SECTION 1: Identification

1.1. Identification
Product form : Substance
Substance name : Sulfamic Acid, ACS
CAS-No. : 5329-14-6
Product code : LC25420
Formula : H3NO3S
Synonyms : amidosulfonic acid / sulfamidic acid

1.2. Recommended use and restrictions on use
Use of the substance/mixture : Laboratory chemical
Chemical intermediate
Recommended use : Laboratory chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier
LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number
Emergency number : CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Skin corrosion/irritation : H314 - Causes severe skin burns and eye damage
Category 1C
Serious eye damage/eye irritation Category 1 : H318 - Causes serious eye damage
Hazardous to the aquatic environment - Acute Hazard Category 2 : H401 - Toxic to aquatic life
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements
GHS-US labeling
Hazard pictograms (GHS-US) : GHS05
Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage
H401 - Toxic to aquatic life
Precautionary statements (GHS-US) : P260 - Do not breathe dust.
P264 - Wash exposed skin thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, eye protection, protective clothing.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 center or doctor/physician.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.
2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification: None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type: Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfamic Acid, ACS (Main constituent)</td>
<td>(CAS-No.) 5329-14-6</td>
<td>100</td>
<td>Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Acute 2, H401</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Doctor: administration of corticoid spray.

First-aid measures after skin contact: Wash immediately with lots of water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact: Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.


4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation: Dry/sore throat. Coughing. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. Corrosion of the upper respiratory tract.

Symptoms/effects after skin contact: Tingling/irritation of the skin. ON CONTINUOUS EXPOSURE/CONTACT: Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact: Irritation of the eye tissue. ON CONTINUOUS EXPOSURE/CONTACT: Corrosion of the eye tissue.


Chronic symptoms: No effects known.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Adapt extinguishing media to the environment for surrounding fires.

5.2. Specific hazards arising from the chemical

Fire hazard: DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity: Reacts violently with (strong) oxidizers. Reacts exothermically with (some) bases. Decomposes slowly on exposure to water (moisture): release of corrosive products. This reaction is accelerated on exposure to temperature rise.
### 5.3. Special protective equipment and precautions for fire-fighters

<table>
<thead>
<tr>
<th>Precautionary measures fire</th>
<th>Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firefighting instructions</td>
<td>Cool tanks/drums with water spray/ remove them into safety. Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.</td>
</tr>
<tr>
<td>Protection during firefighting</td>
<td>Heat/fire exposure: compressed air/oxygen apparatus.</td>
</tr>
</tbody>
</table>

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

**6.1.1. For non-emergency personnel**
- **Measures in case of dust release**: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

**6.1.2. For emergency responders**
- **Protective equipment**: Equip cleanup crew with proper protection. Do not breathe dust.
- **Emergency procedures**: Stop release. Ventilate area.

#### 6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

#### 6.3. Methods and material for containment and cleaning up

**For containment**: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain. Knock down/dilute dust cloud with water spray.

**Methods for cleaning up**: Prevent dust cloud formation. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- **Precautions for safe handling**: Avoid raising dust. Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain.
- **Hygiene measures**: Observe normal hygiene standards. Keep container tightly closed.

#### 7.2. Conditions for safe storage, including any incompatibilities

- **Heat-ignition**: KEEP SUBSTANCE AWAY FROM: heat sources.
- **Prohibitions on mixed storage**: KEEP SUBSTANCE AWAY FROM: oxidizing agents. strong acids. (strong) bases. halogens. water/moisture.
- **Storage area**: Store in a dry area. Meet the legal requirements.
- **Special rules on packaging**: SPECIAL REQUIREMENTS: closing. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- **Packaging materials**: SUITABLE MATERIAL: cardboard. plastics.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available
8.2. Appropriate engineering controls

Appropriate engineering controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

8.3. Individual protection measures: Personal protective equipment

Personal protective equipment:


Materials for protective clothing:

GIVE GOOD RESISTANCE: neoprene. PVC. nitrile rubber

Hand protection:

Gloves

Eye protection:

Face shield. In case of dust production: protective goggles

Skin and body protection:

Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:

