

SAFETYDATASHEET

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Ceric Sulfate Solution, 0.1 M

Product number(s):

1.2 Details of the supplier of the safety datasheet

Transene Company, Inc.
1127 57th Avenue
Oakland, CA 94621
USA

Telephone: +1 510-534-1186

1.3 Emergency telephone number

Chemtrec: +1 800-424-9300

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR1910 (OSHAHCS)

Skin Corr. 1B H314

Eye Dam. 1 H318

2.2 GHS Label elements, including precautionary statements

Pictogram(s)



Signal word **Danger**

Hazard statement(s)

H314 - Causes severe skin burns and eye damage

Precautionary statements(s)

P260 - Do not breathe mist

P264 - Wash exposed skin thoroughly after handling

P280 - Wear protective gloves, protective clothing, eye protection, face protection

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

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

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

P501 - Dispose of contents/container to comply with local, state and federal regulations

3. COMPOSITION/INFORMATION ON

INGREDIENTS 3.1

Name	CAS number	%	GHS–US classification
Sulfuric Acid	7664-93-9	2-3	Skin Corr. 1A, H314; Eye Dam. 1, H318
Ceric Ammonium Sulfate	10378-47-9	5-7	Ox. Sol. 2, H272; Skin Irrit. 2, H315; Eye Irrit. 2A, H319
Water	7732-18-5	balance	N/A

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

If inhaled

Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

In case of skin contact

Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

If swallowed

Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes severe skin burns and eye damage.

Symptoms/injuries after inhalation : Irritation of the nasal mucous membranes.

Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Nausea. Vomiting. Diarrhoea. Burns.

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

5. FIREFIGHTING MEASURES

5.1 Suitable extinguishing media

Foam. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream.

5.2 Special hazards arising from the substance or mixture

Hazards

Reactivity : Thermal decomposition generates : Corrosive vapors.

5.3 Advice for firefighters

Advice

Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Do not enter fire area without proper protective equipment, including respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment : Safety glasses. Protective clothing. Gloves. Face-shield. Combined gas/dust mask with filter type B/P3.

Emergency procedures : Evacuate unnecessary personnel.

For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2 Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3 Methods and materials for containment and cleaning up

Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4 Reference to other sections

See Heading 8. Exposure controls and personal protection.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mist. Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : combustible materials, metals. Keep container closed when not in use.

Incompatible products : Strong reducing agents. Strong acids. combustible materials. metals.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3 Specific end user(s)

No additional information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameter

Components with workplace control parameters

Component	CAS-No.	Control parameters	Value
Sulfuric acid	7664-93-9	ACGIH TWA	0.2 mg/m ³
		OSHA PEL	1 mg/m ³
Water	7732-18-5	ACGIH Not applicable / OSHA Not applicable	

8.2 Exposure controls

Appropriate Engineering controls

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.

Personal protective equipment

Eye/face protection

Chemical goggles or face shield.

Skin and Hand protection

Wear protective gloves.

Body protection

Avoid all unnecessary exposure. Wear suitable protective clothing.

Respiratory protection

Wear appropriate mask.

Other information

Do not eat, drink or smoke during use.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Color	Orange
Upper/lower flammability or explosive limits	No data available
Odor	None
Odor threshold	No data available
Vapor pressure	No data available
Vapor density	No data available
pH	≤ 1
Relative density	No data available
Melting point	No data available
Freezing point	No data available
Initial Boiling point and boiling range	No data available
Flash point	
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Water solubility	Soluble in water. Soluble in acids. Water: Solubility in water of component(s) of the mixture : • Sulfuric Acid:
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Thermal decomposition generates : Corrosive vapors.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Not established.

10.4 Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5 Incompatible materials

Strong acids. Strong reducing agents. metals. Combustible materials.

