply Ltd.  
27075 Acheson Road  
Acheson, AB T7X 6B1  
**Phone Number:** 780-962-9490  
**Emergency Phone:** CHEMTREC 1-800-424-9300, 24/7

**Section 2: HAZARD(S) IDENTIFICATION**

**Classification**

Section	Hazard Class	Category	Hazard Class and Category	Hazard Statement
A.2	Skin corrosion/Irritation	2	Skin Irrit. 2	H315
A.3	Serious eye damage/eye irritation	2	Eye Irrit. 2	H319

**Label Elements**

Labelling acc. To OSHA "Hazard Communication Standard" (CFR 1910.1200)

**Signal Word:** Warning

**Pictograms**

GHS07



**Hazard Statements**

**H315:** Causes skin irritation.

**H319:** Causes serious eye irritation.

**Precautionary Statements**

**P264:** Wash thoroughly after handling.

**P280:** Wear protective gloves/protective clothing/eye protection/face protection.

**P302+P352:** IF ON SKIN: Wash with plenty of soap and water.

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

**P332+P313:** If skin irritation occurs: Get medical advice/attention

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<b>P337+P313:</b>	If eye irritation persists: Get medical advice/attention.
<b>P362:</b>	Take off contaminated clothing and wash it before reuse.
<b>Other Hazards</b>	
<b>Results of PBT and vPvB Assessment:</b>	According to the results of its assessment, this substance is not a PBT or a vPvB.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

<b>Name of Substance:</b>	Sulfamic acid
<b>Identifiers</b>	
<b>CAS No:</b>	5329-14-6
<b>Molecular Formula:</b>	H3NO3S
<b>Molar Mass:</b>	97.09 g/mol

**Section 4: FIRST-AID MEASURES**

**Description of First-Aid Measures**

<b>General Notes:</b>	Take off immediately all contaminated clothing. In cases of all doubt, or when symptoms persist, seek medical advice.
<b>Following Inhalation:</b>	Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.
<b>Following Skin Contact:</b>	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. If skin irritation occurs: Get medical advice/attention.
<b>Following Eye Contact:</b>	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Following Ingestion:</b>	Rinse mouth. Do not induce vomiting. Get medical advice/attention.
<b>Notes for the Doctor:</b>	None
<b>Most Important Symptoms and Effects, Acute and Delayed:</b>	These information are not available.
<b>Indication of Any Immediate Medical Attention and Special Treatment Needed:</b>	None

**Section 5: FIRE-FIGHTING MEASURES**

**Extinguishing Media**

<b>Suitable Extinguishing Media:</b>	Coordinate firefighting measures to the fire surroundings.
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<b>Special Hazards Arising from the Substance or Mixture:</b>	Hazardous decomposition products: Section 10.
<b>Hazardous Combustion Products:</b>	Nitrogen oxides (NOx), Sulfur oxides (Sox), gas/vapor, toxic.
<b>Advice for Firefighters:</b>	Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.
<b>Special Protective Equipment for Firefighters:</b>	Chemical protection suit, self-contained breathing apparatus (SCBA)

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment, and Emergency Procedures**

<b>For Non-Emergency Personnel:</b>	Remove persons to safety. Ventilate affected area. Control of dust. Do not breath dust. Do not get in eyes, on skin, or on clothing. Wearing of suitable protective equipment (including personal protective equipment regerred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.
<b>For Emergency Responders:</b>	Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.
<b>Environmental Precautions:</b>	Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.
<b>Methods and Material for Containment and Cleaning Up</b>	
<b>Advice on How to Contain a Spill:</b>	Take up mechanically.
<b>Advice on How to Clean Up a Spill:</b>	Take up mechanically. Collect spillage.
<b>Other Information Relating to Spills and Releases:</b>	Place in appropriate containers for disposal. Ventilate affected area.
<b>Reference to Other Sections:</b>	Hazardous combustion products: see Section 5 Personal Protective Equipment: see Section 8 Incompatible Materials: see Section 10 Disposal Considerations: see Section 13

**Section 7: HANDLING AND STORAGE**

**Precautions for Safe Handling**

<b>Measures to Prevent Fire as well as Aerosol and Dust Generation:</b>	Use local and general ventilation. Never add water to this product.
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<b>Specific Notes/Details:</b>	Dust deposits may accumulate on all deposition surfaces in a technical room.
<b>Handling of Incompatible Substances or Mixtures:</b>	Do not mix with alkali. Do not mix with oxidizer.
<b>Measures to Protect the Environment:</b>	Avoid release to the environment.
<b>Advice on General Occupational Hygiene:</b>	Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Do not breathe dust. Do not get in eyes, on skin or on clothing. Wash thoroughly after handling. Preventive skin protection (barrier creams, ointments) is recommended.
<b>Conditions for Safe Storage, Including any Incompatibilities</b>	
<b>Flammability Hazards:</b>	None
<b>Incompatible Substances or Mixtures:</b>	Incompatible materials: see Section 10.
<b>Protect Against External Exposure, Such as:</b>	Heat
<b>Consideration of Other Advice:</b>	Keep away from food, drink and animal feed.
<b>Ventilation Requirements:</b>	Provision of sufficient ventilation.
<b>Packaging Compatibilities:</b>	Keep only in original container. Only packaging which are approved (e.g. acc. To DOT) may be used.
<b>Specific End Use(s):</b>	No information available.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control Parameters**

