

## SAFETY DATA SHEET

Creation Date 26-Sep-2009

Revision Date 14-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** Gadolinium oxide

**Cat No. :** 11289

**CAS-No** 12064-62-9  
**Synonyms** Gadolinium(III)Oxide; Gadolinia; Digadolinium Trioxide

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious Eye Damage/Eye Irritation

Category 2

**Label Elements**

**Signal Word**

Warning

**Hazard Statements**

Causes serious eye irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Wear eye/face protection

**Eyes**

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

If eye irritation persists: Get medical advice/attention

**Hazards not otherwise classified (HNOC)**

None identified

### 3. Composition/Information on Ingredients

| Component                                          | CAS-No     | Weight % |
|----------------------------------------------------|------------|----------|
| Gadolinium oxide (Gd <sub>2</sub> O <sub>3</sub> ) | 12064-62-9 | >95      |

### 4. First-aid measures

|                                            |                                                                                                                 |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.                       |
| <b>Inhalation</b>                          | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention.                      |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Get medical attention.                                                                  |
| <b>Most important symptoms and effects</b> | No information available.                                                                                       |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                           |

### 5. Fire-fighting measures

**Suitable Extinguishing Media** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** No information available  
**Method -** No information available

**Autoignition Temperature****Explosion Limits**

**Upper** No data available  
**Lower** No data available  
**Sensitivity to Mechanical Impact** No information available  
**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

None known.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
2

**Flammability**  
0

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

**Environmental Precautions** Should not be released into the environment.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

## 7. Handling and storage

**Handling** Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin and eyes. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Minimize dust generation and accumulation. Wash hands before breaks and immediately after handling the product.

**Storage** Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Keep under nitrogen.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limit established by the region specific regulatory bodies.

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|                            |                          |
|----------------------------|--------------------------|
| <b>Physical State</b>      | Powder Solid             |
| <b>Appearance</b>          | White                    |
| <b>Odor</b>                | No information available |
| <b>Odor Threshold</b>      | No information available |
| <b>pH</b>                  | No information available |
| <b>Melting Point/Range</b> | 1900 °C / 3452 °F        |

|                                        |                                |
|----------------------------------------|--------------------------------|
| Boiling Point/Range                    | No information available       |
| Flash Point                            | No information available       |
| Evaporation Rate                       | Not applicable                 |
| Flammability (solid,gas)               | No information available       |
| Flammability or explosive limits       |                                |
| Upper                                  | No data available              |
| Lower                                  | No data available              |
| Vapor Pressure                         | No information available       |
| Vapor Density                          | Not applicable                 |
| Specific Gravity                       | No information available       |
| Solubility                             | No information available       |
| Partition coefficient; n-octanol/water | No data available              |
| Autoignition Temperature               |                                |
| Decomposition Temperature              | No information available       |
| Viscosity                              | Not applicable                 |
| Molecular Formula                      | Gd <sub>2</sub> O <sub>3</sub> |
| Molecular Weight                       | 362.5                          |

## 10. Stability and reactivity

|                                  |                                                                                     |
|----------------------------------|-------------------------------------------------------------------------------------|
| Reactive Hazard                  | None known, based on information available                                          |
| Stability                        | Hygroscopic. Air sensitive.                                                         |
| Conditions to Avoid              | Exposure to air. Incompatible products. Exposure to moisture. Avoid dust formation. |
| Incompatible Materials           | Strong acids, Finely powdered metals                                                |
| Hazardous Decomposition Products | None under normal use conditions                                                    |
| Hazardous Polymerization         | No information available.                                                           |
| Hazardous Reactions              | None under normal processing.                                                       |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component                                          | LD50 Oral             | LD50 Dermal | LC50 Inhalation |
|----------------------------------------------------|-----------------------|-------------|-----------------|
| Gadolinium oxide (Gd <sub>2</sub> O <sub>3</sub> ) | LD50 > 5 g/kg ( Rat ) | Not listed  | Not listed      |

