

**1. PRODUCT AND COMPANY IDENTIFICATION**

|   |   |
|---|---|
| Product Name  | <b>Gallium, Enriched Gallium</b>  |
| Chemical Formula  | Ga  |
| Molecular Weight  | 69.72   |
| CAS No.   | 7440-55-3   |
| EINECS No.  | 231-163-8   |
| Synonyms  | None  |
| Hazard Symbols  | XI  |
| Risk Phrases  | 36/37/38  |
| Supplier Address*   | ISOFLEX USA<br>PO Box 29475<br>San Francisco CA 94129<br>United States                      |
| Telephone   | +1 415-440-4433   |
| Fax   | +1 415-563-4433   |
| Emergency Phone Number<br>(both supplier and<br>manufacturer) | Infotrac/ +1 800-535-5053<br><br>*May include subsidiaries or affiliate companies/divisions |
| Email   | <a href="mailto:iusa@isoflex.com">iusa@isoflex.com</a>                                      |
| Website   | <a href="http://www.isoflex.com">www.isoflex.com</a>  |
| Preparation Information                                       | ISOFLEX USA<br>Product Safety<br>+1 415-440-4433  |

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

Irritating to eyes, respiratory system and skin. Moisture-sensitive.

The toxicological properties of this material have not been fully investigated.

**NFPA Ratings:** (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

**Health Hazard = 3    Flammability = 0    Reactivity = 0**



**HMIS Ratings:** (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

**Health Hazard = 3      Flammability = 0      Physical Hazard = 0**

|                            |          |
|----------------------------|----------|
| <b>HEALTH HAZARD</b>       | <b>3</b> |
| <b>FLAMMABILITY</b>        | <b>0</b> |
| <b>PHYSICAL HAZARD</b>     | <b>0</b> |
| <b>PERSONAL PROTECTION</b> |          |

### Potential Health Effects

|                   |   |
|-------------------|---|
| <i>Eye</i>        | Causes eye irritation   |
| <i>Skin</i>       | Causes skin irritation. May be harmful if absorbed through the skin. May cause contact dermatitis. The toxicological properties of this material have not been fully investigated.      |
| <i>Ingestion</i>  | May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed. The toxicological properties of this substance have not been fully investigated. |
| <i>Inhalation</i> | Causes respiratory tract irritation. May be harmful if inhaled. The toxicological properties of this substance have not been fully investigated.  |
| <i>Chronic</i>    | May cause bone marrow abnormalities with damage to blood forming tissues. Administration of gallium to humans has caused metallic taste, skin rashes, and bone marrow depression.       |

---

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

|                   |           |
|-------------------|-----------|
| Chemical Name:    | Gallium   |
| CAS No.:          | 7440-55-3 |
| Chemical Formula: | Ga        |
| Molecular Weight: | 69.72     |

---

### 4. FIRST AID MEASURES

|                           |  |
|---------------------------|--|
| <i>Eyes</i>               | In case of contact, flush eyes immediately with plenty of water for at least 15 minutes. Seek medical aid.   |
| <i>Skin</i>               | In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Seek medical aid if irritation develops and persists. Wash clothing before reuse. |
| <i>Ingestion</i>          | If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical aid.                   |
| <i>Inhalation</i>         | If inhaled, remove to fresh air. If patient is not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical aid.                           |
| <i>Notes to Physician</i> | Treat symptomatically and supportively.  |

---

### 5. FIREFIGHTING MEASURES

|                            |  |
|----------------------------|--|
| <i>General Information</i> | As in any fire, wear self-contained breathing apparatus in pressure-demand, MSHA/NIOSH-approved or equivalent, and full protective gear. |
|----------------------------|--|

|                                     |   |
|-------------------------------------|---|
| <i>Suitable Extinguishing Media</i> | Do NOT use water, CO <sub>2</sub> or halogenated extinguishers. Use dry chemical extinguishing agents, dry sand or dry ground dolomite. |
| <i>Specific Hazards</i>             | Gallium oxides  |
| <i>Advice for Firefighters</i>      | Wear self-contained breathing apparatus for firefighting if necessary.  |

