

GADOLINIUM ACETATE, tetrahydrate

Safety Data Sheet CXGD010

Date of issue: 11/01/2016

Version: 1.0

SECTION 1: Identification

1.1. Product identifier

| | |
|-----------------|---|
| Product name | : GADOLINIUM ACETATE, tetrahydrate |
| Product code | : CXGD010 |
| Product form | : Substance |
| Physical state | : Solid |
| Formula | : C ₆ H ₉ GdO ₆ ·4H ₂ O |
| Synonyms | : ACETIC ACID, GADOLINIUM(3+) SALT |
| Chemical family | : RARE EARTH COMPOUND |

1.2. Recommended use of the chemical and restrictions on use

| | |
|-----------------|--|
| Recommended use | : Chemical intermediate For research use only |
|-----------------|--|

1.3. Details of the supplier of the safety data sheet

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com

1.4. Emergency telephone number

| | |
|------------------|---|
| Emergency number | : CHEMTRAC: 1-800-424-9300 (USA); +1 703-527-3887 (International) |
|------------------|---|

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Serious eye damage/eye irritation Category 2A H319

Full text of H statements : see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US)

: Warning

Hazard statements (GHS-US)

: H319 - Causes serious eye irritation

Precautionary statements (GHS-US)

: P280 - Wear protective gloves/protective clothing/eye protection/face protection

P264 - Wash hands thoroughly after handling

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

| | |
|----------------|------------------------------------|
| Substance type | : Mono-constituent |
| Name | : GADOLINIUM ACETATE, tetrahydrate |
| CAS No | : 15280-53-2 |

| Name | Product identifier | % | GHS-US classification |
|----------------------------------|---------------------|----------|-----------------------|
| Gadolinium acetate, tetrahydrate | (CAS No) 15280-53-2 | 95 - 100 | Eye Irrit. 2A, H319 |

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Full text of hazard classes and H-statements : see section 16

3.2. Mixture

Not applicable

4.1. Description of first aid measures

First-aid measures general

: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact

: Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact

: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion

: Never give anything by mouth to an unconscious person. Get medical advice/attention.

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

Symptoms/injuries after inhalation

: May cause irritation to the respiratory tract.

Symptoms/injuries after skin contact

: May cause skin irritation.

Symptoms/injuries after eye contact

: Causes serious eye irritation.

Symptoms/injuries after ingestion

: No information available.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

: Water spray. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media

: None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard

: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Advice for firefighters

Firefighting instructions

: Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.

Protection during firefighting

: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

: Wear protective equipment as described in Section 8.

Emergency procedures

: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment

: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

For containment

: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up

: Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: Avoid contact with skin and eyes. Do not breathe dust. Avoid dust formation. Provide local exhaust or general room ventilation to minimize exposure to dust.

Hygiene measures

: Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed.
Storage area : Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Gadolinium acetate, tetrahydrate (15280-53-2) | | |
|---|--------------------------------|--|
| ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ Rare earth compounds |

8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.
Personal protective equipment : Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection : Neoprene or nitrile rubber gloves.
Eye protection : Chemical goggles. Contact lenses should not be worn.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (teal cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|-----------------------|
| Physical state | : Solid |
| Appearance | : Crystals. |
| Molecular mass | : 406.45 g/mol |
| Color | : White to off-white. |
| Odor | : characteristic. |
| Odor threshold | : No data available |
| Refractive index | : No data available |
| pH | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : > 110 °C |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : < 1 mm Hg @ 25°C |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : > 1 |
| VOC content | : < 3 % |
| Solubility | : Soluble in water. |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosion limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Material decomposes slowly in contact with air by reaction with water and carbon dioxide.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Gadolinium oxide fumes. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|--|---|
| Acute toxicity | : Not classified |
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen |
| 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/injuries after inhalation | : May cause irritation to the respiratory tract. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : No information available. |
| Reason for classification | : Expert judgment |

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

| | |
|------------------------------|---------------------------------------|
| Effect on ozone layer | : No additional information available |
| Effect on the global warming | : No known effects from this product. |
| GWPmix comment | : No known effects from this product. |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|---------------------------------|--|
| Sewage disposal recommendations | : Do not dispose of waste into sewer. |
| Waste disposal recommendations | : Dispose of solid materials or residues at a licensed site. Dispose in a safe manner in accordance with local/national regulations. |
| Ecology - waste materials | : Avoid release to the environment. |

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SECTION 14: Transport information

14.1. UN number

Not regulated for transport.

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

GADOLINIUM ACETATE, tetrahydrate (15280-53-2)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States

Gadolinium acetate, tetrahydrate (15280-53-2)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

No additional information available

SECTION 16: Other information

Full text of H-phrases::

H319

Causes serious eye irritation

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling.

HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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