**Human Health Values**

**Relevant DNELs and Other Threshold Levels**

Endpoint	Threshold Level	Protection Goal, Route of Exposure	Used in	Exposure Time
DNEL	70.5 mg/m <sup>3</sup>	Human, inhalatory	Worker (industry)	Chronic – systemic effects
DNEL	10 mg/kg bw/day	Human, dermal	Worker (industry)	Chronic – systemic effects

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**Environment Values**

**Relevant PNECs and Other Threshold Levels**

Endpoint	Threshold Level	Environmental Compartment
PNEC	1.8 mg/l	Freshwater
PNEC	0.18 mg/l	Marine water
PNEC	20 mg/l	Sewage Treatment Plant (STP)
PNEC	8.36 mg/kg	Freshwater sediment
PNEC	0.84 mg/kg	Marine sediment
PNEC	5 mg/kg	Soil

**Exposure Controls**

**Appropriate Engineering Controls:** General ventilation

**Individual Protection Measures (Personal Protective Equipment)**

**Eye/Face Protection:** Wear eye/face protection.

**Hand Protection**

**Protective Gloves**

Material	Material Thickness	Breakthrough Times of the Glove Material
IIR: isobutene-isoprene (butyl) rubber	> 0.5mm	> 480 minutes (permeation: level 6)
NR: natural rubber, latex	> 0.5mm	> 480 minutes (permeation: level 6)
CR: chloroprene (chlorobutadiene) rubber	> 0.5mm	> 480 minutes (permeation: level 6)

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Body Protection:** Protective clothing for use against solid particulates.

**Respiratory Protection:** In case of inadequate ventilation wear respiratory protection. Particle filter device (DIN EN 143)

**Environmental Exposure Controls:** Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Appearance

Physical State: Solid  
Color: White  
Odor: Characteristic

Other Safety Parameters

pH (Value): 0.41 (in aqueous solution: 10 vol%, 25°C)  
Melting Point/Freezing Point: 205°C slow decomposition  
Boiling Point or Initial Boiling Point and Boiling Range: Not determined  
Flash Point: Not applicable  
Evaporation Rate: Not determined  
Flammability (Solid, Gas): Non-combustible  
Explosive Limits: Not determined  
Explosion Limits of Dust Clouds: Not determined  
Vapor Pressure: 0.8 Pa at 20°C  
2.5 Pa at 100°C  
Density: Not determined  
Vapor Density: This information is not available.  
Relative Density: 2.13 at 20°C (water=1)  
Solubility(ies)  
Water Solubility: 181.4 g/l at 20°C  
Partition Coefficient  
n-Octanol/Water (log KOW): Not relevant (inorganic)  
Auto-Ignition Temperature: Not relevant  
Decomposition Temperature: >205°C  
Viscosity: Not relevant  
Explosive Properties: None  
Oxidizing Properties: None

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**Information for Relevant Hazard Classes According to GHS:** Not relevant

**Other Information:** There is no additional information.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** May be corrosive to metals.

**Chemical Stability:** The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of Hazardous Reactions:** Do not mix with alkali.

**Conditions to Avoid:** There are no specific conditions known which have to be avoided.

**Incompatible Materials:** Bases, light metals (due to the release of hydrogen in an acid/alkaline medium), nitrites and their mixtures.  
Release of toxic materials with: sulfides, cyanides  
Liberation of excessive heat with: bases

**Hazardous Decomposition Products:** Reasonable anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see Section 5

**Section 11: TOXICOLOGICAL INFORMATION**

**Information on Toxicological Effects**

If not otherwise specified the classification is based on: Animal studies; evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

**Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

**Acute Toxicity:** Shall not be classified as acutely toxic (oral).  
Dhall no be classified as acutely toxic (dermal).  
May be harmful if swallowed.

