



SAFETY DATA SHEET

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SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Gadolinium (III) Nitrate Hexahydrate**
PRODUCT NUMBER: 1834
CAS NUMBER: 19598-90-4
SYNONYMS: Nitric acid, gadolinium(3+) salt, hexahydrate
MANUFACTURER:

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SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram



Signal Word

Danger

Hazard Statements

| | |
|------|-----------------------------------|
| H272 | May intensify fire; oxidizer. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |

Precautionary Phrases

| | |
|----------------|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. |
| P220 | Keep/store away from clothing/combustible material. |
| P221 | Take any precaution to avoid mixing with combustibles. |
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| 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. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P370+P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed |

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

HMIS CLASSIFICATION:

Health: 2 Fire: 0 Reactivity Hazard: 2

NFPA RATING:

Health: 2 Flammability: 0 Reactivity Hazard: 2 Specific Hazard: OX

EYE CONTACT: May cause slight to mild irritation of the eyes.

SKIN CONTACT: May cause slight to mild irritation of the skin.

INHALATION: May be irritating to the nose, mucous membranes, and respiratory tract.

INGESTION: Ingestion may lead to dizziness, abdominal cramps, vomiting, bloody diarrhea, weakness, and convulsions.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $Gd(NO_3)_3 \cdot 6H_2O$

Molecular Weight: 451.36

| CHEMICAL NAME | CAS# | % |
|--------------------------------------|------------|-----|
| Gadolinium (III) nitrate hexahydrate | 19598-90-4 | 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. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases, seek immediate medical assistance.

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

SECTION 5 FIREFIGHTING MEASURES

FLASH POINT: Not available

AUTO IGNITION TEMPERATURE: Not available

EXPLOSION LIMITS: Not available

EXTINGUISHING MEDIUM: Carbon dioxide, dry powder, or foam.

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

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: Nitrogen oxides and gadolinium oxides

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: Pick up and arrange disposal without creating dust. Sweep up and keep in suitable, closed containers for 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. Keep away from heat and sources of ignition.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area. Keep away from heat and direct sunlight.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS: Contains no substances with occupational exposure limit values.

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 crystal with lumps

ODOR: No data available

MOLECULAR WEIGHT: 451.36

BOILING POINT: No data available

MELTING POINT: No data available

SPECIFIC GRAVITY: 2.406 gm/ml

VAPOR DENSITY: No data available

SOLUBILITY: Very soluble

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Avoid moisture. Avoid contact with strong reducing agents or organic matter. Some nitrates can explode if heated to high temperatures.

INCOMPATIBILITY: Strong reducing agents, strong acids, organic materials, powdered metals, phosphorous, and sulfur.

DECOMPOSITION PRODUCTS: Nitrogen oxides and gadolinium oxides.

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: LD50 Oral – rat – >5gm/kg. LD50 Intraperitoneal – rat – 230mg/kg. LD50 Intravenous – rat – 30mg/kg. LD50 Intraperitoneal – mouse – 300mg/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

RTECS: LW4725000

Rare earth compounds may cause delayed blood clotting leading to hemorrhages. Inhalation of rare earths may cause sensitivity to heat, itching, and increased awareness of odor and taste.

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

SECTION 12 ECOLOGICAL DATA

No data available.

SECTION 13 DISPOSAL CONSIDERATIONS

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

SECTION 14 TRANSPORTATION DATA

UN1477

Nitrates, inorganic, n.o.s.

(Gadolinium Nitrate)

CLASS 5.1

PG II

Marine Pollutant: No

SECTION 15 REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory

SARA 302/304: Not Listed

SARA 311/312: Reactivity hazard, Acute Health Hazard

SARA (TITLE 313): Not Listed

CALIFORNIA PROP. 65: Not Listed

WHMIS CANADA: Not Listed

MASSACHUSETTS RIGHT TO KNOW COMPONENTS: No components are subject to the Massachusetts Right to Know Act.

NEW JERSEY RIGHT TO KNOW COMPONENTS: Gadolinium (III) nitrate hexahydrate

PENNSYLVANIA RIGHT TO KNOW COMPONENTS: Gadolinium (III) nitrate hexahydrate

SECTION 16 OTHER INFORMATION

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