Dust production: dust mask with filter type P2

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Crystalline solid. Crystalline powder.</td>
</tr>
<tr>
<td>Color</td>
<td>Colourless or white</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>1.2 (1 %)</td>
</tr>
<tr>
<td>Melting point</td>
<td>205 °C (1013 hPa)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.008 hPa (20 °C)</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.15 (20 °C)</td>
</tr>
<tr>
<td>Specific gravity / density</td>
<td>2120 kg/m³</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>97.1 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>Decomposes on exposure to water. Water: 18.1 g/100ml (20 °C)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>0.1 (Experimental value)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 205 °C (1013 hPa)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>
### 9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>VOC content</td>
<td>Not applicable (inorganic)</td>
</tr>
<tr>
<td>Other properties</td>
<td>Substance has acid reaction.</td>
</tr>
</tbody>
</table>

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reacts violently with (strong) oxidizers. Reacts exothermically with (some) bases. Decomposes slowly on exposure to water (moisture): release of corrosive products. This reaction is accelerated on exposure to temperature rise.

#### 10.2. Chemical stability

Unstable on exposure to moisture.

#### 10.3. Possibility of hazardous reactions

Not established.

#### 10.4. Conditions to avoid

Incompatible materials.

#### 10.5. Incompatible materials


#### 10.6. Hazardous decomposition products

Sulfur compounds.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin and eye contact; Inhalation</td>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes severe skin burns and eye damage.</td>
<td>2065 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Female, Experimental value)</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage.</td>
<td>pH: 1.2 (1 %)</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
<td>&gt; 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male/female, Experimental value)</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
<td>Practically non-toxic if swallowed (LD50 oral 2000/5000 mg/kg). Causes skin irritation. Practically non-toxic in contact with skin (LD50 skin &gt; 2000 mg/kg). Causes serious eye irritation.</td>
<td></td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>Dry/sore throat. Coughing. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. Corrosion of the upper respiratory tract.</td>
<td></td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Tingling/irritation of the skin. ON CONTINUOUS EXPOSURE/CONTACT: Caustic burns/corrosion of the skin.</td>
<td></td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Irritation of the eye tissue. ON CONTINUOUS EXPOSURE/CONTACT: Corrosion of the eye tissue.</td>
<td></td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>No effects known.</td>
<td></td>
</tr>
</tbody>
</table>
## SECTION 12: Ecological information

### 12.1. Toxicity

**Ecology - air**
- Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

**Ecology - water**
- Harmful to crustacea.
- Harmful to fishes.
- Not harmful to activated sludge.
- Harmful to algae.
- pH shift.

### Sulfamic Acid, ACS (5329-14-6)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>70.3 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>71.6 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td>ErC50 (algae)</td>
<td>48 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value)</td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

**Sulfamic Acid, ACS (5329-14-6)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

**Sulfamic Acid, ACS (5329-14-6)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>0.1 (Experimental value)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4)</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

**Sulfamic Acid, ACS (5329-14-6)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - soil</td>
<td>No (test)data on mobility of the substance available. Toxic to flora.</td>
</tr>
</tbody>
</table>

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

**Waste disposal recommendations**
- Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Remove for physico-chemical/biological treatment.

**Additional information**

## SECTION 14: Transport information

### Department of Transportation (DOT)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>In accordance with DOT</td>
<td></td>
</tr>
<tr>
<td>Transport document description</td>
<td>UN2967 Sulfamic acid, 8, III</td>
</tr>
<tr>
<td>UN-No.(DOT)</td>
<td>UN2967</td>
</tr>
<tr>
<td>Proper Shipping Name (DOT)</td>
<td>Sulfamic acid</td>
</tr>
<tr>
<td>Transport hazard class(es) (DOT)</td>
<td>8 - Class 8 - Corrosive material 49 CFR 173.136</td>
</tr>
<tr>
<td>Packing group (DOT)</td>
<td>III - Minor Danger</td>
</tr>
</tbody>
</table>
Hazard labels (DOT) : 8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx) : 213
DOT Packaging Bulk (49 CFR 173.xxx) : 240
DOT Special Provisions (49 CFR 172.102) : IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be silt-proof and water-resistant or must be fitted with a silt-proof and water-resistant liner.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 25 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg
DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.

Other information : No supplementary information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

Sulfamic Acid, ACS (5329-14-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 04/25/2018
Sulfamic Acid, ACS
Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>H314</th>
<th>Causes severe skin burns and eye damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H401</td>
<td>Toxic to aquatic life</td>
</tr>
</tbody>
</table>

NFPA health hazard: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.

Hazard Rating
Health: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability: 0 Minimal Hazard - Materials that will not burn

Physical: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal protection: F

F - Safety glasses, Gloves, Synthetic apron, Dust respirator

SDS US LabChem

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