



## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 **Product Identifier:** GALLIUM TRICHLORIDE

**SDS Number:** SDS- NP 001

**Revised Date:** 11 NOVEMBER 2019

1.2 **Relevant identified uses of the substance or mixture and uses advised against**

**Product Use:** Industrial Use Only – Gallium (III) Chloride, Gallium Chloride GaCl<sub>3</sub>

1.3 **Details of the supplier of the safety data sheet**

**MANUFACTURER/SUPPLIER/IMPORTER:**

**In America:**

The Indium Corporation of America®  
34 Robinson Rd., Clinton, New York 13323  
Technical & Safety Information: (315) 853-4900  
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**In China:**

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 24, Jikji-daero 436 beon-gil,  
 Heungdeok-gu, Cheongju-si,  
 Chungcheongbuk-do, South Korea 361-290  
 Tel: +82-70-7780-5200

**1.4 Emergency telephone number**

**FOR CHEMICAL EMERGENCY ONLY PHONE \*:**

**CHEMTREC 24 hrs.**

**USA: 1 (800) 424-9300**

**Outside USA: +1 (703) 527-3887**

**\* Used only for spill/leak/fire/exposure/accident**

**In China Emergency: +86 4008417580**

**ALL OTHER INQUIRIES: TOLL FREE: +1-800-448-9240 Indium Corporation**

**SECTION 2. HAZARDS IDENTIFICATION****PRIMARY ROUTES OF ENTRY:**

Eye

Inhalation

Skin

Ingestion

NTP

**Carcinogen listed in**

IARC

OSHA

Not Listed

**2.1 Classification of the substance or mixture**

Classification according to the Regulation (EC) No. 1272/2008

Skin corrosion (Category 1B)

Serious eye damage (Category 1)

**2.2 Labeling elements**

Signal Word: Danger

**Hazard statement(s)**

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

**Precautionary statement(s)**

P233 Keep container tightly closed

P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P362 + P364	Take off contaminated clothing and wash before reuse
P301 + P314	IF SWALLOWED: Get Medical advice/attention if you feel unwell
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P304 + 341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + 351	IF IN EYES: Rinse continuously with water for several minutes (15 mins)
P310	Immediately call a POISON CENTER or doctor/physician

Other hazards: reacts violently with water

### 2.3 OTHER HAZARDS:

#### POTENTIAL HEALTH EFFECTS:

**Eye Contact:** Causes burns. May cause irritation, burns or severe conjunctivitis.

**Ingestion:** May be harmful if swallowed.

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory system.

**Skin Contact:** Causes skin irritation or burns. May be harmful if absorbed through the skin.

Reacts violently with water

**Signs and Symptoms of Exposure:** Cough, Shortness of breath, headache, nausea, vomiting

## SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

### 3.2 Mixture:

Components	CAS Registry #/EINECS#
GALLIUM TRICHLORIDE	13450-90-3/236-610-0

## SECTION 4. FIRST AID MEASURES

### 4.1 Description of first aid measures:

**Eye Contact:** Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.

**Ingestion:** If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give

anything by mouth to an unconscious person. Seek medical attention immediately.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.

**Skin Contact:** Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

**4.2 Most important symptoms and effect, both acute and delayed:**

Skin contact may cause irritation or burns. Eye exposure may cause serious burns.

**4.3 Indication of any immediate medical attention and special treatment needed:**

No specific special treatment information is available on this mixture. Review data provided in this document to understand the hazards when working with the product. No other information is available at this time. Seek medical attention if eye irritation continues after flushing or if burns to eyes. If respiratory discomfort is evident seek immediate medical advice.

## **SECTION 5. FIRE FIGHTING MEASURES**

**5.1 Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Dry chemical, CO<sub>2</sub>, foam media. Water not recommended.

**5.2 Special hazards arising from the substance or mixture:**

May produce toxic oxide fumes if burning.

**5.3 Advice for Firefighters** Fire-fighters must wear approved self-contained breathing apparatus and full protective clothing. Hazardous decomposition products formed under fire conditions – hydrogen chloride gas, gallium oxides

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures:**

**For non-emergency personnel:**

Keep away from the spill. Remove sources of ignition. Keep exhaust ventilation system running. In the event of a fire evacuate area.

