

Material Safety Data Sheet

Revision Date February, 3 rd , 2005	Prepared by David MacKinnon	Technical Information 1-800-201-8822 or support@mgchemicals.com
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Section 1: Product Identification

MSDS Code: 421 - liquid

Name: Liquid Tin

Related Part Numbers: 421-500ML

Use: Tin plates copper circuits.

Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
16872-11-0	Fluoboric Acid	10	2.5mg/m ³	n/e	n/e
13814-97-6	Stannous Fluoroborate	10	2mg/m ³	2mg/m ³	n/e
62-56-6	Thiourea	5	2.5mg/m ³	n/e	n/e

Section 3: Hazards Identification

WHMIS Codes: E, D2A

NFPA Ratings: Health 3 Flammability 0 Reactivity 1

HMIS Ratings: Health 3 Flammability 0 Reactivity 1

Eyes: May cause severe eye burns.

Skin: May cause severe burns, dermatitis (red, cracked, irritated skin), and ulceration. May cause allergic skin reactions.

Inhalation: May cause pulmonary irritation, irritation of the mucus membranes, coughing, and a sore throat. Nausea, headaches, and vomiting may also occur. Inhalation of large doses may damage the tissues of the respiratory system resulting in chemical induced inflammation and pulmonary edema.

Ingestion: May cause severe burns to the mouth, throat, and esophagus. Thiourea is shown to be toxic via ingestion and shows the following systemic effects: hemorrhage and other adverse effects on the blood system (i.e. Anemia, bone marrow depression)

Chronic: Chronic exposure to thiourea may cause tumors of the liver.

Section 4: First Aid Measure

Eyes: Remove contact lenses. Flush with water or saline for 20 minutes. Get medical aid.

Skin: Wash skin with large quantities of soap and water. Get medical aid.

Inhalation: Immediately remove from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Ingestion: Do not induce vomiting. If conscious give 1-2 glasses of water. Get medical aid immediately.

Section 5: Fire Fighting Measures

Autoignition Temperature: n/a **Flash Point:** n/a **LEL / UEL:** n/a
Extinguishing Media: n/a
General Information: Will not burn.

Section 6: Accidental Release Measures

Spill Procedure: Provide adequate ventilation. Wear appropriate personal protection. Sprinkle absorbent compound onto spill, then sweep into a plastic container. Wipe up further residue with paper towel and place into container. Wash spill area with soap and water.

Section 7: Handling and Storage

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Do not expose container to heat or flame.
Storage: Keep away from sources of ignition. Store in a cool, dry, well ventilated area, away from incompatible substances.

Section 8: Exposure Controls

Routes of entry: Eyes, ingestion, inhalation, and skin.
Ventilation: Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.
Personal Protection: Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Use a NIOSH approved respirator when necessary.

Section 9: Physical and Chemical Properties

Physical State:	Liquid	Odor: pungent	Solubility: 100%	Evaporation Rate: similar to water
Boiling Point:	100°C	Specific Gravity: 1.2	Vapor Pressure: n/e	Vapor Density: n/e pH: 1

Section 10: Stability and Reactivity

Stability: Stable at normal temperatures and pressures.
Conditions to avoid: Extreme heat may cause product to decompose, producing toxic fumes.
Incompatibilities: Alkali, alkaline earth metals and other water incompatible substances, strong bases, strong metals, and strong oxidizers.
Polymerization: Will not occur.
Decomposition: Halogens, halogen acids, possibly carbonyl halides.

Section 11: Toxicological Information

Sensitization: (effects of repeated exposure) Exposure to thiourea may cause allergic skin reactions.
Carcinogenicity: (risk of cancer) Thiourea is a suspected cancer causing agent; IARC group 2B (animal sufficient evidence); TDLo 151000g/kg/52 weeks (rat)
Teratogenicity: (risk of cancer) Thiourea has been reported to cause teratogenic effects in humans or during



malformation in an unborn fetus) experimental studies on animals at relatively high doses; TDLo 4800 mg/kg

Reproductive Toxicity (risk of sterility): Thiourea has been reported to cause reproductive effects in humans or during experimental studies on animals

Mutagenicity: (risk of heritable genetic effects): No

Lethal Exposure Concentrations: **Ingestion(LD50):** 125 mg/kg (rat) **Inhalation (LC50):** n/e **Skin (LD50):** n/e

Section 12: Ecological Information

General Information: Avoid runoff into storms and sewers which lead into waterways. Water runoff can cause environmental damage.

Environmental Impact Data: (percentage by weight)

CFC: 0 HFC: 0 Cl.Solv.: 0 VOC: 0 HCFC: 0 ODP: 0

Section 13: Disposal Information

General Information: Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.

Section 14: Transportation Information

Ground: (all sizes 500ml or smaller)

Consumer Commodity, ORM-D

Air:

Shipper must be trained and certified. Refer to IATA regulations.

Sea:

Shipper must be trained and certified . Refer to IMDG regulations..

Section 15: Regulatory Information

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

SARA (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

None of the chemicals in this product have a reportable quantity.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain any chemicals subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

Section 15: Regulatory Information Cont.

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depletors.

This product does not contain any class 2 ozone depletors.



This product does not contain any chemicals listed as hazardous air pollutants.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product contains thiourea, listed under chemicals known to the state to cause cancer.

Health Canada

Labeling and containers used in this product are listed in compliance with Consumer Chemicals and Containers Regulations.

Environment Canada

Chemicals in this product are listed on the Domestic Substances List in the Canadian Environmental Protection Act

This product does not contain any ozone depleting substances.

Industry and Science Canada

Labeling, product identity, net quantity declaration, minimum printing type size heights, and packaging of this product is in compliance with the Consumer Packaging and Labeling Act and Regulations. This product is not slack filled in accordance to chapter 4 prohibitions.

RoHS (The restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2004).

This product is RoHS compliant.

Section 16: Other Information

Definitions: n/a = not applicable, n/e = not established

Disclaimer: This material safety data sheet is provided as an information resource only. M.G. Chemicals believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.