

Safety Data Sheet

According to Regulation (EC) No. 453/2010
Revision Date: 2015-04-24

SDS11081901
Version: USA

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name: Sulfamic Acid
Proper shipping name: SULFAMIC ACID
Chemical formula: H_3NO_3S
Index number: 016-026-00-0
CAS number: 5329-14-6
EC number: 226-218-8
REACH registration number: 01-2119488633-xxxx
Other means of identification: No data available

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Recommended Use : Cleaning compound formulations and bleaching paper pulp and textiles. Cleaning stainless steel equipment.

1.2.2. Uses advised against

Other uses cannot be recommended.

1.3. Details of the supplier of the safety data sheet

Manufacturer: KUANG MING ENTERPRISE CO., LTD.
Address: 25F, 510 Chuang Hsiao E Road, Sec. 5, Songshan District, Taipei, Taiwan
Telephone: +886-2-2759-8522
Fax: +886-2-2759-8519
E-mail: rossetti@kuangming.com.tw

 American International Chemical, Inc.
135 Newbury St. Framingham, MA 01701
800-238-0001
www.aicma.com

Only representative name: REACH Only Representative Services GMBH
Address: Paul-Gerhardt-Straße 1, D-52072, Aachen
Telephone: +49 711 27311-170
Fax: +49 711 27311-559
E-mail: Wilhem.Pfleger@intertek.com

Emergency Number: Chemtrec 800-424-9300
703-527-3887

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Category	Exposure Route
Eye irritation	2	-
Skin irritation	2	-
Aquatic chronic	3	-

Classification according to Directive 67/548/EEC or 1999/45/EC

R36/38 Irritating to eyes and skin.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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Other adverse physicochemical, human health and environmental effects

No reliable data available.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]



Signal word:

Warning

Hazard Statements:

H319: Causes serious eye irritation

H315: Causes skin irritation

H412: Harmful to aquatic life with long lasting effects

Prevention:

P264: Wash thoroughly after handling.

P273: Avoid release to the environment.

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

Response:

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing.

P337 + P313: If eye irritation persists: Get medical advice/attention.

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

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

P362: Take off contaminated clothing and wash before reuse.

Disposal

P501: Dispose of contents/container in accordance with local/regional/national/international regulation.

Labelling according to Directive 1999/45/EC[DPD]

Symbol:



Indication of danger:

Xi

Risk Phrases:

R36/38: Irritating to eyes and skin.

R52/53: Harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S2: Keep out of the reach of children.

S25: Avoid contact with eyes.

S26: In case of contact with eyes, rinse with plenty of water and contact doctor or poisons information centre.

S28: After contact with skin, wash immediately with plenty of.

S61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

2.3. Other hazards

No reliable data available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	CAS No.	Index No.	REACH No.	% wt/wt
Sulfamic Acid	5329-14-6	016-026-00-0	01-2119488633-28-0000	≥99.8

3.2. Mixtures

Not applicable.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. Get medical attention.

Skin contact: Immediately wash with plenty of soap and water. Get medical attention if irritation occurs.

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Eye contact: Immediately flush eyes with running water for at least 20 minutes holding eyelids open. Get medical attention.

Ingestion: Do not induce vomiting. Give 1-2 glasses of water to a conscious victim. Never give anything by mouth to an unconscious victim. Get medical attention.

Advice for the doctor: Symptomatic treatment.

4.2. Most important symptoms and effects, both acute and delayed

Temporary redness, inflammation of skin and eyes.

4.3. Indication of any immediate medical attention and special treatment needed

No reliable data available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Foam.

Dry chemical powder.

Carbon dioxide.

Water spray or fog - Large fires only

Sand

5.2. Special hazards arising from the substance or mixture

Fire/explosion hazard: Emits toxic fumes under fire conditions.

Main combustion gas: SO₂, SO₃ and NH₃.

5.3. Advice for firefighters

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 water delivered as a fine spray to control fire and cool adjacent 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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Wear suitable protective equipment.

6.1.2. For emergency responders

Remove ignition sources and provision of sufficient ventilation, evacuate the danger area and consult experts.

6.2. Environmental precautions

Take precautions to prevent entry into waterways, sewers, or surface drainage systems. Dispose according to local or international regulations.

6.3. Methods and material for containment and cleaning up

Use appropriate tools to put the spilled solid in suitable container for recovery or disposal.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the MSDS

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Eating, smoking, and drinking in work areas is prohibited

Wash hands after use

Remove contaminated clothing and equipment before eating areas

Water is available around work areas for washing

Keep air fresh in work areas

Store in anti-corrosive containers

Store in dry and cool places

Do not store in the places without emergency water areas

Lights and ventilation system are required anti-corrosion in storage areas

Do not store or mix with cyanides, nitrates, sulfides, chlorine, hypochlorous acid or hypochlorites.

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Keep in tightly closed and dry container.

