



MATERIAL SAFETY DATA SHEET

Gallium Trichloride

CAS#: 13450-90-3

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Gallium Trichloride
General Use: Used in the production of Trimethyl-gallium; used as an electrolytic depolarizer
Product Description: Colorless to white deliquescent crystal

MANUFACTURER:

Gallium Compounds, LLC
P. O. Box 67
3225 S. 625 Rd
Quapaw, OK 74363

EMERGENCY TELEPHONE NUMBERS:

Gallium Compounds (01) 918/673-2511 (USA) 8 am-4:30 pm CST M-F
INFOTRAC 800/535-5053 24 hours everyday

2. COMPOSITION / INFORMATION ON INGREDIENTS

	<u>wt. %</u>	<u>CAS Registry #</u>
Gallium Trichloride	100	13450-90-3

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

EXPOSURE LIMITS 8 hrs. TWA (ppm)

	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
None listed	N/A	N/A

OSHA REGULATORY STATUS:

While this material is not classified as hazardous under OSHA regulations, this MSDS contains valuable information critical to the safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of this product.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

DANGER! CORROSIVE! Gallium Trichloride causes burns, and is harmful by inhalation, by contact with skin and if swallowed. Gallium Trichloride reacts violently with water. Immediately remove all contaminated clothing. Always wear suitable protective clothing, gloves and eye and face protection. Heating or burning of Gallium Trichloride may result in the evolution of toxic and/or corrosive fumes.

POTENTIAL HEALTH EFFECTS:

INHALATION:

Irritant, corrosive to mucous membranes.

EYE CONTACT:

Strong corrosive effect; irritating.

SKIN CONTACT:

Strong corrosive effect; irritating.

INGESTION:

Swallowing may lead to a strong corrosive effect on the mouth and throat and to the danger of perforation of esophagus and stomach.

CHRONIC:

Gallium and Gallium compounds may cause metallic taste, dermatitis and depression of the bone marrow function. Large doses may cause hemorrhagic nephritis.

POTENTIAL ENVIRONMENTAL EFFECTS:

Unknown at this time. Do not allow Gallium Trichloride to be released to the environment without proper governmental permits.

4. FIRST AID MEASURES

Do not use mouth-to-mouth method of artificial respiration if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

INHALATION:

Remove exposed person to fresh air and support breathing as needed. Keep patient warm. Seek immediate medical attention.

EYE CONTACT:

Do not allow victim to rub or keep eyes tightly shut. Gently lift eyelids and flush immediately and continuously with flooding amounts of water for at least 15 minutes. Consult a physician or ophthalmologist if pain and/or irritation develop.

SKIN CONTACT:

Quickly remove contaminated clothing. Rinse with flooding amounts of water for at least 15 minutes. Wash exposed area with soap and water. For reddened or blistered skin, consult a physician.

INGESTION:

Never give anything by mouth to an unconscious or convulsing person. Do not induce vomiting. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

Flashpoint and Method: No data

Flammable Limits: No data

Autoignition Temperature: No data

HAZARDOUS COMBUSTION PRODUCTS:

Hydrogen Chloride (HCl)

FIRE FIGHTING INSTRUCTIONS

Do not allow water to contact product. Do not release runoff from fire control methods to sewers or waterways.

FIRE FIGHTING EQUIPMENT:

Use extinguishing agents suitable for surrounding fire. Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode. Structural firefighter's protective clothing is ineffective for fires involving hydrochloric acid.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL:

Notify safety personnel, evacuate, isolate and ventilate area, and deny entry. Keep unprotected personnel upwind. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not get water inside containers. Prevent entry into waterways, sewers, basements or confined areas. Neutralize spills with crushed limestone, soda ash, lime or sodium bicarbonate. After neutralizing, take up small spills with earth, sand, vermiculite or other absorbent, noncombustible material and place in suitable containers for disposal; contain large spills and reclaim (if possible) or await disposal. Follow applicable OSHA regulations (29 CFR 1910.120)

WATER SPILL:

Contain spill with dike if possible. Consult federal, state or local authorities for approved procedures.

7. HANDLING AND STORAGE

HANDLING:

Avoid fume inhalation, and skin and eye contact. Use only with ventilation sufficient to reduce airborne concentrations to non-hazardous levels (see Sec. 2). Wear appropriate personal protective equipment (see Sec. 8). Keep away from heat and ignition sources. Prevent physical damage to containers. Store only in containers in which product was received. Keep container tightly sealed in cool, dry conditions. Handle under protective gas to reduce risk of water contamination due to humidity. Protect from humidity and water. Use appropriate measures to minimize spillage during loading and unloading operations.

