

# LITHIUM NITRATE

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## 1. Product Identification

**Synonyms:** Nitric acid, lithium salt

**CAS No.:** 7790-69-4

**Molecular Weight:** 68.95

**Chemical Formula:**  $\text{LiNO}_3$

**Product Codes:** CHEM-473 and others.

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Nitric Acid, Lithium Salt	7790-69-4	97 - 100%	Yes

## 3. Hazards Identification

### Emergency Overview

**DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. DANGEROUS EXPLOSION RISK WHEN SHOCKED OR HEATED. HARMFUL IF SWALLOWED OR INHALED. AFFECTS CENTRAL NERVOUS SYSTEM, RESPIRATORY SYSTEM, MUSCLES AND KIDNEYS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.**

### SAF-T-DATA<sup>(tm)</sup> Ratings

Health Rating: 2 - Moderate (Life)

Flammability Rating: 0 - None

Reactivity Rating: 3 - Severe (Explosive)

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Yellow (Reactive)

### Potential Health Effects

#### Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Systemic poisoning may occur with symptoms similar to those of ingestion.

#### Ingestion:

Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. In severe cases, lithium can cause apathy, sluggishness, drowsiness, slurred speech, blurred vision, irregular eye movements, weakness, incoordination, lethargy, heart effects, brain effects, ringing in the ears, tremors and muscle twitching, central nervous system damage, kidney

effects, thyroid changes, coma, pulmonary edema, and renal failure.

**Skin Contact:**

Causes irritation to skin. Symptoms include redness, itching, and pain.

**Eye Contact:**

Causes irritation, redness, and pain.

**Chronic Exposure:**

Chronic exposure may cause symptoms paralleling ingestion.

**Aggravation of Pre-existing Conditions:**

No information found.

## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## 5. Fire Fighting Measures

**Fire:**

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

**Explosion:**

Contact with oxidizable substances may cause extremely violent combustion. Strong oxidants may explode when shocked, or if exposed to heat, flame, or friction. Also may act as initiation source for dust or vapor explosions. Sensitive to mechanical impact.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

## 6. Accidental Release Measures

Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage and moisture. Isolate from any source of heat or ignition. Avoid storage on wood floors. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

None established.

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### **Eye Protection:**

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

## 9. Physical and Chemical Properties

### **Appearance:**

Colorless granules.

### **Odor:**

Odorless.

### **Solubility:**

ca. 50 g/100 ml water

### **Density:**

2.38

### **pH:**

No information found.

### **% Volatiles by volume @ 21°C (70°F):**

0

### **Boiling Point:**

No information found.

### **Melting Point:**

ca. 255°C (ca. 491°F)

### **Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

## 10. Stability and Reactivity

**Stability:**

May explode as a result of heat, shock, or friction.

**Hazardous Decomposition Products:**

Emits nitrous oxides when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Strong reducing agents, combustibles, organic materials.

**Conditions to Avoid:**

Heat, shock, friction, incompatibles.

## 11. Toxicological Information

**Toxicological Data:**

Ingredient	Known	Cancer Lists	
		NTP Carcinogen	IARC Category
Nitric Acid, Lithium Salt	No	Anticipated No	None

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

**Domestic (Land, D.O.T.)****Proper Shipping Name:** LITHIUM NITRATE**Hazard Class:** 5.1**UN/NA:** UN2722**Packing Group:** III**Information reported for product/size:** 110LB

**International (Water, I.M.O.)****Proper Shipping Name:** LITHIUM NITRATE**Hazard Class:** 5.1**UN/NA:** UN2722**Packing Group:** III**Information reported for product/size:** 110LB**International (Air, I.C.A.O.)****Proper Shipping Name:** LITHIUM NITRATE**Hazard Class:** 5.1**UN/NA:** UN2722**Packing Group:** III**Information reported for product/size:** 110LB

## 15. Regulatory Information

**Chemical Inventory Status - Part 1**

Ingredient	TSCA	EC	Japan	Australia
Nitric Acid, Lithium Salt (7790-69-4)	Yes	Yes	Yes	Yes

**Chemical Inventory Status - Part 2****Canada**

Ingredient	Korea	DSL	NDSL	Phil.
Nitric Acid, Lithium Salt (7790-69-4)	Yes	Yes	No	Yes

**Federal, State & International Regulations - Part 1**

Ingredient	SARA 302		SARA 313	
	RQ	TPQ	List	Chemical Catg.
Nitric Acid, Lithium Salt (7790-69-4)	No	No	No	Nitrate Compound

**Federal, State & International Regulations - Part 2**

Ingredient	RCRA		TSCA	
	CERCLA	261.33	8(d)	
Nitric Acid, Lithium Salt (7790-69-4)	No	No	No	

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No

SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No

Reactivity: No (Pure / Solid)

**Australian Hazchem Code:** 15**Poison Schedule:** None allocated.**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 2 Flammability: 0 Reactivity: 3 Other: **Oxidizer**

**Label Hazard Warning:**

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. DANGEROUS EXPLOSION RISK WHEN SHOCKED OR HEATED. HARMFUL IF SWALLOWED OR INHALED. AFFECTS CENTRAL NERVOUS SYSTEM, RESPIRATORY SYSTEM, MUSCLES AND KIDNEYS. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

**Label Precautions:**

Keep from contact with clothing and other combustible materials.

Keep away from heat.

Store in a tightly closed container.

Remove and wash contaminated clothing promptly.

Wash thoroughly after handling.

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes.

Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent and Consumer Hobby.

**Revision Information:**

None

**Disclaimer:**

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