Exposure Route	Endpoint	Value	Species	Method
Oral	LD50	2,140 mg/kg	Rat, female	-
Dermal	LD50	>2,000 mg/kg	Rat	OECD Guideline 402
Dermal	LD0	<2,000 mg/kg	Rat	OECD Guideline 402

**Skin Corrosion/Irritation:** Causes skin irritation.

**Serious Eye Damage/Irritation:** Causes serious eye irritation.

**Respiratory or Skin Sensitization**

**Skin Sensitization:** Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

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Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Germ Cell Mutagenicity:** Shall not be classified as germ cell mutagenic. (OECD Guideline 471, OECD Guideline 472 , OECD Guideline 474 , OECD Guideline 476 , OECD Guideline 487).

**Carcinogenicity**

**IARC Monographs:** Not listed

**National Toxicology Program (United States):** Not listed

**OSHA Carcinogens:** Not listed

**Reproductive Toxicity:** Shall not be classified as a reproductive toxicant. (EPA OPP 83-4 , OECD Guideline 414)

**Specific Target Organ Toxicity – Single Exposure:** Classification could not be established because: Data are lacking, inconclusive, or conclusive but not sufficient for classification.

**Specific Target Organ Toxicity – Repeated Exposure**

Exposure Route	Endpoint	Value	Exposure Time	Species	Method
Oral	NOAEL	929 mg/kg bw/day	90 d	Rat, male	OECD Guideline 408
Oral	NOAEL	1,004 mg/kg bw/day	90 d	Rat, male	OECD Guideline 408

**Aspiration Hazard:** Shall not be classified as an aspiration hazard.

**Other Information:** There is no additional information.

**Section 12: ECOLOGICAL INFORMATION**

**Toxicity**

**Aquatic Toxicity (Acute):** Based on available data, the classification criteria are not met.

Endpoint	Exposure Time	Value	Species	Method
LC50	96 h	70.3 mg/l	Fathead minnow (pimephales promelas)	OECD Guideline 203
EC50	48 h	71.6 mg/l	Daphnia magna	OECD Guideline 202
ErC50	72 h	48 mg/l	Algae (desmodesmus subspicatus)	OECD Guideline 201
EbC50	48 h	33.8 mg/l	Algae (desmodesmus subspicatus)	OECD Guideline 201



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**Aquatic Toxicity (Chronic):** Based on available data, the classification criteria are not met.

Endpoint	Exposure Time	Value	Species	Method
EC50	21 d	>60 mg/l	Daphnia magna	OECD Guideline 211
NOEC	72 h	18 mg/l	Algae (Desmodesmus subspicatus)	OECD Guideline 201
NOEC	21 d	19 mg/l	Daphnia magna	OECD Guideline 211
NOEC	34 d	>60 mg/l	Zebra fish (Danio Rerio)	OECD Guideline 210
LOEC	21 d	34 mg/l	Daphnia magna	OECD Guideline 211
Growth (EbCx)	72 h	13.3 mg/l	Algae (Desmodesmus subspicatus)	OECD Guideline 201
Growth Rate (ErCx) 10%	72 h	29.5 mg/l	Algae (Desmodesmus subspicatus)	OECD Guideline 201

**Persistence and Degradability**

**Biodegradation:** The study does not need to be conducted because the substance is inorganic.

**Persistence:** The study does not need to be conducted because the substance is inorganic.

**Bioaccumulative Potential**

**N-octanol/water (log KOW):** -4.34 (20°C) (calculated value)

**Mobility in Soil:** No data available

**Results of PBT and vPvB Assessment:** According to the results of its assessment, this substance is not a PBT or a vPvB.

**Other Adverse Effects:** This information is not available.

**Remarks:** Wassergefährdungsklasse, WGK (water hazard class): 1

<b>Section 13: DISPOSAL CONSIDERATIONS</b>
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**Waste Treatment Methods:** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Sewage Disposal-Relevant Information:** Do not empty into drains.

**Waste Treatment of Containers/Packages:** Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Remarks:** Please consider the relevant national or regional provisions.

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Section 14: TRANSPORT INFORMATION

**UN Number**

**DOT:** UN2967

**IMDG-Code:** UN2967

**ICAO-TI:** UN2967

**UN Proper Shipping Name**

**DOT:** Sulfamic acid

**IMDG-Code:** SULPHAMIC ACID

**ICAO-TI:** Sulphamic acid

**Transport Hazard Class(es)**

**DOT:** 8

**IMDG-Code:** 8

**ICAO-TI:** 8

**Packing Group**

**DOT:** III

**IMDG-Code:** III

**ICAO-TI:** III

**Environmental Hazards:** -

**Special Precautions for User:** -

**Transport in Bulk According to Annex II of MARPOL and the IBC Code:** -

**Information for Each of the UN Model Regulations**

**Transport of Dangerous Goods by Road or Rail (49 CFR US DOT) Additional Information**

**Particulars in the Shipper's Declaration:** UN2967, Sulfamic acid, 8, III

**Danger Label(s):** 8



**Special Provisions (SP):** IB8, IP3, T1, TP33

**ERG No:** 154

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International Maritime Dangerous Goods Code (IMDG) Additional Information