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                 |                                                                                          |
|-----------------|------------------------------------------------------------------------------------------|
| Irritation      | Irritating to eyes                                                                       |
| Sensitization   | No information available                                                                 |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component                                          | CAS-No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|----------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Gadolinium oxide (Gd <sub>2</sub> O <sub>3</sub> ) | 12064-62-9 | Not listed | Not listed | Not listed | Not listed | Not listed |

|                       |                           |
|-----------------------|---------------------------|
| Mutagenic Effects     | No information available  |
| Reproductive Effects  | No information available. |
| Developmental Effects | No information available. |

|                                                   |                                                                |
|---------------------------------------------------|----------------------------------------------------------------|
| <b>Teratogenicity</b>                             | No information available.                                      |
| <b>STOT - single exposure</b>                     | None known                                                     |
| <b>STOT - repeated exposure</b>                   | None known                                                     |
| <b>Aspiration hazard</b>                          | No information available                                       |
| <b>Symptoms / effects, both acute and delayed</b> | No information available                                       |
| <b>Endocrine Disruptor Information</b>            | No information available                                       |
| <b>Other Adverse Effects</b>                      | The toxicological properties have not been fully investigated. |

## 12. Ecological information

### Ecotoxicity

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|                                      |                                                                       |
|--------------------------------------|-----------------------------------------------------------------------|
| <b>Persistence and Degradability</b> | Insoluble in water                                                    |
| <b>Bioaccumulation/ Accumulation</b> | No information available.                                             |
| <b>Mobility</b>                      | Is not likely mobile in the environment due its low water solubility. |

## 13. Disposal considerations

|                               |                                                                                                                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste Disposal Methods</b> | Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 14. Transport information

|                 |               |
|-----------------|---------------|
| <b>DOT</b>      | Not regulated |
| <b>TDG</b>      | Not regulated |
| <b>IATA</b>     | Not regulated |
| <b>IMDG/IMO</b> | Not regulated |

## 15. Regulatory information

### United States of America Inventory

| Component                                          | CAS-No     | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|----------------------------------------------------|------------|------|-----------------------------------------------|-----------------------------|
| Gadolinium oxide (Gd <sub>2</sub> O <sub>3</sub> ) | 12064-62-9 | X    | ACTIVE                                        | -                           |

#### **Legend:**

**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

|                                       |                |
|---------------------------------------|----------------|
| <b>TSCA 12(b)</b> - Notices of Export | Not applicable |
|---------------------------------------|----------------|

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component                                          | CAS-No     | DSL | NDSL | EINECS    | PICCS | ENCS | AICS | IECSC | KECL     |
|----------------------------------------------------|------------|-----|------|-----------|-------|------|------|-------|----------|
| Gadolinium oxide (Gd <sub>2</sub> O <sub>3</sub> ) | 12064-62-9 | X   | -    | 235-060-9 | X     | X    | X    | X     | KE-10558 |

### U.S. Federal Regulations

|                                                             |                                                             |
|-------------------------------------------------------------|-------------------------------------------------------------|
| <b>SARA 313</b>                                             | Not applicable                                              |
| <b>SARA 311/312 Hazard Categories</b>                       | See section 2 for more information                          |
| <b>CWA (Clean Water Act)</b>                                | Not applicable                                              |
| <b>Clean Air Act</b>                                        | Not applicable                                              |
| <b>OSHA - Occupational Safety and Health Administration</b> | Not applicable                                              |
| <b>CERCLA</b>                                               | Not applicable                                              |
| <b>California Proposition 65</b>                            | This product does not contain any Proposition 65 chemicals. |
| <b>U.S. State Right-to-Know Regulations</b>                 | Not applicable                                              |
| <b>U.S. Department of Transportation</b>                    |                                                             |
| Reportable Quantity (RQ):                                   | N                                                           |
| DOT Marine Pollutant                                        | N                                                           |
| DOT Severe Marine Pollutant                                 | N                                                           |
| <b>U.S. Department of Homeland Security</b>                 | This product does not contain any DHS chemicals.            |
| <b><u>Other International Regulations</u></b>               |                                                             |
| <b>Mexico - Grade</b>                                       | No information available                                    |

## 16. Other information

|                         |                                                                                     |
|-------------------------|-------------------------------------------------------------------------------------|
| <b>Prepared By</b>      | Health, Safety and Environmental Department<br>Email: tech@alfa.com<br>www.alfa.com |
| <b>Creation Date</b>    | 26-Sep-2009                                                                         |
| <b>Revision Date</b>    | 14-Feb-2020                                                                         |
| <b>Print Date</b>       | 14-Feb-2020                                                                         |
| <b>Revision Summary</b> | SDS authoring systems update, replaces ChemGes SDS No. 12064-62-9/1.                |

### 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

**End of SDS**