

MATERIAL SAFETY DATA SHEET

MSDS



GUANGZHOU LEADTEC CO., LTD.

Rm 1202, Unit A, FuQian Building, No.618-620,

Jie Fang Road North, Guangzhou, China

POTASSIUM PERCHLORATE

1. Product Identification

Synonyms: Perchloric acid, potassium salt; Potassium hyperchloride

CAS No.: 7778-74-7

Molecular Weight: 138.55

Chemical Formula: KClO₄

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Potassium Perchlorate	7778-74-7	90 - 100%	Yes

3. Hazards Identification

Emergency Overview

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES SEVERE IRRITATION TO EYES, SKIN AND RESPIRATORY TRACT. AFFECTS KIDNEYS AND BLOOD.

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. High concentrations can cause pulmonary edema. Absorption through inhalation of dust can produce systemic effects paralleling those from ingestion exposure.

Ingestion:

Irritant to mucous membrane; causes gastro-intestinal upset, and larger doses can cause nausea,

vomiting, fever, rashes. Reduces oxygen to body organs (methemoglobinemia) causing the lips and skin to turn blue. Exposure causes a breakdown of red blood cells, which can lead to kidney damage. May affect bone marrow (aplastic anemia).

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. May cause burns to skin tissue upon contact.

Eye Contact:

Causes irritation, redness, and pain. May cause burns.

Chronic Exposure:

Chronic exposure may affect red blood cells which can have an effect on the liver, kidney and other organs.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of the 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. 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. Contact with oxidizable substances may cause extremely violent combustion. Liberates toxic gases when involved in a fire.

Explosion:

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. Containers may explode when involved in a fire. Sensitive to mechanical impact.

Fire Extinguishing Media:

Flood with large amounts of water.

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 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. Maintain eye wash fountain and drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White powder.

Odor:

Odorless.

Solubility:

1.5 g in 100 g of water.

Density:

2.52

pH:

No information found.

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

0

Boiling Point:

400C (752F)

Melting Point:

610C (1130F)

Vapor Density (Air=1):

4.8

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Chlorine and oxides of potassium.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Aluminum, magnesium, charcoal, fluorine, sulfur, many combustible substances and reducing agents.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Investigated as a reproductive effector.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Potassium Perchlorate (7778-74-7)	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: POTASSIUM PERCHLORATE

Hazard Class: 5.1

UN/NA: UN1489

Packing Group: II

International (Water, I.M.O.)

Proper Shipping Name: POTASSIUM PERCHLORATE

Hazard Class: 5.1

UN/NA: UN1489

Packing Group: II

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
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Potassium Perchlorate (7778-74-7)	Yes	Yes	Yes	Yes
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-----\Chemical Inventory Status - Part 2\-----

Ingredient	Korea	DSL	NDSL	Phil.
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Potassium Perchlorate (7778-74-7)	Yes	Yes	No	Yes
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-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302- RQ	TPQ	-----SARA 313----- List	Chemical Catg.
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Potassium Perchlorate (7778-74-7)	No	No	No	No
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-----\Federal, State & International Regulations - Part 2\-----

Ingredient	CERCLA	-RCRA- 261.33	-TSCA- 8(d)
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Potassium Perchlorate (7778-74-7)	No	No	No
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Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: Yes (Pure / Solid)

Australian Hazchem Code: 2W

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: 2 Other: **Oxidizer**

Label Hazard Warning:

DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES SEVERE IRRITATION TO EYES, SKIN AND RESPIRATORY TRACT. AFFECTS KIDNEYS AND BLOOD.

Label Precautions:

Keep from contact with clothing and other combustible materials.

Store in a tightly closed container.

Do not store near combustible materials.

Remove and wash contaminated clothing promptly.

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

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

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