

## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

### Product Identifier:

**Identification as on the label/Trade name:** Gallium, Enriched Gallium

**Molecular weight:** 69.72

**Chemical formula:** Ga

**Synonyms:** None.

### Details of the supplier of the Safety Data Sheet:

Neonest AB

Storgatan 70C, Solna

SE-17152

Sweden

### Contact details:

+46-76-219-9731

### 24-hour Emergency Contact:

Swedish Poisons Centre

Phone: 112 - Ask for Poisons Information, 112 – begär Giftinformation.

### Other International Contacts:

CHEMTREC 24-hour: +1-703-741-5500 (US + Worldwide)

NHS: 111 (UK)

Charite: +49 30 450 531 000 (Netherlands)

INTCF: +34 917689800 (Spain)

CapTv: +33 1 40 05 48 48 (France)

## Section 2: Hazards Identification

### Classification of the substances or mixture:

**The mixture is classified according to:** Regulation EC 1272/2008 [EU-GHS/CLP]

### **Hazard classes/Hazard categories:**

Metal Corrosive (Category 1)

### **Hazard statement:**

H290

### Label elements:

#### **Hazard pictograms:**



**Signal Words:** Danger.

**Hazard Statements:**

H290 May be corrosive to metals.

**Precautionary Statements:**

P234 Keep only in original packaging.

P390 Absorb spillage to prevent material damage.

P406 Store in a corrosion resistant container with a resistant inner liner.

**Other hazards:** None known.

### Section 3: Composition/Information on Ingredients

**Substance/Mixture:** Substance.

**Ingredients:**

Substance name (IUPAC/EC)	CAS-No.	Molecular weight	Concentration % by weight	Classification EC1272/2008	
	EC-No.				
Gallium	7440-55-3	69.72	>99%	Met. Corr. 1	H290
	231-163-8				

For explanation of abbreviations see Section 16.

### Section 4: First-Aid Measures

**Description of first aid measures:**

**In case of inhalation:** If inhaled, remove to fresh air. If patient is not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.

**In case of skin contact:** If on skin, rinse well with running water for a minimum of 15 minutes. Seek immediate medical attention if any adverse effects occur.

**In case of eye contact:** Flush eyes thoroughly with water for 15 minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing. In case of discomfort seek medical attention.

**In case of ingestion:** 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 attention.

**Most important symptoms and effects, both acute and delayed:**

**Inhalation:** Causes respiratory tract irritation. May be harmful if inhaled.

**Eyes:** Causes eye irritation.

**Skin contact:** Causes skin irritation. May be harmful if absorbed through the skin. May cause contact dermatitis.

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhoea. May be harmful if swallowed.

**Indication of any immediate medical attention and special treatment needed:** Treat symptomatically. Show this safety data sheet to a physician or emergency room.

### Section 5: Fire-Fighting Measures

**Extinguisher media:**

**Suitable extinguisher media:** Do NOT use water, CO<sub>2</sub> or halogenated extinguishers. Use dry chemical extinguishing agents, dry sand or dry ground dolomite.

**Unsuitable extinguishing media:** Water jet.

**Special hazards arising from the mixture:** Gallium oxides.

**Advice for fire-fighters:** Wear self-contained breathing apparatus and protective clothing for firefighting.

**Further information:** Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures:

**Personal precautions:** Use proper personal protective equipment as indicated in Section 8. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions:** Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

### Methods for containment and cleaning up:

**Methods for cleaning up:** 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 clean-up. Protect metal construction, as gallium will dissolve the metal/is corrosive to most metals.

### Reference to other sections:

Treat recovered material as described in the section "Disposal considerations".

## Section 7: Handling and Storage

### Precautions for safe handling:

**Advice on safe handling:** 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.

**Hygiene measures:** Do not eat, drink or smoke when using this product.

### Conditions for safe storage, including incompatibilities:

**Requirements for storage areas and containers:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

## Section 8: Exposure Controls/Personal Protection

### Control parameters:

**Occupational exposure limits:** Contains no substances with occupational exposure limits.

### Exposure controls:

**Appropriate engineering controls:** Safety shower and eye bath. Only use in a chemical fume hood.

### Individual protection measures, such as personal protective equipment:

**Eye/face protection:** Use safety glasses. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

**Hand protection:** Use chemical resistant gloves. Examples of preferred glove barrier materials include: Butyl rubber, Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, polyvinyl alcohol, Polyvinyl chloride.