## 6. ACCIDENTAL RELEASE MEASURES

|                                  |  |
|----------------------------------|--|
| <i>Personal Precautions</i>      | Use proper personal protective equipment as indicated in Section 8. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  |
| <i>Environmental Precautions</i> | Do not let product enter drains.   |
| <i>Methods for Cleaning Up</i>   | Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not get water inside containers. Cool material below 25 °C to solidify before attempting cleanup. Protect metal construction, as gallium will dissolve the metal/is corrosive to most metals. |

## 7. HANDLING AND STORAGE

|                 |  |
|-----------------|--|
| <i>Handling</i> | Wash thoroughly after handling product. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Avoid ingestion or inhalation. Use with adequate ventilation. Wash clothing before reuse. Keep from contact with moist air and steam. |
| <i>Storage</i>  | Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.  |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

|                             |  |
|-----------------------------|--|
| <i>Exposure Guidelines</i>  | Contains no substances with occupational exposure limit values.  |
| <i>Engineering Controls</i> | Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. |

### Personal Protective Equipment

|                    |  |
|--------------------|--|
| <i>Eyes</i>        | 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.                            |
| <i>Skin</i>        | Wear appropriate protective gloves to prevent skin exposure.   |
| <i>Clothing</i>    | Wear appropriate protective clothing to prevent skin exposure.   |
| <i>Respirators</i> | A respiratory protection program that meets OSHA's 29 CFR :1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

|              |               |
|--------------|---------------|
| <i>Form</i>  | Solid         |
| <i>Color</i> | Grey          |
| <i>Odor</i>  | Not available |

## Safety Data

|                            |                   |                         |                |
|----------------------------|-------------------|-------------------------|----------------|
| pH:                        | Not available     | Vapor Density:          | Not available  |
| Vapor Pressure:            | 1 mm Hg @ 1350 °C | Viscosity:              | Not available  |
| Evaporation Rate:          | Not available     | Freezing/Melting Point: | 29 °C          |
| Boiling Point:             | 2400 °C           | Flash Point:            | Not applicable |
| Autoignition Temperature:  | Not available     | Upper Explosion Limits: | Not available  |
| Lower Explosion Limits:    | Not available     | Solubility:             | Insoluble      |
| Decomposition Temperature: | Not available     | Molecular Formula:      | Ga             |
| Specific Gravity/Density:  | 5.9               |                         |                |
| Molecular Weight:          | 69.72             |                         |                |

---

## 10. STABILITY AND REACTIVITY

|   |  |
|---|--|
| <i>Chemical Stability</i>               | Gallium is stable in dry air. It tarnishes in moist air or oxygen.   |
| <i>Conditions to Avoid</i>              | Dust generation, moisture, exposure to air, metals, exposure to moist air or water                             |
| <i>Incompatible Materials</i>           | Hydrogen peroxides, hydrochloric acid, halogens, phosphorus, sulfur, alkalis, oxygen, metals, oxidizing agents |
| <i>Hazardous Decomposition Products</i> | Irritating and toxic fumes and gases   |
| <i>Hazardous Polymerization</i>         | Has not been reported  |

---

## 11. TOXICOLOGICAL INFORMATION

|                             |  |
|-----------------------------|--|
| <i>RTECS No.</i>            | LW8600000  |
| <i>CAS No.</i>              | 7440-55-3  |
| <b>Acute Toxicity</b>       |  |
| <i>LD50/LC50</i>            | Not available  |
| <i>Carcinogenicity</i>      | Gallium - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA |
| <i>Epidemiology</i>         | No information available                                 |
| <i>Teratogenicity</i>       | No information available                                 |
| <i>Reproductive Effects</i> | No information available                                 |
| <i>Neurotoxicity</i>        | No information available                                 |
| <i>Mutagenicity</i>         | See actual entry in RTECS for complete information       |

