

Safety Data Sheet per OSHA HazCom 2012

1 Identification Product identifier Product name: Gallium(II) chloride, ultra dry Stock number: 35696 **CAS Number:** 24597-12-4 EC number: 246-338-4 Relevant identified uses of the substance or mixture and uses advised against. Identified use: SU24 Scientific research and development Details of the supplier of the safety data sheet Manufacturer/Supplier: Alfa Aesar Thermo Fisher Scientific Chemicals, Inc. Inerrito Fisher Scheman C. 30 Bond Street Ward Hill, MA 01835-8099 Tel: 800-343-0660 Fax: 800-322-4757 Email: tech @alfa.com www.alfa.com Information Department: Health, Safety and Environmental Department Emergency telephone number: During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789. 2 Hazard(s) identification Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS) EZ GHS05 Corrosion Skin Corr. 1B H314 Causes severe skin burns and eye damage. Eye Dam. 1 H318 Causes serious eye damage. Hazards not otherwise classified No information known. Label elements GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms E.F. GHS05 Signal word Danger Hazard statements H314 Causes severe skin burns and eye damage. Precautionary statements P260 Do not b Precautionary statements P260 Do not breathe dust/fume/gas/mist/vapours/spray. P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P405 Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. WHMIS classification D2B - Toxic material causing other toxic effects E - Corrosive material of the Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System) 3 Health (acute effects) = 30 Flammability = 0 Physical Hazard = 1 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. 3 Composition/information on ingredients Chemical characterization: Substances CAS# Description: 24597-12-4 Gallium(II) chloride Identification number(s): EC number: 246-338-4 4 First-aid measures Description of first aid measures General information Immediately remove any clothing soiled by the product. After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice. After skin contact Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice. (Contd. on page 2) Product name: Gallium(II) chloride, ultra dry

(Contd. of page 1) After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing Seek medical treatment. Information for doctor Most important symptoms and effects, both acute and delayed Causes severe skin burns. Causes serious eye damage. Indication of any immediate medical attention and special treatment needed No further relevant information available. 5 Fire-fighting measures Extinguishing media Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire. For safety reasons unsuitable extinguishing agents Water Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Hydrogen chloride (HCI) Metal oxide fume Advice for firefighters **Protective equipment:** Wear self-contained respirator. Wear fully protective impervious suit. 6 Accidental release measures Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away Ensure adequate ventilation Environmental precautions: Do not allow product to reach sewage system or any water course. Methods and material for containment and cleaning up: Use neutralizing agent. Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation **Prevention of secondary hazards:** No special measures required. **Reference to other sections** See Section 7 for information on safe handling See Section 8 for information on sale nanaling See Section 8 for information on personal protection equipment. See Section 13 for disposal information. 7 Handling and storage Handling Precautions for safe handling Handle under dry protective gas. Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: The product is not flammable Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from air. Store away from water/moisture. Store away from strong bases. Store away from oxidizing agents. Further information about storage conditions: Store under dry inert gas. This product is moisture sensitive. This product is air sensitive. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Protect from humidity and water. Specific end use(s) No further relevant information available. 8 Exposure controls/personal protection Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Control parameters Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. Additional information: No data Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves The selection of suitable gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Penetration time of glove material (in minutes) Not determined Eye protection: Tightly sealed goggles Full face protection

Body protection: Protective work clothing.

Product name: Gallium(II) chloride, ultra dry

(Contd. of page 2)

9 Physical and chamical properties Information on basic physical and chamical properties Construction Provide Construction Color: White Provide Construction Other intersholt: Not applicable Sublimities on intersholt: Not determined Methy applicable Not determined Department Not determined Department Not determined Depart Not determined Provent Not determined Depart<		(Conta. of page 2,	
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vPvB: Not applicable. Other adverse effects No further relevant information available.	Toxicity Aquatic toxicity: No further relevant inf Persistence and degradability No furth Bioaccumulative potential No further r Mobility in soil No further relevant infor Additional ecological information: General notes: Do not allow undiluted product or large of Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable.	her relevant information available. elevant information available. mation available. quantities to reach ground water, water course or sewage system. t	

13 Disposal considerations

Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.

(Contd. on page 4) USA

roduct name: Gallium(II) chloride, ultra dry	Reviewed on 12/19/2013
Uncleaned packagings:	(Contd. of page 3)
Recommendation: Disposal must be made according to official regulation	ns.
14 Transport information UN-Number	
DOT, IMDG, IATA	UN3260
UN proper shipping name DOT	Corrosive solid, acidic, inorganic, n.o.s. (Gallium(II) chloride)
IMDG, IATA	Corrosive solid, acidic, inorganic, n.o.s. (Gallium(II) chloride) CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Gallium(II) chloride)
Transport hazard class(es) DOT	
	9 Corrective substances
Class Label	8 Corrosive substances.
Class Label	8 (C2) Corrosive substances 8
IMDG, IATA	
(E)	
Class	8 Corrosive substances.
Label	8 Corrosive substances. 8
Packing group DOT, IMDG, IATA	11
Environmental hazards:	Not applicable.
Special precautions for user EMS Number:	Warning: Corrosive substances F-A,S-B
Segregation groups	Acids
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Transport/Additional information:	C Code Not applicable.
DOT	
Marine Pollutant (DOT): UN "Model Regulation":	No UN3260, Corrosive solid, acidic, inorganic, n.o.s. (Gallium(II) chloride), 8, II
Safety, health and environmental regulations/legislation specific for GHS label elements The product is classified and labeled in accordance Hazard pictograms GHS05 Signal word Danger Hazard statements H314 Causes severe skin burns and eye damage. Precautionary statements	
P405 Store locked up. P501 Dispose of contents/container in accordance with loca National regulations	inutes. Remove contact lenses, if present and easy to do. Continue rinsing. ing. I/regional/national/international regulations. ction Agency Toxic Substances Control Act Chemical substance Inventory. Substances List (NDSL).
California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is not listed. Prop 65 - Developmental toxicity Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Information about limitation of use: For use only by technically qualifie Other regulations. limitations and prohibitive regulations	d individuals. egulations (EC) No. 1907/2006. Substance is not listed. I of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the
16 Other information Employers should use this information only as a supplement to other infor information to ensure proper use and protect the health and safety of emp conformance with this Material Safety Data Sheet, or in combination with Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/24/2015 / - Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Ag IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transport Association	

Product name: Gallium(II) chloride, ultra dry

EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) LC50: Lethal concentration, 50 percent DD50: Lethal concentration, 50 percent UD50: Lethal dose, 50 percent ACGH: American Conterence of Governmental Industrial Hygienists (USA) OSHA: Occupational Safety and Health Administration (USA) NTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)

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USA