10.6 Hazardous decomposition products

Sulfur compounds. Nitrogen oxides. Thermal decomposition generates : Corrosive vapors

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Not classified

Sulfuric Acid (7664-93-9)

LD50 oral rat 2140 mg/kg body weight (Rat; Experimental value)

Water (7732-18-5)

LD50 oral rat ≥90000 mg/kg

ATE US (oral) 90000.000 mg/kg body weight

Skin corrosion/irritation

Causes severe skin burns and eye damage.

pH: ≤ 1

Serious eye damage/eye irritation

Causes serious eye damage.

pH: ≤1

Respiratory or skin sensitization

Not classified

Germ cell mutagenicity

Not classified

Carcinogenicity

Not classified

Sulfuric Acid (7664-93-9)

Additional information: Strong inorganic acid mists containing sulfuric acid are carcinogenic to humans IARC group 1 - Carcinogenic to humans

National Toxicology Program (NTP) Status 2 - Known Human Carcinogens

Reproductive toxicity

Not classified

Specific target organ toxicity – single exposure

Not classified

Specific target organ toxicity – repeated exposure

Not classified

Aspiration hazard

Not classified

Symptoms

Symptoms/injuries after inhalation : Irritation of the nasal mucous membranes.

Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Nausea. Vomiting. Diarrhoea. Burns.

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

Sulfuric Acid (7664-93-9)

LC50 fish 1 42 mg/l (96 h; Gambusia affinis)

EC50 Daphnia 1 29 mg/l (24 h; Daphnia magna)

LC50 fish 2 49 mg/l (48 h; Lepomis macrochirus)

TLM fish 1 42 mg/l (96 h; Gambusia affinis)

Threshold limit other aquatic organisms 1 6900 mg/l (24 h; Pseudomonas fluorescens)

12.2 Persistence and degradability

Not established.

12.3 Bioaccumulative potential

Not established.

Sulfuric Acid (7664-93-9)

Log Pow -2.20 (Estimated value)

12.4 Mobility in soil

No additional information available

12.5 Results in PBT and vPvB assessment

No data available

12.6 Other adverse effects

Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Product

Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Contaminated Container

Avoid release to the environment.

14. TRANSPORT INFORMATION**In accordance with DOT**

DOT NA No.	UN1760
DOT Proper Shipping Name	Corrosive liquid, n.o.s.(Sulfuric Acid)
Hazardous Class	8
Packing group (DOT)	II
Reportable Quantity (RQ)	1000#
Hazard Labels:	8



15. REGULATORY INFORMATION**US Federal regulations**

Ceric Ammonium Sulfate, 0.1N (0.1M) in Sulfuric Acid, 1.0N

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

Ceric Ammonium Nitrate (16774-21-3)

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

Reactive hazard

Sulfuric Acid (7664-93-9)

Listed on United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of Lists) 1000 lb

SARA Section 302 Threshold Planning Quantity (TPQ) 1000 lb

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

International regulations**CANADA**

Ceric Ammonium Sulfate, 0.1N (0.1M) in Sulfuric Acid, 1.0N

WHMIS Classification Class E - Corrosive Material

Ceric Ammonium Nitrate (16774-21-3)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification Class C - Oxidizing Material

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Sulfuric Acid (7664-93-9)

WHMIS Classification Class E - Corrosive Material

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

US State regulations

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

National regulations

Ceric Ammonium Nitrate (16774-21-3)

Not listed on the Canadian IDL (Ingredient Disclosure List) \ Sulfuric Acid (7664-93-9)
Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program) \ Water (7732-18-5)
Not listed on the Canadian IDL (Ingredient Disclosure List)

TSCA Inventory List:

All of the ingredients (or their hydrate forms) are listed.

CERCLA Reportable Quantity (RQ):

None of the ingredients have an RQ.

SARA Section 302 Threshold Planning Quality (TPQ):

None of the ingredients have a TPQ.

SARA Title Codes:

OSHA:

This product is not considered to be highly hazardous by OSHA Hazard Communication Standard.

16. OTHER INFORMATION

HMIS Rating

HEALTH: 2

FIRE: 0

REACTIVITY: 0

SPECIFIC HAZARD: N/A

Further Information

License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. No warranty, express or implied, is made and Transene Company, Inc. assumes no liability resulting from the use of this SDS. The user must determine the suitability of this information for his/her application. Transene Company, Inc. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Preparation Information

RevisionDate: August 10 2019