


MSDS Material Safety Data Sheet	24 Hour Emergency Telephone: 908-659-2151 CHEMTREC: 1-800-424-9300
	National Response in Canada CANUTEC: 613-996-6666
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865	Outside U.S. and Canada Chemtrec: 703-527-3887
	NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.
All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.	

LITHIUM PERCHLORATE, ANHYDROUS

MSDS Number: L7000 --- Effective Date: 03/24/00

1. Product Identification

Synonyms: Perchloric Acid, Lithium Salt
CAS No.: 7791-03-9
Molecular Weight: 106.39
Chemical Formula: LiClO₄
Product Codes: 2385

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Lithium Perchlorate	7791-03-9	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

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

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate
 Flammability Rating: 0 - None
 Reactivity Rating: 3 - Severe (Oxidizer)
 Contact Rating: 1 - Slight
 Lab Protective Equip: GOGGLES; LAB COAT
 Storage Color Code: Yellow (Reactive)

Potential Health Effects

There is limited information available on the hazards of this chemical. The health effects listed for this substance are based on information found for compounds of similar structure.

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Inhalation may result in symptoms and problems similar to 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:

Repeated exposure may cause symptoms similar to those listed for acute effects.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin, eye, blood or central nervous system disorders, or impaired liver, kidney, or pulmonary function may be more susceptible to the effects of this substance.

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:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

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. Can react with metals to release flammable hydrogen gas. Reactions may cause fire and explosion. In the event of a fire, assume that organic materials are involved and that an explosion may occur.

Explosion:

May form sensitive powerful explosive mixtures with organic materials.

Fire Extinguishing Media:

Water spray can be used to extinguish fires and cool fire-exposed containers.

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

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

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 the dust or mist is apparent, a half-face dust/mist respirator may be worn. 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:

Crystalline solid.

Odor:

Odorless.

Solubility:

Appreciable (> 10%)

Specific Gravity:

2.43 @ 25C/4C

pH:

No information found.

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

0

Boiling Point:

Decomposes.

Melting Point:

236C (457F)

Vapor Density (Air=1):

Not applicable.

Vapor Pressure (mm Hg):

Not applicable.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Decomposition starts at ca. 400C and becomes rapid at 430C yielding lithium chloride and oxygen.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Organic materials, strong reducing agents and combustible materials.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Lithium Perchlorate (7791-03-9)	No	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: PERCHLORATES, INORGANIC, N.O.S. (LITHIUM PERCHLORATE)

Hazard Class: 5.1

UN/NA: UN1481

Packing Group: II

Information reported for product/size: 100G

International (Water, I.M.O.)

Proper Shipping Name: PERCHLORATES, INORGANIC, N.O.S. (LITHIUM PERCHLORATE)
Hazard Class: 5.1
UN/NA: UN1481
Packing Group: II
Information reported for product/size: 100G

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
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Lithium Perchlorate (7791-03-9)              Yes  Yes   Yes    Yes
-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     Korea  DSL   NDSL   Phil.
-----
Lithium Perchlorate (7791-03-9)              Yes  Yes   No     No
-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     RQ    TPQ   List   Chemical Catg.
-----
Lithium Perchlorate (7791-03-9)              No    No    No     No
-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     CERCLA  RCRA-  TSCA-
                                     261.33  8(d)
-----
Lithium Perchlorate (7791-03-9)              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)

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Australian Hazchem Code: 2WE

Poison Schedule: No information found.

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: 0 Other: Oxidizer

Label Hazard Warning:

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

Label Precautions:

Keep from contact with clothing and other combustible materials.
 Store in a tightly closed container.
 Remove and wash contaminated clothing promptly.
 Do not store near combustible materials.
 Avoid contact with eyes, skin and clothing.
 Wash thoroughly after handling.
 Avoid breathing dust.
 Use only with adequate ventilation.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 1, 3, 4, 5, 6, 7, 9, 10, 11, 16.

Disclaimer:

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