



ELECTRONIC SPACE PRODUCTS INTERNATIONAL

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MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

Trade Name: Gallium Arsenide
Formula: GaAs

Synonym: Gallium Monoarsenide
CAS #: 1303-00-0

II HAZARDOUS INGREDIENTS

<u>Hazardous Components</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Gallium Arsenide	0-100	0.5 (As) mg/m ³	0.01 (As) mg/m ³

III PHYSICAL DATA

Boiling Point:	N/E	Melting Point:	1238 °C
Vapor Density:	N/E	Specific Gravity:	5.31 g/cc
Molecular Weight:	144.64	Solubility in H₂O:	Insoluble
Appearance and Odor:	Dark gray cubic crystals	% Volatiles:	N/E or N/A

IV FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/A **Autoignition Temp:** N/E or N/A
Flammable Limits: Lower: N/E or N/A **Upper:** N/E or N/A

Extinguishing Media: Use dry chemical, CO₂ or graphite. DO NOT USE WATER OR WATER SPRAY.

Fire Fighting Procedures: Wear NIOSH/MSHA approved self-contained breathing apparatus, flame and chemical resistant clothing, hats, boots, and gloves.

Unusual Fire and Explosion Hazards: Can React with Steam, Heat, Acid and Acid Fumes to Evolve Deadly Poisonous Arsine.

V HEALTH HAZARD INFORMATION

Effects of Exposure:

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

Acute arsenic poisoning from ingestion results in marked irritation of the stomach and intestines with nausea, vomiting and diarrhea. In severe cases, the vomitus and stools are bloody and the patient goes into collapse and shock with weak, rapid pulse, cold sweats, coma and death. Chronic arsenic poisoning may cause disturbances of the digestive system such as loss of appetite, cramps, nausea, constipation or diarrhea.

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

Acute Effects: May be irritating to skin, eyes and mucous membranes.

Carcinogenicity: NTP: Yes IARC: Yes ACGIH: Yes OSHA: Yes

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air; give oxygen if breathing is difficult. Seek medical attention.

INGESTION: Give 2 cups of milk or water and induce vomiting. Seek medical attention.

SKIN: Brush off skin, wash area with soap and water. Seek medical attention.

EYES: Immediately flush eyes, including under eyelids with large amounts of water. Call a physician.

VI REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Water/moisture

Incompatibility (Material to Avoid): Steam, heat, acids, acid fumes.

Hazardous Decomposition Products: Highly toxic fumes of arsenic. Contact with acids releases toxic gases.

Hazardous Polymerization: Will not occur

VII SPILL OR LEAK PROCEDURES

Steps to Be Taken in Case Material Is Released or Spilled: Wear full protective equipment, cover spill with dry sand or vermiculite. Mix well and carefully transfer to a container.

Waste Disposal Method: Dispose of in accordance with Local, State and Federal Waste Disposal Regulations.

VIII SPECIAL PROTECTION INFORMATION

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

Ventilation: Handle under dry protective gas. Handle in a controlled environment. Use local exhaust to maintain below TLV level for Arsenic.

Eye Protection: ANSI approved safety goggles, or glasses.

Protective Gloves: Neoprene, Rubber

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

IX SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storage: Handle under dry protective gas. Protect from humidity and water. Store in tightly closed containers in a cool, dry place. Wash hands and face thoroughly after handling and before meals.

Work Practices: Implement engineering and work practice controls to reduce and maintain concentration of exposure. Handle in a controlled, inert atmosphere. Minimize exposure by using local exhaust and an enclosing process if/when possible. Use good housekeeping and sanitation practices. Do not blow dust off clothing or skin with compressed air. Maintain eyewash capable of sustained flushing, safety drench shower and facilities for washing.

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI shall not be held liable for any damage resulting from handling or from contact with the above product.

Issued by: S. Dierks
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