



SAFETY DATA SHEET

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SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Zirconium (IV) Sulfate Tetrahydrate**

PRODUCT NUMBER: 3923-1

CAS NUMBER: 7446-31-3

SYNONYMS: Sulfuric acid, zirconium sulfate

MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Warning

Hazard Statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary Phrases

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash skin and hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
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.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation occurs: Get medical advice/attention.

HMIS CLASSIFICATION:

Health: 1 Fire: 0 Reactivity Hazard: 1

NFPA RATING:

Health: 1 Flammability: 0 Reactivity Hazard: 1

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

EYE CONTACT: Causes serious eye irritation.

SKIN CONTACT: Causes skin irritation.

INHALATION: May cause respiratory tract irritation.

INGESTION: Ingestion may lead to nausea, vomiting, and diarrhea.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $\text{Zr}(\text{SO}_4)_2 \cdot 4\text{H}_2\text{O}$

Molecular Weight: 355.40

CHEMICAL NAME	CAS#	%
Zirconium Sulfate tetrahydrate	7446-31-3	100

SECTION 4 FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

SKIN EXPOSURE: Wash affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

INHALATION: Remove to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

INGESTION: Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

SECTION 5 FIREFIGHTING MEASURES

FLASH POINT: Not applicable

AUTO IGNITION TEMPERATURE: Not available

EXPLOSION LIMITS: Product does not present an explosion hazard.

EXTINGUISHING MEDIUM: Use fire fighting measures that suit the surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: Sulfur oxides and zirconium oxide.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. Avoid the formation of dust. Avoid breathing vapors, mist, gas, or dust.

ENVIRONMENTAL PRECAUTIONS: Prevent spillage from entering drains or allowing to be released into the environment.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Mix spills with powdered sodium carbonate or ground limestone. Sweep up and place in suitable container for proper disposal.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Avoid contact with skin and eyes. Use with adequate ventilation. Avoid formation of dusts and aerosols.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS:

Component	Exposure Limits	Basis	Entity
Zirconium Sulfate Tetrahydrate	5 mg/m ³	TWA	ACGIH
	5 mg/m ³	PEL	OSHA

TWA: Time Weighted Average over 8 hours of work.

PEL: Permissible Exposure Limit

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION (Cont.)

EYE PROTECTION: Wear chemical safety glasses or goggles and face shield.

SKIN PROTECTION: Wear nitrile or rubber gloves, and a complete suit protecting against chemicals.

VENTILATION: Provide local exhaust, preferably mechanical.

RESPIRATOR: Use an approved respirator.

ADDITIONAL PROTECTION: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: White solid

ODOR: None

MOLECULAR WEIGHT: 355.40

BOILING POINT: No data available

MELTING POINT: 410°C

SPECIFIC GRAVITY: 3.22

VAPOR DENSITY: No data available

SOLUBILITY IN WATER: Soluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: High temperatures, incompatible materials, dust generation, and exposure to moist air or water.

INCOMPATIBILITY: Strong bases

DECOMPOSITION PRODUCTS: Sulfur oxides and zirconium oxide

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: LD50 Oral – Rat – 3500mg/kg.

CARCINOGENIC EFFECTS: No components of this product present at levels greater than or equal to 0.1% is identified a carcinogen.

MUTAGENIC EFFECTS: Not available

TETRATOGENIC EFFECTS: Not available

CHRONIC TOXICITY: Not available

RTECS: ZH9100000

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

SECTION 12 ECOLOGICAL DATA

No information available

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose of in according to local, state, and federal regulations.

SECTION 14 TRANSPORTATION DATA

Not a dangerous good.

SECTION 15 REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory

SARA 302/304: Not Listed

SARA 311/312: Not Listed

SARA (TITLE 313): Not Listed

CALIFORNIA PROP. 65: Not Listed

MASSACHUSETTS RIGHT TO KNOW: Zirconium sulfate

NEW JERSEY RIGHT TO KNOW: Zirconium sulfate

PENNSYLVANIA RIGHT TO KNOW: Zirconium sulfate

SECTION 16 OTHER INFORMATION

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, ProChem, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information.

DATE PREVIOUSLY REVISED: 02/23

DATE REVISED: 07/26

REVISION SUMMARY: Removed fax number. All other details in this document about the product remained unchanged. Revised by EHS 07/21/26

EHS/SDS DEPT.