7.2. Conditions for safe storage, including any incompatibilities

Suitable container:

Do not use aluminium or galvanised containers;

Check regularly for spills and leaks. Glass container is suitable for laboratory quantities;

Plastic pail;

Polyliner drum;

Drums and jerricans must be of the non-removable head type.

Where a can is to be used as an inner package, the can must have a screwed enclosure.

Check all containers are clearly labelled and free from leaks.

Storage incompatibility:

Avoid reacting with cyanides, sulfides, chlorine, hypochlorous acid or hypochlorite.

Store separated from nitrates and nitric acid as sulfamic acid can react violently with nitrates, sometimes explosive!

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Derived No Effect Level (DNEL)

Exposure Pattern	Workers	General Population
Long term - dermal, systemic effects	10 mg/kg bw/day	5 mg/kg bw/day
Long term - inhalation, systemic effects	Not relevant	Not relevant
Long term - oral, systemic effects	Not applicable	5 mg/kg bw/day
Long term - dermal, local effects	No data available	No data available
Long term - inhalation, local effects	Not relevant	Not relevant

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

8.2. Exposure controls

Appropriate engineering controls Use: process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

General Personal Protection: Safety goggles or face shield, protective chemical resistant gloves, protective clothing.

Please refer to the exposure scenario annex for details.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Crystalline solid	Vapor density:	Not applicable
Colour:	White	Evaporation rate:	Not applicable
Odour:	Odourless	Upper/Lower flammability	Not applicable
Odour threshold:	No data available	Partition coefficient	Not applicable
pH:	1.18 (10 g/l at 25 °C, GESTIS)	Auto-ignition temperature	Not applicable
Melting point:	205 °C		
Solidification point:	Not applicable		
Boiling point:	Decomposes before boiling.		
Flash point:	Not applicable		
Relat. evapor. rate comp. to butylacetate:	No data available		
Flammability (solid, gas):	Not applicable		
Explosive limits:	Not applicable		
Vapour pressure:	0.78 Pa at 20 °C		
Relative vapour density at 20 °C:	No data available		
Relative density:	2.15 g/cm ³ at 25 °C		
Solubility:	181.4 g/ L at 20 °C		
Log Pow:	Not applicable		
Self ignition temperature:	Not applicable		
Decomposition temperature:	209°C		
Viscosity, kinematic:	Not applicable		
Viscosity, dynamic:	Not applicable		
Explosive properties:	Not explosive		
Oxidising properties:	Not oxidizing		

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9.2. Other information

No additional data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

See section 7.2

10.2. Chemical stability

Stable under normal condition.

10.3. Possibility of hazardous reactions

Sulfamic acid may react violently with nitrates and nitric acid, sometimes even leading to explosions - see section 7.2

10.4. Conditions to avoid

Avoid reacting with cyanides, nitrates, sulfides, chlorine, hypochlorous acid or hypochlorite.

10.5. Incompatible materials

See section 7.2

10.6. Hazardous decomposition products

Thermal decomposition products: SO₂, SO₃ and NH₃

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity:

Acute oral toxicity (rat): LD₅₀(rat) >200mg/kg(OECD TG 401, GLP compliance, 1984)

Acute dermal toxicity (rat): LD₅₀(rat) >2000mg/kg(OECD Guideline 402, GLP compliance, 2010)

Acute dermal toxicity: No data available

Repeated dose toxicity:

Oral: NOAEL(rat)=10,000 ppm (OECD TG 408, 2000)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation:

Skin irritation: Highly irritating (Fiche Toxicologique No.209.I.N.R.S. Paris, 2000).

Serious eye damage/irritation:

Eye irritation (rabbit): moderately irritating (EPA OPPTS 870.2400, non-GLP, 1974).

Respiratory or skin sensitisation:

No data available

Germ cell mutagenicity:

No mutagenic potential in mammalian cell gene mutation test (OECD TG 476, GLP, 2010, Chinese hamster Ovary (CHO)).

Carcinogenicity:

No data available

Reproductive toxicity:

No data available

Specific target organ toxicity (single exposure):

No data available

Specific target organ toxicity

No data available

(repeated exposure):

Aspiration hazard:

No data available

SECTION 12: Ecological information

12.1. Toxicity

Fish: LC₅₀ (96 h, *Pimephales promelas*): 70.3 mg/L test mat. (meas. (geom. mean))(OECD TG 203, 1981)

Daphnia: EC₅₀ (24 h, *Daphnia magna*): 71.6 mg/L test mat. (nominal) (OECD TG 202, 2010)

Algae: ErC₅₀ (72 h): 48 mg/L test mat. (nominal) (OECD TG 201, 2010)

Micro-organisms: EC50 (3 h): > 200 mg/L test mat. (nominal) (OECD TG 209, 2010)

Exposure Pattern

PNECs

Freshwater:

0.048mg/L

Marine water:

0.0048 mg/L

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Sewage treatment plants:	2 mg/L Freshwater
sediments:	0.173 mg/kg dwt
Marine water sediments:	0.0173 mg/kg dwt
Soil:	0.00638 mg/kg dwt

