

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

Trade Name:	Lithium Iodide	Chemical Family:	Metal iodide
Synonyms:	Lithium monoiodide	Formula:	LiI
CAS#:	10377-51-2		

II HAZARDOUS INGREDIENTS

<u>Hazardous Components</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH-TLV</u>	<u>Sec. 302</u>	<u>Sec. 304</u>	<u>Sec. 313</u>
Lithium Iodide	0-100	N/E	N/E	No	No	No

III PHYSICAL DATA

Boiling Point:	1170 °C	Melting Point:	449 °C
Specific Gravity (H₂O=1):	4.08 g/cc	Vapor Pressure:	N/A
Solubility in Water:	Slightly soluble	Vapor Density:	N/A
% Volatiles:	N/E or N/A		
Appearance and Odor:	White, deliquescent powder and pieces, no odor. Becomes yellow in air due to liberation of iodine.		

IV FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/E or N/A	Method Used: Non-flammable
Explosive Limits: Upper: N/A Lower: N/A	

Extinguishing Media: Use suitable extinguishing media for surrounding material and type of fire.

Special Firefighting 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.

Unusual Fire and Explosion Hazards: When heated to decomposition, lithium iodide may emit toxic fumes of iodine and iodine compounds. May liberate iodine when exposed to air.

V HEALTH HAZARD INFORMATION

Effects of Exposure:

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

The toxicity of lithium compounds is a function of their solubility in water. Lithium ion has central nervous system toxicity. The initial effects of lithium exposure are tremors of the hands, nausea, micturition, slurred speech, sluggishness, sleepiness, vertigo, thirst and increased urine volume. Effects from continued exposure are apathy, anorexia, fatigue, lethargy, muscular weakness, and changes in ECG. Long-term exposure leads to hypothyroidism, leukocytosis, edema, weight gain, polydipsia/polyuria (increased water intake leading to increased urinary output), memory impairment, seizures, kidney damage, shock, hypotension, cardiac arrhythmias, coma, death. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Prolonged absorption of iodides may produce "iodism" which is marked by skin rash, running nose, headache and irritation of mucous membranes. In severe cases, the skin may show pimples, boils, redness, black and blue spots, hives and blisters. Weakness, anemia, loss of weight and general depression may occur. Generally very soluble in water and easily absorbed into the body. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Acute Effects:

Inhalation: May cause irritation to the respiratory tract and mucous membranes.

Ingestion: May cause human systemic effects, central nervous system effects, circulatory failure and cardiovascular collapse.

Skin Contact: May cause irritation.

Eye Contact: May cause irritation.

Chronic Effects:

Inhalation: May cause pulmonary edema and lung damage.

Ingestion: May cause gastrointestinal irritation, renal dysfunction, derangement of neuromuscular activity, diabetes and kidney damage. Large amounts may cause thyroid disease.

Skin: May cause rashes, pimples, boils, redness, black and blue spots, hives and blisters.

Eye: May cause blurred vision.

Medical Conditions Generally Aggravated by Exposure: Pre-existing respiratory and skin disorders.

Carcinogenicity: NTP: No IARC: No OSHA: No EPA: No

Routes of Entry: Inhalation, ingestion, skin, eyes.

Target Organs: May affect respiratory system, liver, kidneys, skin and eyes.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air, keep warm and quiet. Give oxygen if breathing is difficult and seek medical attention if symptoms persist.

INGESTION: Give 1-2 glasses of milk or water, induce vomiting, keep warm and quiet, seek medical attention. Never give anything by mouth or induce vomiting in an unconscious person.

SKIN: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water. If irritation persists seek medical attention.

EYES: Immediately flush eyes, including under eyelids, with large amounts of water for at least 15 minutes. Seek medical attention if symptoms persist.

VI REACTIVITY DATA

Stability: Stable

Conditions to avoid: None

Materials to Avoid: Potassium chlorate, metallic salts, alkaloidal salts, chloral hydrate, tartaric acid and other acids, calomel, moisture and light.

Hazardous Decomposition: Iodine and iodine compounds.

Hazardous Polymerization: Will not occur

VII SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: Wearing full protective equipment, isolate spill area and provide ventilation. 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: Disposal should be made in accordance with all Federal, State and Local regulations.

VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH-approved dust-mist-vapor respirator.

Ventilation: Use local exhaust to maintain concentration at low exposure levels. Handle in a controlled, enclosed environment in an inert gas such as argon. General exhaust is not recommended.

Protective Gloves: Rubber

Eye/Face Protection: Safety glasses.

Other Protective Clothing or Equipment: Protective gear suitable to prevent contamination.

IX SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storage: Keep container tightly closed. Store in a cool, dry, well-ventilated area. Wash thoroughly after use. Handle and store in a controlled environment and inert gas such as argon.

Other Precautions: Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.

Work Practices: Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI shall not be held liable for any damage resulting from handling or from contact with the above product.

Issued by: S Dierks

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