



# Material Safety Data Sheet

|  |  |               |   |             |   |            |   |  |
|--|--|---------------|---|-------------|---|------------|---|--|
| <p><b>NFPA</b></p>  | <p><b>HMIS</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td style="background-color: #00FFFF;">Health Hazard</td><td style="text-align: center; font-weight: bold;">1</td></tr> <tr><td style="background-color: #FFCCCC;">Fire Hazard</td><td style="text-align: center; font-weight: bold;">0</td></tr> <tr><td style="background-color: #FFFF00;">Reactivity</td><td style="text-align: center; font-weight: bold;">0</td></tr> </table> | Health Hazard | 1 | Fire Hazard | 0 | Reactivity | 0 | <p><b>Personal Protective Equipment</b></p>  <p style="text-align: center;">See Section 15.</p> |
| Health Hazard  | 1  |               |   |             |   |            |   |  |
| Fire Hazard  | 0  |               |   |             |   |            |   |  |
| Reactivity   | 0  |               |   |             |   |            |   |  |

| <b>Section 1. Chemical Product and Company Identification</b> |  | <i>Page Number: 1</i>  |
|---|--|--|
| <b>Common Name/<br/>Trade Name</b>                            | <b>Gadolinium Oxide</b>  | <b>Catalog Number(s).</b> G1082, G1001   |
| <b>Manufacturer</b>   | SPECTRUM LABORATORY PRODUCTS INC.<br>14422 S. SAN PEDRO STREET<br>GARDENA, CA 90248  | <b>CAS#</b> 12064-62-9   |
| <b>Commercial Name(s)</b>                                     | Not available.   | <b>RTECS</b> LW4790000   |
| <b>Synonym</b>  | Digadolinium trioxide; Gadolinia; Gadolinium sesquioxide; Gadolinium Trioxide; Gadolinium (3+) oxide; Gadolinium (III) oxide | <b>TSCA</b> TSCA 8(b) inventory:<br>Gadolinium Oxide   |
| <b>Chemical Name</b>  | Gadolinium Oxide   | <b>CI#</b> Not available.  |
| <b>Chemical Family</b>  | Not available.   | <p style="text-align: center; color: blue; margin: 0;"><b>IN CASE OF EMERGENCY</b></p> <p style="text-align: center; color: blue; margin: 0;"><b>CHEMTREC (24hr) 800-424-9300</b></p> <p style="margin: 5px 0 0 20px;">CALL (310) 516-8000</p> |
| <b>Chemical Formula</b>                                       | Gd <sub>2</sub> O <sub>3</sub>   |  |
| <b>Supplier</b>   | SPECTRUM LABORATORY PRODUCTS INC.<br>14422 S. SAN PEDRO STREET<br>GARDENA, CA 90248  |  |

| <b>Section 2. Composition and Information on Ingredients</b> |            |                          |                           |                           |             |
|--|------------|--------------------------|---------------------------|---------------------------|-------------|
|  |            | <i>Exposure Limits</i>   |                           |                           |             |
| Name   | CAS #      | TWA (mg/m <sup>3</sup> ) | STEL (mg/m <sup>3</sup> ) | CEIL (mg/m <sup>3</sup> ) | % by Weight |
| 1) Gadolinium Oxide  | 12064-62-9 |                          |                           |                           | 100         |
| <b>Toxicological Data on Ingredients</b> Not applicable.     |            |                          |                           |                           |             |

| <b>Section 3. Hazards Identification</b> |  |
|--|--|
| <b>Potential Acute Health Effects</b>    | Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.   |
| <b>Potential Chronic Health Effects</b>  | <p><b>CARCINOGENIC EFFECTS:</b> Not available.</p> <p><b>MUTAGENIC EFFECTS:</b> Not available.</p> <p><b>TERATOGENIC EFFECTS:</b> Not available.</p> <p><b>DEVELOPMENTAL TOXICITY:</b> Not available.</p> <p>Repeated or prolonged exposure is not known to aggravate medical condition.</p> |