**For emergency responders:**

Wear safety glasses, gloves when cleaning up any spill. Other equipment may be necessary based on the immediate area and other chemicals unrelated to the product that may be in use. Adequate ventilation should be available. Keep unnecessary personnel away from area during clean up. If on floor wear foot protection to avoid any direct contamination to shoes and boots. Avoid conditions that create fumes. Use an approved respirator with acid/particulate cartridge. Avoid breathing dust/aerosol.

**6.2 Environmental Precautions:** Material has reclaim value. Recycle/recover/reuse value. If recycling cannot be done then dispose of material following all applicable governmental regulations. Material is corrosive.

**6.3 Methods and material for containment and cleaning up:**

Spill or leak procedures: Scope up and place into pail or drum and tightly cap.

**6.4 Reference to other sections:** See Section 8 for exposure levels.

## SECTION 7. HANDLING AND STORAGE

**7.1 Precautions** Keep containers tightly closed when not in use. Use care to avoid spills. Wear appropriate personal protective equipment (PPE) when working or handling material. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed. Do not eat, drink or smoke when handling this product. Utilize exhaust ventilation during handling of this product. Do not allow product to contact water as the may be a reaction. Avoid formation of dusts and aerosols.

**Conditions for Safe Storage, including any incompatibilities:**

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. Refer to product label and product data sheet for specific storage temperature requirements. Rotate stock to ensure use before expiration date. Air sensitive material. Never allow product to get in contact with water during storage.

**7.2 Specific End Use(s):** Not specified.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters:

		<u>TWA</u>	<u>STEL</u>
	<u>CAS#/EINECS#</u>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
<b>GALLIUM TRICHLORIDE</b>	13450-90-3/236-610-0	N.E.	N.E.

TWA = TIME WEIGHTED AVERAGE

STEL = SHORT TERM EXPOSURE LEVEL

N.E. = Not established

### 8.2 Exposure Controls:

**Engineering Controls:** Local and/or Mechanical exhaust ventilation or point source exhaust is required to control any airborne contaminants and to reduce potential exposures to workers. Avoid inhalation of particulate/dust/spray. Use exhaust when there is any doubt in whether the operator/user is getting any exposure.

**Personal protection:**

**Eyes:** Chemical safety glasses/goggles. Face shield for splash/grinding/spray/dust hazard.

**Respiratory:** An approved air-purifying respirator (half or full face) with an acid/particulate cartridge may be required when concentrations are expected to be elevated.

Keep exposures to as low as possible. Unknown exposure should be measured to determine the proper protection.

**Skin:** Compatible chemical resistant gloves such as nitrile. Avoid direct skin contact.

**Other:** Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas.

**Work/Hygienic Practices:** Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area. Do not wear work clothes into lunchroom areas.

**Signs and Symptoms of Exposure:** Cough, shortness of breath, headache, nausea, vomiting

**Control of environmental exposure:** do not let product enter drains

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties:

<b>Appearance:</b>	White crystals/spheres/beads	<b>Boiling Point/Range:</b>	201C (394F)
<b>Odor:</b>	Slight Odor	<b>Melting Point/Freezing Point:</b>	78C (172F)
<b>Odor Threshold:</b>	Not established	<b>Evaporation Rate:</b>	Not applicable
<b>Specific Gravity:</b>	2.47 @25C	<b>pH:</b>	Corrosive
<b>Vapour Pressure:</b>	0.13 @ 48C	<b>Solubility in Water:</b>	Very soluble
<b>Vapour Density:</b>	(air=1) 1.0-1.8 g/cm3 .	<b>Partition coefficient:</b>	Not established
<b>Relative Density:</b>	Not established	<b>Flammability:</b>	Not applicable
<b>Flash Point:</b>	Not applicable	<b>Method:</b>	Not applicable
<b>Auto-ignition Temperature:</b>	Not applicable	<b>Flammable Limits:</b>	Limits not established
<b>UEL/LEL Limits:</b>	Not applicable	<b>Decomposition Temp:</b>	Not applicable
<b>Viscosity:</b>	Not established	<b>Explosive properties:</b>	Not applicable
<b>Oxidizing Properties:</b>	Not established		FW – 176.08

## SECTION 10. STABILITY AND REACTIVITY

**10.1 Reactivity:** Stable.

**10.2 Chemical Stability:** Stable

**10.3 Possibility of Hazardous Reactions:** Not established

**10.4 Conditions To Avoid:** Do not allow water to enter container because of violent reaction. Exposure to water.

**10.5 Incompatible Materials:** Avoid contact with strong oxidizing agents.

**10.6 Hazardous Decomposition / Combustion:** Harmful toxic oxide fumes may form at elevated temperatures.  
Hydrogen chloride gas/gallium oxides