12.2. Persistence and degradability

Half-life (DT₅₀)(OECD TG 111, 1973):

- t_{1/2} (pH 1.14): > 1000 - < 10000 h at 50 °C; Rate constants for hydrolysis = 5.81 E -4) t_{1/2}
- (pH 1.8): > 1000 - < 10000 h at 50 °C; Rate constants for hydrolysis = 1.28 E -4)
- t_{1/2} (pH 2.5): > 10000 - < 100000 h at 50 °C; Rate constants for hydrolysis = 4.58 E -5) t_{1/2}
- (pH 1.3): > 100 - < 1000 h at 60 °C; Rate constants for hydrolysis = 1.86 E -3)
- t_{1/2} (pH 1.94): > 100 - < 1000 h at 60 °C; Rate constants for hydrolysis = 5.46 E -4) t_{1/2}
- (pH 2.2): > 1000 - < 10000 h at 60 °C; Rate constants for hydrolysis = 3.02 E -4) t_{1/2}
- (pH 1.44): > 100 - < 1000 h at 70 °C; Rate constants for hydrolysis = 3.5 E -3)
- t_{1/2} (pH 1.98): > 100 - < 1000 h at 70 °C; Rate constants for hydrolysis = 1.4 E -3)
- t_{1/2} (pH 2.5): > 1000 - < 10000 h at 70 °C; Rate constants for hydrolysis = 4.18 E -4) t_{1/2}
- (pH 1.05): ca. 100 h at 70 °C; Rate constants for hydrolysis = 7.67 E -3)

The conclusion is that sulphamic acid is stable in water at pH 4, 7 and 9 at 25 °C, with a half-life greater than one year. Sulphamic acid is an inorganic substance, so the biodegradability criterion is not applicable.

12.3. Bioaccumulative potential

Not applicable. Sulphamic acid is an inorganic substance with the high water solubility and without heavy metal, which indicates it has no potential of bio-accumulation.

12.4. Mobility in soil

Not applicable.

12.5. Results of PBT and vPvB assessment

Sulphamic acid is inorganic. The PBT and vPvB criteria of Annex XIII to the regulation do not apply to it.

12.6. Other adverse effects

No data available.

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Product disposal: Observe specific national regulation.

Contaminated packaging: Contaminated, empty containers must be disposed of as chemical waste.

SECTION 14. Transport information

Labels Required: CORROSIVE

Land transport (ADR / RID / GGVS)

14.1. UN number	2967
14.2. UN proper shipping name	Shipping Name: SULFAMIC ACID
14.3. Transport hazard class(es)	8
14.4. Packing group	III
14.5. Environmental hazard	No relevant data
14.6. Special precautions for user	Hazard identification (Kemler) 80
	Classification Code C2
	Hazard Label 8
	Special provisions None
	Add limited quantity 5 kg

Air transport (ICAO-IATA / DGR)

14.1. UN number	2967
14.2. UN proper shipping name	Shipping Name: SULFAMIC ACID

14.3. Transport hazard class(es) for Sulfamic Acid: 8

14.4. Packing group III
14.5. Environmental hazard No relevant data

14.6. Special precautions for user

Special provisions Cargo Only None
Packing Instructions 100 kg
Cargo Only Maximum Qty / Pack 864
Passenger and Cargo Packing Instructions 25 kg
Passenger and Cargo Maximum Qty / Pack 860
Passenger and Cargo Limited Quantity
Packing Instructions 5 kg
Passenger and Cargo Maximum Qty / Pack Y845

Sea transport (IMDG-Code / GGVSee)

14.1. UN number 2967
14.2. UN proper shipping name Shipping Name: SULFAMIC ACID
14.3. Transport hazard class(es) 8

IMDG Subrisk None

14.4. Packing group III
14.5. Environmental hazard No relevant data

14.6. Special precautions for user

14.7. EMS Number F-A, S-B Special provisions None
Limited Quantities 5 kg

Inland waterways transport (ADNR / River Rhine)

14.1. UN number 2967
14.2. UN proper shipping name Shipping Name: SULFAMIC ACID
14.3. Transport hazard class(es) 8

ADNR Label 8

14.4. Packing group III
14.5. Environmental hazard No relevant data
14.6. Special precautions for user

ification code C2
Limited quantity LQ24
Equipment required PP; EP Fire cones number 0

14.7. Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code
Annex: Exposure scenarios for Sulfamic Acid

No data available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

This safety data sheet is in compliance with the following EU legislation and its adaptations – as far as applicable - : 67/548/EEC, 1999/45/EC, Regulation (EC) No. 1272/2008, Regulation (EC) No. 453/2010, 98/24/EC, 92/85/EEC, 94/33/EC, 91/689/EEC and 1999/13/EC.

15.1.2. International/National regulations

No data available.

15.2. Chemical safety assessment

Chemical Safety Assessment has been carried out.

SECTION 16: Other information

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



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