**Section 4. First Aid Measures**

|                             |  |
|-----------------------------|--|
| <b>Eye Contact</b>          | Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.  |
| <b>Skin Contact</b>         | Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.  |
| <b>Serious Skin Contact</b> | Not available.   |
| <b>Inhalation</b>           | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.   |
| <b>Serious Inhalation</b>   | Not available.   |
| <b>Ingestion</b>            | Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear. |
| <b>Serious Ingestion</b>    | Not available.   |

**Section 5. Fire and Explosion Data**

|  |   |
|--|---|
| <b>Flammability of the Product</b>                         | Non-flammable.  |
| <b>Auto-Ignition Temperature</b>                           | Not applicable.   |
| <b>Flash Points</b>  | Not applicable.   |
| <b>Flammable Limits</b>                                    | Not applicable.   |
| <b>Products of Combustion</b>                              | Not available.  |
| <b>Fire Hazards in Presence of Various Substances</b>      | Not applicable.   |
| <b>Explosion Hazards in Presence of Various Substances</b> | Risks of explosion of the product in presence of mechanical impact: Not available.<br>Risks of explosion of the product in presence of static discharge: Not available. |
| <b>Fire Fighting Media and Instructions</b>                | Not applicable.   |
| <b>Special Remarks on Fire Hazards</b>                     | Not available.  |
| <b>Special Remarks on Explosion Hazards</b>                | Not available.  |

**Section 6. Accidental Release Measures**

|                    |  |
|--------------------|--|
| <b>Small Spill</b> | Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. |
| <b>Large Spill</b> | Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.                                 |

**Section 7. Handling and Storage**

|                    |   |
|--------------------|---|
| <b>Precautions</b> | Do not ingest. Do not breathe dust. If ingested, seek medical advice immediately and show the container or the label. |
| <b>Storage</b>     | Keep container tightly closed. Keep container in a cool, well-ventilated area.  |

**Section 8. Exposure Controls/Personal Protection**

|   |   |
|---|---|
| <b>Engineering Controls</b>                         | Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. |
| <b>Personal Protection</b>                          | Safety glasses. Lab coat. Dust respirator. A dust respirator is recommended if ventilation is not adequate and if handling of material causes visible dust clouds. Be sure to use an approved/certified respirator or equivalent. Gloves.                                       |
| <b>Personal Protection in Case of a Large Spill</b> | Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.                    |
| <b>Exposure Limits</b>                              | Not available.  |

**Section 9. Physical and Chemical Properties**

|                                      |                                     |              |                   |
|--------------------------------------|-------------------------------------|--------------|-------------------|
| <b>Physical state and appearance</b> | Solid. (Powdered solid.)            | <b>Odor</b>  | Odorless.         |
| <b>Molecular Weight</b>              | 362.5 g/mole                        | <b>Taste</b> | Not available.    |
| <b>pH (1% soln/water)</b>            | Not applicable.                     | <b>Color</b> | White. Off-white. |
| <b>Boiling Point</b>                 | Not available.                      |              |                   |
| <b>Melting Point</b>                 | 2330°C (4226°F)                     |              |                   |
| <b>Critical Temperature</b>          | Not available.                      |              |                   |
| <b>Specific Gravity</b>              | 7.6 (Water = 1)                     |              |                   |
| <b>Vapor Pressure</b>                | Not applicable.                     |              |                   |
| <b>Vapor Density</b>                 | Not available.                      |              |                   |
| <b>Volatility</b>                    | Not available.                      |              |                   |
| <b>Odor Threshold</b>                | Not available.                      |              |                   |
| <b>Water/Oil Dist. Coeff.</b>        | Not available.                      |              |                   |
| <b>Ionicity (in Water)</b>           | Not available.                      |              |                   |
| <b>Dispersion Properties</b>         | Not available.                      |              |                   |
| <b>Solubility</b>                    | Insoluble in cold water, hot water. |              |                   |

**Section 10. Stability and Reactivity Data**

|  |                                     |
|--|-------------------------------------|
| <b>Stability</b>                               | The product is stable.              |
| <b>Instability Temperature</b>                 | Not available.                      |
| <b>Conditions of Instability</b>               | Not available.                      |
| <b>Incompatibility with various substances</b> | Not available.                      |
| <b>Corrosivity</b>                             | Non-corrosive in presence of glass. |