**Hazardous Polymerization:** Will not occur.

## SECTION 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects:**

<b><u>Acute toxicity:</u></b>	Not established	<b><u>Mutagenicity:</u></b>	Not established
<b><u>Irritation:</u></b>	Not established	<b><u>Toxicity for Reproduction:</u></b>	Not Established
<b><u>Corrosivity:</u></b>	Corrosive	<b><u>Absence of specific data:</u></b>	None available (not tested)
<b><u>Sensitization:</u></b>	Not available		
<b><u>Repeated dose toxicity:</u></b>	Not established		
<b><u>Carcinogenicity:</u></b>	Not established		
<b><u>Likely Routes of Entry:</u></b>	eyes(serious irritation/burns) /skin (burns/rritation)		
<b><u>Interactive effects:</u></b>	None known		

**Symptoms related to the physical, chemical and toxicological characteristics:**

May cause irritation/burns by skin. Causes serious eye irritation/burns.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure:**

LD50 subcutaneous (rat) 306 mg/kg  
Intravenous (rat) 47 mg/kg

**Mixture verses substance information:** None known

**Other Information:**

**Carcinogenicity:** NTP: No (National Toxicity Program)  
**Listing** OSHA: No (US Occupational Safety & Health Administration)  
IARC: No ( U.N. International Agency for Research on Cancer)

RTECS: LW9100000

**SECTION 12. ECOLOGICAL INFORMATION**

- 12.1 **Toxicity:** No information available
- 12.2 **Persistence and degradability:** No information available
- 12.3 **Bioaccumulative potential:** No information available
- 12.4 **Mobility in soil:** No information available
- 12.5 **Results of PBT and vPvB assessments:** No data is available
- 12.6 **Other adverse effects:** No information is available for mixture. Avoid release to environment.

**SECTION 13. DISPOSAL CONSIDERATION****13.1 Waste treatment method:**

Scrap gallium may have reclaim/recycle value. Contact recycler. Otherwise, dispose of in accordance with environmental regulations. Containerize material and classify according to applicable regulations. No pre-treatment on site is recommended. Do not dispose of down any drain or waterway. Utilize the same personal protective equipment as the user when handling for disposal. Do not re-use containers for any other material then what it first contained.

**RoHS 2 (Restriction of Hazardous Substances):** Compliant with RoHS. (2011/65/EU) RoHS 3- no phthalates

**SECTION 14. TRANSPORT INFORMATION**

Transport in accordance with applicable regulations and requirements.

Hazardous.

**14.1 UN number: 3260**

**14.2 UN proper shipping name:** Corrosive Solid, Acidic, Inorganic

**14.3 Transport hazard class(s):** 8

**14.4 Packing group:** II

**14.5 Environmental hazards:** None

**Special precautions for user:** None

**Transport in bulk:** Not applicable

UN3260, Corrosive Solid, Acidic, Inorganic, N.O.S., 8, PG II (gallium trichloride)



IMDG  
Category B storage  
EMS: F-A, S-B

Marine Pollutant: No

**SECTION 15. REGULATORY INFORMATION**

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

The information in this Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated hereunder (29 CFR 1910.1200 ET. SEQ.).

All ingredients are listed on the USEPA TSCA Inventory.

All ingredients are listed on EINECS.

Safety data sheet was developed using EC 1907/2006 amended as of 20 May 2010 EU No 453/2010 and information as stated under regulation EC No 1272/2008 CLP Regulation.

WGK- German water hazard- 1. Not specifically listed.

GHS = Global Harmonized System

CLP= Classification, labeling and packaging

Product does not contain any substances ozone depleting substances and therefore not subject to EC 2037/2000.

USA- California Prop 65- No

**15.2 Chemical safety assessment:** None performed.



**SECTION 16. OTHER INFORMATION**

**NOTE:** The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.

**Revised Date:** 11 NOVEMBER 2019  
**Prepared by:** Nancy Swarts, The Indium Corporation of America, nswarts@indium.com  
**Approved by:** Nancy Swarts, The Indium Corporation of America

Changes provided on this SDS were based on the requirements of EU No. 453/2010 of May 20, 2010 regarding amendments to EC No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

**HMIS Hazard Rating:**

<b>Health:</b>	3
<b>Fire:</b>	0
<b>Reactivity:</b>	2
<b>Special:</b>	W

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