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Material Safety Data Sheet

Identity: Gallium Oxide

Formula: Ga₂O₃

SECTION I - GENERAL INFORMATION

Manufacturer: Advanced Engineering Materials Limited (AEM)

The information below is believed to be accurate and represents the best information available to AEM. However, AEM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 187.44

CAS #	OSHA PEL	ACGIH TLV	%
12024-21-4	N/A	N/A	0.0-100.0%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

Vapor Pressure (vs. air or mmHg): N/A

Melting Point: 1900.00°C

Specific Gravity: (H₂O=1): 6.44gm/cc

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

Slightly soluble in hot acid

Appearance and odor: White crystalline powder and pieces, no odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Non-flammable

Explosive Limits: LEL: N/A

UEL: N/A

Extinguishing Media: Use dry chemical or carbon dioxide

Special Fire Fighting Procedures:

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.



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Unusual Fire and Explosion Hazards:

When heated to decomposition, gallium oxide may emit toxic vapors of gallium

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (instability): None

Incompatibility: Magnesium metal and heat

Hazardous Decomposition or Byproducts: None

Hazardous Polymerization: Will not occur.

Conditions to avoid (hazardous polymerization): None.

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other? No

Signs and Symptoms of Overexposure:

Inhalation: may cause throat dryness and cough.

Ingestion: (gallium compounds) may cause behavioral changes such as sleepiness and loss of appetite may be noted. Other symptoms may include nausea, vomiting, metallic taste in mouth, general itching and sweating.

Skin: may cause irritation, redness.

Eye: may cause redness, watering eyes.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: mild respiratory irritant.

Chronic: no chronic health effects recorded.

Ingestion:

Acute: Low toxicity by ingestion.

Chronic: no chronic health effects recorded.

Skin:

Acute: may cause irritation.

Chronic: no chronic health effect recorded.

Eye:

Acute: may cause irritation.

Chronic: no chronic health effect recorded.



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Target Organs: None

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Conditions Aggravated by Exposure: None recorded

Emergency and First Aid Procedures:

Inhalation: Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

Ingestion: Seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person

Skin: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist

Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste disposal method:

Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Good general ventilation is recommended.

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at



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low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established