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|                                |                 |
|--------------------------------|-----------------|
| Special Remarks on Reactivity  | Not available.  |
| Special Remarks on Corrosivity | Not available.  |
| Polymerization                 | Will not occur. |

### Section 11. Toxicological Information

|  |  |
|--|--|
| Routes of Entry                                  | Inhalation. Ingestion.   |
| Toxicity to Animals                              | Acute oral toxicity (LD50): >5000 mg/kg [Rat].   |
| Chronic Effects on Humans                        | Not available.   |
| Other Toxic Effects on Humans                    | Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.  |
| Special Remarks on Toxicity to Animals           | Not available.   |
| Special Remarks on Chronic Effects on Humans     | Not available.   |
| Special Remarks on other Toxic Effects on Humans | Acute Potential Health Effects:<br>Skin: May cause mild skin irritation.<br>Eyes: Dust may cause eye irritation.<br>Inhalation: Dust may cause respiratory tract irritation.<br>Ingestion: Low hazard.<br>Chronic Potential Health Effects:<br>Inhalation: Prolonged or repeated inhalation may affect respiration (pneumoconiosis). |

### Section 12. Ecological Information

|   |   |
|---|---|
| Ecotoxicity                                       | Not available.  |
| BOD5 and COD                                      | Not available.  |
| Products of Biodegradation                        | Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. |
| Toxicity of the Products of Biodegradation        | The product itself and its products of degradation are not toxic.   |
| Special Remarks on the Products of Biodegradation | Not available.  |

### Section 13. Disposal Considerations

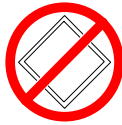
|                |  |
|----------------|--|
| Waste Disposal | Waste must be disposed of in accordance with federal, state and local environmental control regulations. |
|----------------|--|

### Section 14. Transport Information

|                                  |  |
|----------------------------------|--|
| DOT Classification               | Not a DOT controlled material (United States). |
| Identification                   | Not applicable.                                |
| Special Provisions for Transport | Not applicable.                                |

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**DOT (Pictograms)**



**Section 15. Other Regulatory Information and Pictograms**

**Federal and State Regulations**

TSCA 8(b) inventory: Gadolinium Oxide

**California Proposition 65 Warnings**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found.

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

**Other Regulations**

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS no. 235-060-9).

Canada: Listed on Canadian Domestic Substance List (DSL).

China: Listed on National Inventory.

Japan: Listed on National Inventory (ENCS).

Korea: Listed on National Inventory (KECI).

Philippines: Listed on National Inventory (PICCS).

Australia: Listed on AICS.

**Other Classifications**

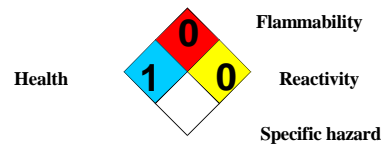
**WHMIS (Canada)** Not controlled under WHMIS (Canada).

**DSCL (EEC)** This product is not classified according to the EU regulations. Not applicable.

**HMIS (U.S.A.)**

|                     |   |
|---------------------|---|
| Health Hazard       | 1 |
| Fire Hazard         | 0 |
| Reactivity          | 0 |
| Personal Protection | E |

**National Fire Protection Association (U.S.A.)**



**WHMIS (Canada) (Pictograms)**



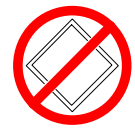
**DSCL (Europe) (Pictograms)**



**TDG (Canada) (Pictograms)**



**ADR (Europe) (Pictograms)**



**Protective Equipment**



Gloves.



Lab coat.



Dust respirator. Be sure to use an approved/certified respirator or equivalent.



Safety glasses.

### Section 16. Other Information

**MSDS Code** G2991

**References** Not available.

**Other Special Considerations** Uses: Gadolinium oxide is used as a raw materials for various fluorescent compounds, absorption material in atomic reactions, magnetic bubble material, screen sensitivity increasing material, as well as many other applications in the chemical, glass, and electronic industries.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/12/2006.

CALL (310) 516-8000

#### Notice to Reader

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*