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Material Safety Data Sheet

Galinstan MSDS

Section 1 - Chemical Product and Company Identification

Identification of the substance or preparation: Galinstan, GaInSn alloy

REACH registration no.: tin 05-2114306920-58-0000, indium 05-2114306912-55-0000, gallium 05-2114306905-50-0000

Use of the substance / preparation: as thermometer filling, Hg substitute, lubricant, reflection agent, electroconductive medium

Data No.: MSDS-GaInSn-160124

Contact Information:

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Section 2 - Composition, Information on Ingredients

Chemical characteristics: preparation made of gallium, indium and tin

Name of substance: gallium

EC no.: CAS no.: 7440-55-3 EINECS no.: 231-163-8

Name of substance: indium

EC no.: CAS no.: 7440-74-6 REACH EINECS no.: 231-180

Name of substance: tin

EC no.: CAS no.: 7440-31-5 REACH EINECS no.: 231-141-8

Section 3 - Hazards Identification

Hazard information: n/a

Additional hazard information for humans and environment: If the normal rules of industrial hygiene are observed, no significant risk is posed by handling this product. The product does not contain any fire or explosion risk.

Section 4 - First Aid Measures

General information: No general information is necessary.

Inhalation: No exposure by inhalation possible.

Skin contact: Wash off with soap and water.

Eye contact: Rinse with lukewarm water with the edge of the eyelid open; consult an ophthalmologist, if necessary.
Ingestion: Keep calm, go to doctor and present this data sheet.
Information for the doctor: We are not aware of any special treatment required. Treat the symptoms.

Section 5 - Fire Fighting Measures

Suitable extinguishing media: The product is not flammable.
Unsuitable extinguishing media: Spray is not suitable for the overheated substance.
Special risks posed by the substance or the preparation itself, its combustion products or gases emitted: If gases/oxides form, use protective equipment/breathing apparatus.
Special protective equipment when fighting fires: Wear breathing apparatus that does not depend on ambient air supply.
Additional information: None

Section 6 - Accidental Release Measures

Personal precautions: Beware of possible risk of slipping caused by product leaking or spilling.
Environmental precautions: Do not allow the material to get into wastewater. Does not pose a threat to water supplies (self-assessment).
Methods for cleaning up: Suck up (gun) or sweep up large amounts and feed them into plastic containers (not aluminium receptacles) for recycling. Remove product remains using a soapy solution. Prevent dust formation.

Section 7 - Handling and Storage

Safe handling: Avoid spillage. Prevent any unnecessary contact with other chemicals. Handling unpacked Galinstan may alter its quality and degree of purity. Geratherm accepts no liability for changes or product quality resulting from processing the substance.
Information on fire and explosion protection: No special measures required.
Storage information: Do not store with oxidising or acidic substances.

Section 8 - Exposure Controls, Personal Protection

Limits for exposure at workplace and/or biological thresholds
Workplace limits in Germany: Ingredients with workplace-specific limits to be controlled: not applicable
Personal protection
Respiratory protection: P3 respiratory protection in an emergency producing oxide fumes.
Hand protection: In case of repeated and continuous contact with skin, wear gloves of nitrile rubber. Use lipid-balancing cream, if required.
Eye protection: Wear safety goggles in case of possible eye contact through splashing.
Body protection: Wear suitable work clothing in case of splashing risk or other possible body contact
Information for work hygiene: Wash hands after work and before breaks. Industrial hygiene

Section 9 - Physical and Chemical Properties

Aggregate state: liquid
Colour: silver
Odour: odourless
Risk of explosion: none
Lower explosion limit:
Upper explosion limit:
Vapour pressure: < 10(-8) torr
Density: 6.44 g/cc.
Discharge time: not applicable
Water solubility: insoluble
pH: n/a
Boiling point/range: > 1300 °C
Flash point: n/a
Ignition temperature: n/a

Section 10 - Stability and Reactivity

Conditions to avoid: Exothermic with aluminium and when water is added subsequently!
Materials to avoid: Halogens, hydrogen peroxide/hydrogen chloride, chlorine, bromine, aluminium. Dangerous reactions with strong acids or oxidation agents
Hazardous decomposition products: None if substance is used properly.
Other information: The product amalgamates with metals on the surface like copper, tin, lead, zinc, gold and silver jewellery, particularly also with light metals on the surface, especially if these are free of oxides. If necessary, the product has to be tested for reactions to materials and chemical substances for a specific application.

Section 11 - Toxicological Information

Toxicological tests
Experience from practice – effects on people No adverse effects if used properly and if general work hygiene is observed.
Information on ingredients: Estimation based on the raw materials: Due to the available data on the toxicity of the individual components and the intended use according to our experience and the information available the product does not pose any threat to human health.

Section 12 - Ecological Information

Ecotoxicity: We do not have any quantitative information on the ecological effects of the product.

Section 13 - Disposal Considerations

Recommendation: Intended use or recycling are to be given preference to disposal. Disposal according to the applicable local legislation on waste disposal (authorities obligation to give information)

Section 14 - Transport Information

Overland transport (ADR/RID/GGVSE):

Class: 8
Hazard label: 8 **UN no.:** UN 2803 **Packaging group:** III
Sea transport (IMDG code/GGVSee):
Class: 8 UN no.: 2803 **Packaging group:** III
Marine Pollutant: no marine pollutant
Air transport (ICAO-IATA/DGR):
Class: 8 **UN no.:** 2803 **Packaging group:** III
UN "Model Regulation": UN 2803; GALLIUM; 8; III
Other information: The transport rules are quoted here according to international regulations and in the form that they are used in Germany. Possible discrepancies in other countries have not been considered.

Section 15 - Regulatory Information

Material safety assessment: The normal precautions for dealing with chemicals should be observed.
Labelling according to EC Directive 67/548/EEC or Directive 1999/45/EC:
The alloy is not a hazardous working material in the meaning of this Directive.
National regulations
Water hazard class
Class: not dangerous for water (self-assessment)

Section 16 - Additional Information

References: based on the present state of our knowledge and is to describe the product with reference to the safety measures that must be taken
Other Special Considerations: Not available.
Created: 10/10/2011
Last Updated: 24/05/2016

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