---

## 12. ECOLOGICAL INFORMATION

|   |   |
|---|---|
| <i>Toxicity</i>                           | No data available   |
| <i>Persistence and Degradability</i>      | No data available   |
| <i>Bioaccumulative Potential</i>          | No data available   |
| <i>Mobility in Soil</i>                   | No data available   |
| <i>Results of PBT and vPvB Assessment</i> | PBT/vPvB assessment not available, as chemical safety assessment not required/not conducted |
| <i>Other Adverse Effects</i>              | No data available   |

---

### 13. DISPOSAL CONSIDERATIONS

|                               |   |
|-------------------------------|---|
| <i>Product</i>                | Dispose of in a manner consistent with federal, state and local regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. |
| <i>Contaminated Packaging</i> | Dispose of as unused product.   |

---

### 14. TRANSPORT INFORMATION

#### DOT (US)

|                      |         |
|----------------------|---------|
| <i>Shipping Name</i> | Gallium |
| <i>Hazard Class</i>  | 8       |
| <i>UN Number</i>     | 2803    |
| <i>Packing Group</i> | III     |

#### IMDG

|                             |          |
|-----------------------------|----------|
| <i>Proper shipping name</i> | Gallium  |
| <i>UN Number</i>            | 2803     |
| <i>Class</i>                | 8        |
| <i>Packing Group</i>        | III      |
| <i>EMS No.</i>              | F-A, S-B |
| <i>Marine Pollutant</i>     | No       |

#### IATA

|                             |         |
|-----------------------------|---------|
| <i>Proper Shipping Name</i> | Gallium |
| <i>UN Number</i>            | 2803    |
| <i>Class</i>                | 8       |
| <i>Packing Group</i>        | III     |

**Canadian TDG** No information available

---

### 15. REGULATORY INFORMATION

#### US Federal

*TSCA* CAS No. 7440-55-3 is listed on the TSCA inventory. This material does not contain any Class 2 Ozone depletors.

*Clean Water Act* None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

*OSHA* None of the chemicals in this product are considered highly hazardous by OSHA.

#### State

Gallium can be found on the following state Right-to-Know lists: New Jersey, Minnesota

*California* No Significant Risk Level. None of the chemicals in this product are listed.

## European/International Regulations

European Labeling in Accordance with EC Directives

|                       |   |
|-----------------------|---|
| <i>Hazard Symbols</i> | XI  |
| <i>Risk Phrases</i>   | R 36/37/38 Irritating to eyes, respiratory system and skin.   |
| <i>Safety Phrases</i> | S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.<br>S 37/39 Wear suitable gloves and eye/face protection. |

WGK (Water Danger/Protection) No information available

## Canada

CAS No. 7440-55-3 is listed on Canada's DSL List.

CAS No. 7440-55-3 is listed on Canada's Ingredient Disclosure List.

---

## 16. OTHER INFORMATION

|                        |  |
|------------------------|--|
| <i>Prepared By</i>     | ISOFLEX USA<br>PO Box 29475<br>San Francisco CA 94129<br>United States |
| <i>Issuing Date</i>    | November 10, 2014  |
| <i>Revision Date</i>   | August 1, 2021   |
| <i>Revision Number</i> | 2  |
| <i>Revision Note</i>   | Required review and update   |

