

# SAFETY DATA SHEET

## 1. PRODUCT

### 1.1 Product identifiers

Name: Formamidinesulfonic acid

CAS-No.: 1758-73-2

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Self-heating substances and mixtures (Category 1), H251

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319


Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Acute aquatic toxicity (Category 3), H402

Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal word	Danger
Hazard statement(s)	H251 Self-heating: may catch fire. H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H402 Harmful to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)	<p>P235 + P410 Keep cool. Protect from sunlight.</p> <p>P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.</p> <p>P264 Wash skin thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.</p> <p>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</p> <p>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P312 Call a POISON CENTER or doctor/ physician if you feel unwell.</p> <p>P321 Specific treatment (see supplemental first aid instructions on this label).</p> <p>P330 Rinse mouth.</p> <p>P332 + P313 If skin irritation occurs: Get medical advice/ attention.</p> <p>P337 + P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P362 Take off contaminated clothing and wash before reuse.</p> <p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p> <p>P407 Maintain air gap between stacks/ pallets.</p> <p>P410 Protect from sunlight.</p> <p>P413 Store bulk masses greater than .? kg/ .? lbs at temperatures not exceeding .? °C/ .? °F.</p> <p>P420 Store away from other materials.</p> <p>P501 Dispose of contents/ container to an approved waste disposal plant.</p>
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### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms:	Aminoiminomethanesulfinic acid Thiourea dioxide
Formula:	CH <sub>4</sub> N <sub>2</sub> O <sub>2</sub> S
CAS-No.:	1758-73-2
EC-No.:	217-157-8

### Hazardous components

Component	Classification	Concentration
<b>Aminoiminomethanesulphinic acid</b>		
	Self-heat. 1; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; Aquatic Acute 3; Aquatic Chronic 3; H251, H302, H315, H319, H335, H412	-

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

<b>General advice</b>
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
<b>If inhaled</b>
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>In case of skin contact</b>
Wash off with soap and plenty of water. Consult a physician.
<b>In case of eye contact</b>
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
<b>If swallowed</b>
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### **4.2 Indication of any immediate medical attention and special treatment needed**

no data available

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### **5. FIREFIGHTING MEASURES**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### **5.2 Special hazards arising from the substance or mixture**

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Sulphur oxides

#### **5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

#### **5.4 Further information**

Use water spray to cool unopened containers.

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### **6. ACCIDENTAL RELEASE MEASURES**

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

#### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### **6.3 Methods and materials for containment and cleaning up**

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

#### **6.4 Reference to other sections**

For disposal see section 13.

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### **7. HANDLING AND STORAGE**

#### **7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: 2 - 8 °C

Heat sensitive. Moisture sensitive.

### 7.3 Specific end use(s)

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

Eye/face protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Nitrile rubber Minimum layer thickness: 0.2 mm Break through time: 480 min Material tested: Dermatrill® P (KCL 743 / Aldrich Z677388, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.2 mm Break through time: 480 min Material tested: Dermatrill® P (KCL 743 / Aldrich Z677388, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
Body Protection	Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Form: crystalline Colour: light yellow
Odour	no data available
Odour Threshold	no data available
pH	4 at 10 g/l at 20 °C (68 °F)
Melting point/freezing point	Melting point/range: 124 - 127 °C (255 - 261 °F) - dec.
Initial boiling point and boiling range	no data available
Flash point	no data available
Evaporation rate	no data available
Flammability (solid, gas)	no data available
Upper/lower flammability or explosive limits	no data available

Vapour pressure	< 0.36 hPa (< 0.27 mmHg) at 30 °C (86 °F)
Vapour density	no data available
Relative density	1.680 g/cm <sup>3</sup> at 20 °C (68 °F)
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: -3.23
Auto-ignition temperature	The substance or mixture is classified as self heating with the category 1.
Decomposition temperature	no data available
Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available

## 9.2 Other safety information

Bulk density: 850 g/l

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong bases, Strong oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>
LD50 Oral - rat - 1,120 mg/kg LD50 Dermal - rat - > 2,000 mg/kg no data available
<b>Skin corrosion/irritation</b>
Skin - rabbit Result: Skin irritation
<b>Serious eye damage/eye irritation</b>
Eyes - rabbit Result: Moderate eye irritation
<b>Respiratory or skin sensitisation</b>
no data available
<b>Germ cell mutagenicity</b>
no data available
<b>Carcinogenicity</b>

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>Reproductive toxicity</b>
no data available no data available
<b>Specific target organ toxicity -single exposure</b>
Inhalation - May cause respiratory irritation.
<b>Specific target organ toxicity -repeated exposure</b>
no data available
<b>Aspiration hazard</b>
no data available
<b>Additional Information</b>
RTECS: Not available To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish	No data available
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 390 mg/l - 24 h
Toxicity to algae	EC50 - Desmodemus subspicatus (green algae) - 32 mg/l - 72 h
Toxicity to bacteria	No data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

no data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

<b>Product</b>
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
<b>Contaminated packaging</b>
Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 3341 Class: 4.2 Packing group: II

Proper shipping name: Thiourea dioxide

Marine pollutant: No

Poison Inhalation Hazard: No

### IMDG

UN number: 3341 Class: 4.2 Packing group: II EMS-No: F-A, S-J

Proper shipping name: THIOUREA DIOXIDE

Marine pollutant: No

### IATA

UN number: 3341 Class: 4.2 Packing group: II

Proper shipping name: Thiourea dioxide

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## 15. REGULATORY INFORMATION

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Reactivity Hazard, Acute Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know Components

Component	CAS-No.	Revision Date
Aminoiminomethanesulphinic acid	1758-73-2	

### New Jersey Right To Know Components

Component	CAS-No.	Revision Date
Aminoiminomethanesulphinic acid	1758-73-2	

### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

Acute Tox. Acute toxicity

Aquatic Acute Acute aquatic toxicity

Aquatic Chronic Chronic aquatic toxicity

Eye Irrit. Eye irritation

H251 Self-heating: may catch fire.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H402 Harmful to aquatic life.

**HMIS Rating**

Health hazard: 2

Chronic Health Hazard:

Flammability: 0

Physical Hazard 3

**NFPA Rating**

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 3

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 2

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