



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name CERIC SULFATE, TETRAHYDRATE
Catalog # 2258
Version # 02
Revision date 17-Jun-2008
CAS # 10294-42-5
Synonym(s) Cerium Sulfate Tetrahydrate
Manufacturer information GFS Chemicals, Inc.
P.O. Box 245
Powell, OH 43065 US
www.gfschemicals.com
Fax 740-881-5989
Phone 740-881-5501
Toll Free 800-858-9682
Emergency Assistance Chemtrec 800-424-8300

2. Hazards Identification

Emergency overview Irritating to skin. Irritating to eyes. Irritating to respiratory system.
OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects
Routes of exposure Inhalation. Skin contact.
Eyes Causes eye irritation.
Skin Irritating to skin.
Inhalation Irritating to respiratory system.
Ingestion Do not ingest.
Potential environmental effects Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Components	CAS #	Percent
CERIC SULFATE, TETRAHYDRATE	10294-42-5	90 - 100

4. First Aid Measures

First aid procedures
Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists get medical attention.
Skin contact Remove and isolate contaminated clothing and shoes. Wash off immediately with plenty of water. If skin irritation persists, call a physician.
Inhalation Move to fresh air. If breathing is difficult, give oxygen. Call a physician if symptoms develop or persist.
Ingestion Have victim rinse mouth thoroughly with water. Do not induce vomiting without advice from poison control center.
General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties Not a fire hazard. The product is not flammable.
Extinguishing media
Suitable extinguishing media Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂). Use extinguishing agent suitable for type of surrounding fire.

Protection of firefighters

Specific hazards arising from the chemical In the event of fire oxides of sulfur may be formed.

Protective equipment and precautions for firefighters Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

Specific methods In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions Local authorities should be advised if significant spillages cannot be contained. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Keep unnecessary personnel away. Stay upwind. Keep out of low areas.

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods for containment Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up Sweep up or gather material and place in appropriate container for disposal. Avoid dust formation. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes. Use only with adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling. Handle and open container with care.

Storage Keep container tightly closed. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection Do not breathe dust/fume/gas/mist/vapors/spray. Respirator must be worn if exposed to dust.

Hand protection Protective gloves.

Eye / face protection Avoid contact with eyes. Wear chemical goggles.

Skin protection Avoid contact with the skin. Wear appropriate chemical resistant clothing. Protective gloves.

General hygiene considerations Avoid contact with eyes. Avoid contact with skin. Handle in accordance with good industrial hygiene and safety practice.

General Avoid contact with skin. Avoid contact with eyes.

9. Physical & Chemical Properties

Appearance Powder.

Color Yellow-orange.

Odor Odorless.

Odor threshold Not available.

Physical state Solid.

Form Solid.

pH Not available.

Melting point Not available.

Freezing point Not available.

Boiling point Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability Not available.

Flammability limits in air, upper, % by volume Not available.

Flammability limits in air, lower, % by volume Not available.

Vapor pressure Not available.

Vapor density	Not available.
Specific gravity	Not available.
Relative density	Not available.
Solubility (water)	Initially soluble, but then hydrolyzes
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Molecular weight	404.3300
Molecular formula	Ce(SO4)2.4H2O

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	This product may react with reducing agents.
Incompatible materials	Reducing agents
Hazardous decomposition products	May include oxides of sulphur.

11. Toxicological Information

Toxicological information	The toxicological properties have not been fully investigated.
Local effects	Irritating to eyes. Irritating to skin. Irritating to respiratory system.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

12. Ecological Information

Ecotoxicity	This product has no known eco-toxicological effects.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not applicable.

14. Transport Information

DOT

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
-------------------------------	---

CERCLA/SARA Hazardous Substances - Not applicable.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
--------------------------	---

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 2
Flammability: 0
Physical hazard: 0

NFPA ratings Health: 2
Flammability: 0
Instability: 0

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Issue date 17-Jun-2008

This data sheet contains changes from the previous version in section(s): This document has undergone significant changes and should be reviewed in its entirety.