## ISOFLEX USA's Commonly Used Abbreviations and Acronyms\*

|        |   |
|--------|---|
| ACGIH  | American Conference of Governmental Industrial Hygienists                           |
| ADR    | European Agreement Concerning the International Carriage of Dangerous Goods by Road |
| ALARA  | As Low As Is Reasonably Achievable  |
| AMU    | Atomic Mass Unit  |
| ANSI   | American National Standards Institute   |
| BLS    | Basic Life Support  |
| CAM    | Continuous Air Monitor  |
| CAS    | Chemical Abstracts Service (division of the American Chemical Society)              |
| CEN    | European Committee for Standardization  |
| CERCLA | Comprehensive Environmental Response Compensation and Liability Act                 |
| CLP    | Classification, Labelling and Packaging (European Union)                            |
| CPR    | Controlled Products Regulations (Canada)  |
| CWA    | Clean Water Act (USA)   |
| DAC    | Derived Air Concentration (USA)   |
| DOE    | United States Department of Energy (USA)  |
| DOT    | United States Department of Transportation (USA)                                    |
| DSL    | Domestic Substances List (Canada)   |
| EC50   | Half Maximal Effective Concentration  |
| EINECS | European Inventory of Existing Commercial Chemical Substances                       |
| EHS    | Environmentally Hazardous Substance   |
| ELINCS | European List of Notified Chemical Substances                                       |
| EMS    | Emergency Response Procedures for Ships Carrying Dangerous Goods                    |
| EPA    | Environmental Protection Agency (USA)   |
| GHS    | Globally Harmonized System  |
| HMIS   | Hazardous Materials Identification System (USA)                                     |

|        |   |
|--------|---|
| IARC   | International Agency for Research on Cancer                                   |
| IATA   | International Air Transport Association                                       |
| IBC    | Intermediate Bulk Containers  |
| ICAO   | International Civil Aviation Organization                                     |
| IDLH   | Immediately Dangerous to Life or Health                                       |
| IMDG   | International Maritime Code for Dangerous Goods                               |
| LC50   | Lethal concentration, 50 percent  |
| LD50   | Lethal dose, 50 percent   |
| LOEC   | Lowest-Observed-Effective Concentration                                       |
| MARPOL | International Convention for the Prevention of Pollution from Ships           |
| MSHA   | Mine Safety and Health Administration (USA)                                   |
| NCRP   | National Council on Radiation Protection & Measurements (USA)                 |
| NDSL   | Non-Domestic Substances List (Canada)   |
| NFPA   | National Fire Protection Association (USA)                                    |
| NIOSH  | National Institute for Occupational Safety and Health (USA)                   |
| NOEC   | No Observed Effect Concentration  |
| N.O.S. | Not Otherwise Specified   |
| NRC    | Nuclear Regulatory Commission (USA)   |
| NTP    | National Toxicology Program (USA)   |
| OSHA   | Occupational Safety and Health Administration (USA)                           |
| PBT    | Persistent Bioaccumulative and Toxic Chemical                                 |
| PEL    | Permissible Exposure Limit  |
| PIH    | Poisonous by Inhalation Hazard  |
| RCRA   | Resource Conservation and Recovery Act (USA)                                  |
| RCT    | Radiation Control Technician  |
| REACH  | Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe) |
| RID    | Regulations Concerning the International Transport of Dangerous Goods by Rail |
| RTECS  | Registry of Toxic Effects of Chemical Substances                              |
| SARA   | Superfund Amendments and Reauthorization Act (USA)                            |
| TDG    | Transportation of Dangerous Goods (Canada)                                    |
| TIH    | Toxic by Inhalation Hazard  |
| TLV    | Threshold Limit Value   |
| TSCA   | Toxic Substances Control Act  |
| TWA    | Time Weighted Average   |
| UN     | United Nations (Number)   |
| VOC    | Volatile Organic Compound   |
| vPvB   | Very Persistent Very Bioaccumulative Chemical                                 |
| WGK    | Wassergefährdungsklassen (Germany: Water Hazard Classes)                      |
| WHMIS  | Workplace Hazardous Materials Information System                              |

\*One or more of the above-listed items may not appear in this document.

#### **General Disclaimer**

For terms and conditions, including limitation of liability, please refer to the purchase agreement in effect between ISOFLEX USA (or any of its affiliates and subsidiaries) and the purchaser.

#### **DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES**

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. ISOFLEX shall not be held liable for any damage resulting from handling or from contact with the above product.