Marine Pollutant: -

Danger Label(s): 8



Excepted Quantities (EQ): E1

Limited Quantities (LQ): 5 kg

EmS: F-A, S-B

Stowage Category: A

Segregation Group: 1 – Acids

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Danger Label(s): 8



Excepted Quantities (EQ): E1

Limited Quantities (LQ): 5 kg

Section 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations for the Product in Question

National Regulations (United States)

Toxic Substance Control Act (TSCA): Substance is Listed

Superfund Amendment and Reauthorization Act (SARA TITLE III )

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304): Not listed

Specific Toxic Chemical Listings (EPCRA Section 313): Not listed

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4): Not listed

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**Clean Air Act:** Not listed

**Right to Know Hazardous Substance List**

**Hazardous Substance List (NJ-RTK)**

Name of Substance	CAS No	Remarks	Classification
Sulfamic Acid	5329-14-6	-	CO.

**Legend** CO - Corrosive

**California Environmental Protection Agency** Not listed

**(Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987:**

**Industry or Sector Specific Available Guidance(s)**

**NPCA-HMIS® III** Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	None
Health	2	Temporary or minor injury may occur
Flammability	0	Material that will not burn under typical fire conditions
Physical Hazard	0	Material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive.

Personal Protection -

**NFPA® 704** National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of Hazard	Description
Flammability	0	Material that will not burn under typical fire conditions
Health	2	Material that, under emergency conditions, can cause temporary incapacitation or residual injury.
Instability	0	Material that is normally stable, even under fire conditions.

Special Hazard -

**Chemical Safety Assessment:** No Chemical Safety Assessment has been carried out for this substance by the supplier.

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**Section 16: OTHER INFORMATION****Abbreviations and Acronyms**

<b>49 CFR US DOT</b>	49 CFR U.S. Department of Transportation
<b>CAS</b>	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
<b>DGR</b>	Dangerous Goods Regulations (see IATA/DGR)
<b>DNEL</b>	Derived No-Effect Level
<b>DOT</b>	Department of Transportation (USA)
<b>EbC50</b>	≡ EC50: in this method, that concentration of test substance which results in a 50% reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
<b>EC50</b>	Effective Concentration 50%. The EC50 corresponds to the concentration of a tested substance causing 50% changes in response (e.g. on growth) during a specified time interval
<b>EmS</b>	Emergency Schedule
<b>ErC50</b>	≡ EC50: in this method, that concentration of test substance which results in a 50% reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
<b>ERG No</b>	Emergency Response Guidebook - Number
<b>GHS</b>	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
<b>IARC Monographs</b>	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
<b>IATA</b>	International Air Transport Association
<b>IATA/DGR</b>	Dangerous Goods Regulations (DGR) for the air transport (IATA)
<b>ICAO</b>	International Civil Aviation Organization
<b>ICAO-TI</b>	Technical instructions for the safe transport of dangerous goods by air
<b>IMDG</b>	International Maritime Dangerous Goods Code
<b>IMDG-Code</b>	International Maritime Dangerous Goods Code
<b>LC50</b>	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50% lethality during a specified time interval
<b>LD50</b>	Lethal Dose 50%: the LD50 corresponds to the dose of a tested substance causing 50% lethality during a specified time interval
<b>LOEC</b>	Lowest Observed Effect Concentration

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<b>MARPOL</b>	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
<b>NOAEL</b>	No Observed Adverse Effect Level
<b>NOEC</b>	No Observed Effect Concentration
<b>NPCA-HMIC® III</b>	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
<b>OSHA</b>	Occupational Safety and Health Administration (United States)
<b>PBT</b>	Persistent, Bioaccumulative and Toxic
<b>PNEC</b>	Predicted No-Effect Concentration
<b>vPvB</b>	Very Persistent and very Bioaccumulative
<b>Key Literature References and Sources for Data:</b>	OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200. Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**List of Relevant Phrases (Code and Full Text as Stated in Chapter 2 and 3)**

<b>Code</b>	<b>Text</b>
<b>H315</b>	Causes skin irritation
<b>H319</b>	Causes serious eye irritation

**Disclaimer:**

The information contained herein is based on data available to us and is believed to be true and accurate. However, no guarantee or warranty is provided, expressed or implied, by the company or its subsidiaries regarding accuracy of the information, the hazards connected with the use of the material, or the results to be obtained from the use thereof. Since the use of this product is within the exclusive control of the user, we do not assume any responsibility and expressly disclaim any liability for any use of this product. It is the user's responsibility to determine the conditions of safe use, storage, and disposal of the product. Compliance with all applicable federal, provincial, and local regulations remains the responsibility of the user.

**Prepared by:** Bri-Chem Supply Ltd.

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