



XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Material Safety Data Sheet  
Copper indium gallium

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1. Product and Company Identification

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Trade Name: Copper indium gallium  
Chemical Formula: Cu-In-Ga  
Recommended Use: Scientific research and development

Manufacturer/Supplier: XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Street: No. 69, Gazelle Valley, High-Tech Zone  
City: XI'AN  
State: Shannxi  
Zip Code: 710077  
Country: China  
Tel #: +86-29-88993870/+86-13519132051

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2. Hazards Identification

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Signal Word: Warning



Hazard Statements: H228: Flammable solid  
H319 Causes serious eye irritation  
H335: May cause respiratory irritation  
H290: May be corrosive to metals

Precautionary Statements: P261 Avoid breathing dust/fume/vapor  
P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P240: Ground/bond container and receiving equipment  
P241: Use explosion-proof electrical/ventilating/lighting/equipment  
P370+P378: In case of fire: Use CO<sub>2</sub>, powder or water spray for extinction  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing  
P405: Store locked up  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations  
P234: Keep only in original container  
P390: Absorb spillage to prevent material damage  
P406: Store in a corrosive resistant container with a resistant inner liner

HMIS Health Ratings (0-4):  
Health: 1                      Powder                      Bulk  
Flammability: 2                      0  
Physical: 1                      0

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### 3. Composition

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Chemical Family:	Alloy
Additional Names:	None
Copper (Cu):	
Percentage:	0-100 wt%
CAS #:	7440-50-8
EC #:	231-159-6
Indium (In):	
Percentage:	0-100 wt%
CAS #:	7440-74-6
EC #:	231-180-0
Gallium (Ga):	
Percentage:	0-100 wt%
CAS #:	7440-55-3
EC #:	231-163-8

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### 4. First Aid Procedures

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General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Seek medical attention
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

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### 5. Firefighting Measures

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Flammability:	Flammable
Extinguishing Media:	Do not use water for metal fires – use CO <sub>2</sub> , sand, extinguishing powder.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

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### 6. Accidental Release Measures

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If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

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### 7. Handling and Storage

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Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

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## 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	0.1 mg/m <sup>3</sup> as In, long-term value
Threshold Limit Value:	0.1 mg/m <sup>3</sup> as In, long-term value
Special Equipment:	None
Respiratory Protection:	Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protective Gloves:	Nitrile rubber, NBR 0.11mm thick.
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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## 9. Physical and Chemical Characteristics

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Color	Silver
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	29.8-1083 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Acids, Halogens, Aluminum/aluminum alloys, Magnesium/magnesium alloys, Oxidizing agents
Incompatible Conditions:	protect against electrostatic charges
Hazardous Decomposition Products:	Metal oxide fume, Indium oxide, Copper oxides

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	>5000 mg/kg for mouse by mouth
Carcinogen:	EPA-D: Not classifiable as to human carcinogenicity: inadequate and animal evidence of carcinogenicity or no data are available

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## 12. Ecological Information

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Aquatic Toxicity: High  
Persistent Bioaccumulation Toxicity: No  
Very Persistent, Very Bioaccumulative: No  
Notes: Toxic for aquatic organism.  
May cause long lasting harmful effect on aquatic life  
Do not allow material to be released to the environment without proper governmental permits.  
Also poisonous for fish and plankton in water bodies  
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.  
Avoid transfer into the environment.

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## 13. Disposal Considerations

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Dispose of in accordance with local, state, national, and international regulations.

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## 14. Transportation Data

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Hazardous: Hazardous as powder only.



Hazard Class: 4.1 Flammable solids, self-reactive substances and solid desensitized explosives.  
Packing Group: III  
UN Number: UN3089  
Proper Shipping Name: Metal powders, flammable, n.o.s. (Copper indium gallium)

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## 15. Regulatory Information

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Sec 302 Extremely Hazardous: No  
Sec 304 Reportable Quantities: N/A  
Sec 313 Toxic Chemicals: Yes

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## 16. Other Information

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This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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