

1. Identification

Product Name

Galinstan

Synonyms

Alloy of gallium, indium and **stannum** (Latin for "tin")

Recommended Use

Laboratory chemicals.

Details of the supplier of the safety data sheet

Company : Rotometals, Inc.
965 Estabrook St
San Leandro CA 94577
USA

Telephone : +1 800-779-1102

Fax : +1 888-779-1102

Emergency Phone # : +1-800-779-1102

2. Hazard(s) identification

Classification

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

Acute oral toxicity	Category 4
Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2

Label Elements

Signal Word

Warning

Hazard Statements

Harmful if swallowed
Causes skin irritation
Causes serious eye irritation



Precautionary Statements

<i>General:</i>	General instructions are not necessary.
<i>Inhalation:</i>	Inhalation does not pose any risk.
<i>If the product has come into contact with the skin:</i>	Wash affected area with water and soap.
<i>If the product has come into contact with the eyes:</i>	Rinse the eyes with lukewarm water, with eyelid opened.
<i>If the product is ingested:</i>	Keep cool. Consult a physician and make this Safety Data Sheet available.
<i>Instruction for the physician:</i>	Specific measures to be taken are not known or documented. Carry out a symptomatic therapy.

3. Composition / information on ingredients

Component	CAS-No	Weight %
Gallium	7440-55-3	68.5
Indium	7440-74-6	21.5
Tin	7440-31-5	10

4. First-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Obtain medical attention.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Most important symptoms/effects	No information available.
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	No information available
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

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

Hazardous Combustion Products

Highly toxic fumes Sulfur oxides

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

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. Handling and storage

Handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Gallium	N/A	N/A	N/A
Indium	N/A	N/A	N/A
Tin	N/A	N/A	N/A

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

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

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid Metal
Appearance	Silvery Grey
Odor	Odorless
Odor Threshold	No information available
pH	N/A
Melting Point/Range	-19 °C
Boiling Point/Range	1300°C
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	10–8 Torr (at 500 C)
Vapor Density	No information available
Relative Density	6.44 g/cm ³ (at 20 C)[2]

Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Molecular Formula	Cu O4 S
Molecular Weight	159.6

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions. Hygroscopic.
Conditions to Avoid	Avoid dust formation. Incompatible products. Excess heat. Exposure to moisture.
Incompatible Materials	Strong bases, Metals, Alkali metals, Powdered metals
Hazardous Decomposition Products	Highly toxic fumes, Sulfur oxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Gallium	N/A	N/A	N/A
Indium	N/A	N/A	N/A
Tin	N/A	N/A	N/A

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 and skin

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
Gallium	7440-55-3	Not listed	Not listed	Not listed	Not listed	Not listed
Indium	7440-74-6	Not listed	Not listed	Not listed	Not listed	Not listed
Tin	7440-31-5	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.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
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Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods 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

DOT UN-

No UN3288
Proper Shipping Name TOXIC SOLID, INORGANIC, N.O.S.
Proper technical name (CUPRIC SULFATE)
Hazard Class 6.1
Packing Group III

TDG UN-

No UN3288
Proper Shipping Name TOXIC SOLID, INORGANIC, N.O.S.
Hazard Class 6.1
Packing Group III

IATA

UN-No UN3288
Proper Shipping Name TOXIC SOLID, INORGANIC, N.O.S.
Hazard Class 6.1
Packing Group III

IMDG/IMO UN-

No UN3288
Proper Shipping Name TOXIC SOLID, INORGANIC, N.O.S.
Hazard Class 6.1
Packing Group III

15. Regulatory information

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Gallium	7440-55-3	68.5	N/A
Indium	7440-74-6	21.5	N/A
Tin	7440-31-5	10	N/A

SARA 311/312 Hazardous Categorization

Acute Health Hazard Yes
Chronic Health Hazard No

— **Fire Hazard**

No

Sudden Release of Pressure Hazard

No

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N DOT Severe
Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade

No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class D1B Toxic materials D2B Toxic materials



16. Other information

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Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.