**Body protection:** Wear protective clothing as appropriate.

**Respiratory protection:** 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.

## Section 9: Physical and Chemical Properties

### Information on basic physical and chemical properties

**Appearance (form):** Solid.

**Colour:** Grey.

**Odour:** No data available.

**Odour threshold:** No data available.

**Molecular Weight:** 69.72

**pH (concentration):** No data available.

**Melting point/range (°C):** 29 °C

**Boiling point/range (°C):** 2400 °C

**Freezing point (°C):** No data available.

**Flash point (°C):** No data available.

**Evaporation rate:** No data available.

**Flammability (solid, gas):** No data available.

**Ignition temperature (°C):** No data available.

**Upper/lower flammability/explosive limits:** No data available.

**Vapour pressure (20 °C):** 1mm Hg @ 1350 °C

**Vapour density:** No data available.

**Relative density (25 °C):** 5.9

**Water solubility (g/L) at 20 °C:** Insoluble.

**n-Octanol/Water partition coefficient:** No data available.

**Auto-ignition temperature:** No data available.

**Decomposition temperature:** No data available.

**Viscosity, dynamic (mPa s):** No data available.

**Explosive properties:** The substance or mixture is not classified as explosive.

**Oxidising properties:** The substance or mixture is not classified as oxidizing.

## Section 10: Stability and Reactivity

**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Gallium is stable in dry air. It tarnishes in moist air or oxygen.

**Possibility of hazardous reactions:** No dangerous reaction known under conditions of normal use.

**Conditions to avoid:** Dust generation, moisture, exposure to air, metals, exposure to moist air or water.

**Incompatible materials:** Hydrogen peroxides, hydrochloric acid, halogens, phosphorus, sulphur, alkalis, oxygen, metals, oxidizing agents.

**Hazardous decomposition products:** Irritating and toxic fumes and gases.

## Section 11: Toxicological Information

### Information on toxicological effects:

Not classified based on available information.

### Classification according to GHS (1272/2008/EG, CLP)

#### **Skin corrosion/irritation:**

Not classified based on available information.

#### **Serious eye damage/eye irritation:**

Not classified based on available information.

#### **Respiratory or skin sensitisation:**

Not classified based on available information.

#### **Germ cell mutagenicity:**

Not classified based on available information.

#### **Carcinogenicity:**

Not classified based on available information.

#### **Reproductive toxicity:**

Not classified based on available information.

#### **Specific target organ toxicity – single exposure (STOT):**

Not classified based on available information.

#### **Specific target organ toxicity (STOT) – repeated exposure:**

Not classified based on available information.

#### **Aspiration toxicity:**

Not classified based on available information.

## Section 12: Ecological Information

**Toxicity:** No data available.

**Persistence and degradability:** No data available.

**Bioaccumulative potential:** No data available.

**Mobility in soil:** No data available.

**Results of PBT& vPvB assessment:** Not relevant.

**Other adverse effects:** No data available.

## Section 13: Disposal Considerations

**Waste treatment methods:** Dispose of in a manner consistent with local and national 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.

## Section 14: Transport Information

### DOT:

**Proper Shipping Name:** GALLIUM.

**Hazard Class:** 8

**UN Number:** 2803

**Packing Group:** III**Hazard Labels:****IMDG:****Proper Shipping Name:** GALLIUM.**Hazard Class:** 8**UN Number:** 2803**Packing Group:** III**EMS No:** F-A, S-B**Marine Pollutant:** No.**IATA:****Proper Shipping Name:** GALLIUM.**Hazard Class:** 8**UN Number:** 2803**Packing Group:** III**Section 15: Regulatory Information****EU regulations:****Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

**Authorisations:**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

**Restrictions on use:****Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use**

Not regulated.

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work**

Not regulated.

**Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding.**

Not regulated.

**Other EU regulations:****Directive 2012/18/EU on major accident hazards involving dangerous substances**

Not listed.

**Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.**

Always applicable.

**Directive 94/33/EC on the protection of young people at work**

Not listed.

**Other regulations:** The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

**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**

Hazard Symbols: Xi

Risk Phrases: R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases: S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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.

**National regulations:** Follow national regulation for work with chemical agents.

**Chemical safety assessment:** No Chemical Safety Assessment has been carried out.

**Section 16: Other Information****List of abbreviations:**

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)  
EPCRA Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986  
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  
LDLO Lethal Dose Low  
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  
TPQ Threshold Planning Quantity  
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

**References:**

Not available.

**Full text of any H-statements not written out in full under Sections 2 to 15:**

H290 May be corrosive to metals.

**Revision information:**

None.

**Training information:**

Follow training instructions when handling this material.

**Further Information:**

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.