STORAGE TEMPERATURE:

Store in a cool, dry, well-ventilated area away from water/ moisture.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Enclose operations and provide ventilation and local exhaust at points of emission to maintain levels of airborne contaminants below exposure limits (Sec. 2). Handle under protective gas to reduce risk of water contamination due to humidity.

PERSONAL PROTECTION:

RESPIRATOR:

Wear a NIOSH/ MSHA approved respirator following manufacturer's recommendations where airborne contaminants may occur.

PROTECTIVE CLOTHING:

Wear impervious, chemically protective neoprene or rubber gloves, aprons, gauntlets and body-covering clothing to prevent skin contact. Quickly remove contaminated clothing and personal protective apparel. Wear protective eyeglasses, per OSHA eye- and face-protection regulations (29 CFR 1910.133).

OTHER:

Make emergency eyewash stations, safety-quick-drench showers and washing facilities available in work area. Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean all personal protective equipment. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet or applying cosmetics.

9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Pressure:	No data
Specific Gravity (H ₂ O=1):	2.47 (at 25 C°)
Solubility in Water:	Reacts violently
pH:	N/A
Boiling Point:	201.3 C° (1atm)
Viscosity:	N/A
Vapor Density (Air=1):	No data
Evaporation Rate (n-Butyl Acetate=1)	No data
Freezing Point:	77.9 C°
Odor:	Acidic
Appearance:	Colorless to white deliquescent crystal
Physical State:	Solid
Flash Point:	No data

10. STABILITY AND REACTIVITY

GENERAL:

Gallium Trichloride is stable at room temperature in closed containers under normal storage and handling conditions.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Water / moisture / humidity.

HAZARDOUS DECOMPOSITION:

Decomposition will not occur if used and stored according to specifications. Thermal decomposition or reaction with water or moisture will result in hydrogen chloride (HCl).

11. TOXICOLOGICAL INFORMATION

EYE: No data
SKIN: No data
INGESTION: No data
INHALATION:
Acute inhalation LC_{Lo} (rat): 316 mg/m³/3hr
SUBCHRONIC: No data.
CHRONIC/CARCINOGENICITY:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
TERATOLOGY: No data.
REPRODUCTION: No data.
MUTAGENICITY: No data.

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information;

No data. Do not allow product to be released to the environment without proper governmental permits.

Environmental Fate: No data

13. DISPOSAL CONSIDERATIONS

Using appropriate protective equipment, collect the material in the original container. Return to supplier or dispose of in accordance with all current local, state and federal regulations. Dispose of empty containers in accordance with all current local, state and federal regulations. The materials resulting from clean-up operations may be hazardous wastes and therefore subject to specific regulations. Ensure packaging, storage, transport and disposal of all clean-up materials and any contaminated equipment are in compliance with government requirements and ensure conformity to local disposal regulations.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Proper Shipping Name: Corrosive solid, acidic, inorganic, n.o.s.
Gallium (III) Chloride

Hazard Class: 8
Identification Number: UN3260
Packing Group: II

MARITIME TRANSPORT IMDG:

IMDG Class: 8
UN Number: UN3260
Packaging Group: II

Proper Shipping Name: Corrosive solid, acidic, inorganic, n.o.s.
Gallium (III) Chloride

AIR TRANSPORT ICAO-TI AND IATA-DGR:

ICAO/IATA Class: 8
UN/ID Number: UN3260
Packaging Group: II
Proper Shipping Name: Corrosive solid, acidic, inorganic, n.o.s.
Gallium (III) Chloride

15. REGULATORY INFORMATION

RCRA Hazardous Waste (40 CFR 261.33):

Not listed

TSCA (Toxic Substance Control Act):

The CAS Number of Gallium Trichloride is listed on the TSCA Inventory.

CERCLA (Comprehensive Emergency Response, Compensation, and Liability Act):

Toxicity value used for listing under Section 302: LCLo, inhalation (rat): 0.191 mg/L

TPQ: 10,000 (pounds)

RQ: 1 (pounds)

SARA TITLE III (Superfund Amendments and Reauthorization Act):

313 Reportable Ingredients:

Not listed.

16. OTHER INFORMATION

NFPA RATING:

Health - 3, Fire - 0, Reactivity - 1

REVISION SUMMARY: First version

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