



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.30

Section 1 - Product and Company Information

Product Name Gallium(III) nitrate hydrate, 99.999%
Product Number 229644
Brand Aldrich Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
GALLIUM(III) NITRATE HYDRATE, 99.999%	13494-90-1	No	236-815-5	

Formula Ga(NO₃)₃·xH₂O
Synonyms Gallium nitrate, Gallium trinitrate, Ganite, Nitric acid, gallium(3+) salt, NSC-15200

Section 3 - Hazards Identification

Emergency Overview

Oxidizing, Irritant.
Contact with combustible material may cause fire. Irritating to eyes, respiratory system and skin.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Immediate Treatment - Work Site

In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media

Suitable
Water spray.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Contact with other material may cause fire. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Avoid breathing dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame. Store in a cool dry place.

Special Requirements

Handle under inert gas.

Section 8 - Exposure Controls / PPE

Engineering Controls

Use only in a chemical fume hood. Safety shower and eye bath.

Personal Protective Equipment

Other

Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

General Hygiene Measures

Wash thoroughly after handling. Wash contaminated clothing before reuse.

Section 9 - Physical/Chemical Properties

Molecular Weight: 255.74 AMU

pH N/A
BP/BP Range N/A
MP/MP Range 110 °C
Freezing Point N/A
Vapor Pressure N/A
Vapor Density N/A
Saturated Vapor Conc. N/A

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SG/Density N/A
Bulk Density N/A
Odor Threshold N/A
Volatile% N/A
VOC Content N/A
Water Content N/A
Solvent Content N/A
Evaporation Rate N/A
Viscosity N/A
Partition Coefficient N/A
Decomposition Temp. N/A
Flash Point °F N/A
Flash Point °C N/A

Explosion Limits N/A

Flammability N/A
Autoignition Temp N/A
Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Conditions of Instability

Moisture.

Conditions to Avoid

Moisture.

Materials to Avoid

Strong reducing agents, Strong acids.

Hazardous Decomposition Products

Hazardous Decomposition Products

Nitrogen oxides.

Section 11 - Toxicological Information

Route of Exposure

Inhalation

Material is irritating to mucous membranes and upper respiratory tract.

Multiple Routes

May be harmful by inhalation, ingestion, or skin absorption. Causes eye and skin irritation.

Signs and Symptoms of Exposure

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

RTECS Number: LW9625000

Toxicity Data

Oral - Mouse: 4360 mg/kg (LD50)

Remarks: Peripheral Nerve and Sensation: Flaccid paralysis without anesthesia (usually neuromuscular blockage).

Behavioral: Somnolence (general depressed activity).

Behavioral: Food intake (animal).

Oral - Mouse: 4360 mg/kg (LD50)

Remarks: Peripheral Nerve and Sensation: Flaccid paralysis without anesthesia (usually neuromuscular blockage).

Behavioral: Somnolence (general depressed activity).

Behavioral: Food intake (animal).

Subcutaneous - Mouse: 600 MG/KG (LD50)

Remarks: Peripheral Nerve and Sensation: Flaccid paralysis without anesthesia (usually neuromuscular blockage).

Behavioral: Somnolence (general depressed activity).

Behavioral: Food intake (animal).

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Subcutaneous - Mouse: 600 MG/KG (LD50)

Remarks: Peripheral Nerve and Sensation: Flaccid paralysis without anesthesia (usually neuromuscular blockage).

Behavioral: Somnolence (general depressed activity).

Behavioral: Food intake (animal).

Intravenous - Mouse: 55 MG/KG (LD50)

Remarks: Behavioral: Anorexia (human).

Lungs, Thorax, or Respiration: Acute pulmonary edema.

Gastrointestinal: Hypermotility, diarrhea.

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Remarks: Behavioral: Anorexia (human).

Lungs, Thorax, or Respiration: Acute pulmonary edema.

Gastrointestinal: Hypermotility, diarrhea.

Irritation Data

Skin - Mammal: 500 mg

Remarks: Severe irritation effect

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Remarks: Severe irritation effect

Chronic Exposure - Mutagen

Species	Dose	Cell Type	Mutation test
Mouse	100 UMOL/L	leukocyte	DNA damage
Mouse	100 UMOL/L	leukocyte	DNA damage
Mammal	40 UMOL/L	lymphocyte	DNA damage
Mammal	40 UMOL/L	lymphocyte	DNA damage

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Cautiously make a 5% solution of the material in water or dilute acid. There may be a vigorous, exothermic reaction, and fumes may be generated due to the hydrolysis of the material. Control any reaction by cooling and by the rate of addition of the material.

Gradually add dilute ammonium hydroxide to pH 10. Filter off any precipitate for disposal in a chemical landfill. If no precipitation occurs, gradually adjust the pH from 10 to 6, stopping when precipitation occurs.

Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

IATA

Proper Shipping Name: Nitrates, inorganic, n.o.s.

IATA UN Number: 1477

Hazard Class: 5.1

Packing Group: II

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: O Xi

Indication of Danger

Oxidizing, Irritant.

Risk Statements R: 8 36/37/38

Contact with combustible material may cause fire. Irritating to eyes, respiratory system and skin.

Safety Statements S: 17 26 36/37/39

Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.

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US Classification and Label Text

Indication of Danger

Oxidizing, Irritant

Risk Statements

Contact with combustible material may cause fire, Irritating to eyes, respiratory system and skin.

Safety Statements

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United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: Yes

Section 16 - Other Information

Disclaimer

For R&D use only, Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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