

Material Safety Data Sheet: Gallium (III) Phosphide

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Section 1, Product Identification

Trade Name: Gallium Phosphide
Chemical Nature: III-V Compound

Synonyms: Gallium Monophosphide
Formula: GaP

OSHA PEL: N/A

ACGIH TLV: None Established

EPA EPCRA: *302 TPO: N/A, *304 RQ: N/A

*313 Report: N/A

HMIS Ratings: Health 2 Flammability 0 Reactivity 0

Section 2: Composition/Ingredients

<u>INGREDIENT</u>	<u>CAS#</u>	<u>Percent</u>
gallium phosphide	12063-98-8	100

Section 3: Physical/Chemical Data

Boiling Point: N/E Specific Gravity (H₂O=1):4.1
Vapor Pressure (mm Hg): N/A Vapor Density (Air = 1): N/A
% Volatile by Volume: N/A Evaporation Rate (Butyl Acetate=1): 0
Solubility in Water: Insoluble Melting Point: 1465.0 deg C
Appearance and Odor: pale orange appearance with no odor

Section 4: Fire and Explosion Hazard Data

Flash Point: N/A LEL: N/A UEL: N/A
Flammable Limits: Nonflammable
Extinguishing Media: N/A Use suitable extinguishing media for surrounding materials and type of fire
Special Fire Fighting Procedures: Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.
Unusual Fire and Explosion Hazards: When heated to decomposition, it may emit toxic fumes of POx

Section 5: Reactivity Data

Stability: Stable Conditions to Avoid: N/A
Incompatibility (Conditions to Avoid): None record
Hazardous Polymerization: Will not occur
Conditions to Avoid: Heat, flame and incompatible materials
Hazardous Decomposition Products: P, POx, PH₃

Section 6: Health Hazard Data

Routes of Entry (Under Normal Conditions of Use):

Inhalation – Yes Skin – Yes Ingestion – Yes No Others

Signs and Symptoms of Overexposure:

Inhalation: May cause a red, dry, throat and coughing, sneezing and difficulty breathing
Eye: May cause itching, inflammation, redness and watering of the eyes if coming in contact.
Skin: May cause redness, itching and inflammation
Ingestion: May cause nausea, vomiting, metallic taste, itching, sweating, abdominal pain and diarrhea.
May cause behavioral changes such as sleepiness and loss of appetite.

Health Hazards (Acute and Chronic):

To the best of our knowledge the chemical, physical and toxicological properties of gallium phosphide have not been thoroughly investigated and recorded.

Inhalation: Acute: May cause irritation to the mucus membranes of the respiratory tract.

Chronic: May cause depression of bone marrow.

Ingestion: Acute: May cause irritation to the gastrointestinal tract.

Chronic: No chronic health effects recorded

Skin: Acute: May cause irritation.

Chronic: May cause dermatitis and depression of bone marrow.

Eye: Acute: May cause irritation

Chronic: No chronic health effect recorded.

Target Organs: No target organs recorded

Carcinogenicity: This product does not contain any ingredient designated by IARC, NTP, OSHA as a probable human carcinogen.

NTP – Not Listed

IARC Monograph – No

OSHA Regulated – No

Medical Conditions Generally Aggravated by Exposure: Pre-existing respiratory disorders.

Emergency and First Aid Procedures: Treat symptomatically

Eyes: Flush eyes with lukewarm water for 15 minutes. Seek medical attention.

Skin: Removed contaminated clothing and shoes. Brush material off of skin. Wash affected area with soap and water. Seek medical attention if irritation develops or persists.

Inhalation: Remove victim to fresh air. Keep warm and quiet. Administer oxygen if breathing is difficult. Seek medical attention

Ingestion: Give 1~2 glasses of milk or water and induce vomiting. Seek immediate medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

Section 7: Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled: Wear a self-contained breathing apparatus and full protective clothing. Isolate the area where the spill occurred and insure that proper ventilation is available. Vacuum up spill using a high efficiency unit and place in a container for proper disposal. Take care not to raise dust. Use non-sparking tools.

Waste Disposal Method: In accordance with Local, State and Federal Waste Disposal Regulations.

Section 8: Control Measures

Respiratory Protection (Specify Type): Wear NIOSH-approved dust mist-fume cartridge respirator

Ventilation: Provide adequate ventilation. Local Exhaust: Maintain exposure at low concentrations.

Protective Gloves: Neoprene;

Eye Protection: Safety Glasses

Other Protective Clothing or Equipment: Wear protective clothing to prevent contamination of skin and clothes.

Work/Hygienic Practices: Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not blow dust off clothing or skin with compressed air.