

MATERIAL SAFETY DATA SHEET

MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200 AND SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 PUBLIC LAW 99-499. STANDARD SHOULD BE CONSULTED FOR SPECIFIC REQUIREMENTS.

SECTION I (IDENTIFICATION)**MANUFACTURER/
SUPPLIERS NAME:**

EUTECTIC CORPORATION
N94 W14355 Garwin Mace Drive
Menomonee Falls, WI 53051 USA

TELEPHONE NUMBER:
1-800-558-8524**PRODUCT NAME:****TinWeld III****PRODUCT CLASSIFICATION:****Soft Solder Paste****SECTION II (HAZARDOUS INGREDIENTS/IDENTITY INFORMATION)**

IMPORTANT: This section covers the materials from which these products are manufactured. The fumes and gases produced during normal use of these products are covered in Section V. The term "Hazardous" in "Hazardous Ingredients" should not only be interpreted as a term required and defined in OSHA Hazard Communication Standard (29 CFR Part 1910.1200), but also as defined by other regulatory agencies. The chemicals or compounds subject to reporting under Title III, in Section 313, of the Superfund Amendments and Reauthorization Act (SARA) are marked by the symbol #.

WARNING: This product contains or produces a chemical known to the State of California to cause birth defects (or other reproductive harm) and cancer. (California Health & Safety Code 25249.5 et seq.)

INGREDIENTS	CAS NUMBER	Exposure Limit OSHA PEL	(mg/m³) ACGIH-TLV	Percent Ingredients (by Weight)
Tin	7440-31-5	2	2	40 – 70
Lead #	7439-92-1	0.05	0.05	30 – 60
Ammonium Chloride	12125-02-9	10 (fume)	Not listed	1 – 5
Ethyl Alcohol	64-17-5	1900	1900	1 – 5
Water	7782-13-5	Not listed	Not listed	3 – 7

SECTION III. (PHYSICAL DATA)

Grey paste, no characteristic odor.

SECTION IV (FIRE AND EXPLOSION HAZARD DATA)

Non-flammable, Brazing flames can ignite combustibles. Refer to American National Standard Z49.1 for fire prevention during welding/brazing. Rating under National Fire Protection 704: Health, 2; Flammability, 0; Reactivity, 0.

SECTION V (REACTIVITY DATA)**STABILITY:** Stable**Boiling Point:** Tin: 4545 F**CONDITIONS TO AVOID:** Moisture, excessive heat during storage

Lead: 3164 F

INCOMPATIBILITY (Conditions to avoid): Oxidizing agents**HAZARDOUS POLYMERIZATION:** will not occur.**HAZARDOUS DECOMPOSITION OR BYPRODUCTS:** Carbon dioxide, carbon monoxide generated on heating.

Dust should be kept at a minimum. Brazing fumes cannot be classified simply. The composition and quantity of both are dependent upon the metal being brazed, the process, procedure, and the filler material used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being soldered (such as paint, plating, or galvanizing), the number of workers and the volume of the work area, the quality and the amount of ventilation, position of the workers' head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and decreasing activities).

When the material is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Fume and decomposition products, not the ingredients in the flux are important. Decomposition products include those originating from the volatilization, reaction, or oxidation of materials in Section II, plus those from the base metal and coating, etc., as noted above. These components are virtually always present as complex oxides and not as metals (Characterization of Arc Welding Fume: American Welding Society). **Monitor fume levels.**

One recommended way to determine the composition and quantity of fumes and gas to which workers are exposed is to take an air sample inside the welder's helmet if worn, or in the worker's breathing zone (see ANSI/AWS F1.1, F1.2, F1.3, F1.4, and F1.5, available from the "American Welding Society," 550 N.W. LeJeune Road, Miami, FL 33126).

SECTION VI (HEALTH HAZARD DATA)

Threshold Limit Value (TLV): The ACGIH 1999 preface states: "The TLV-TWA should be used as guides in the control of health hazards and should not be used as firm lines between safe and dangerous concentrations." See Section V for specific fume constituents which may modify the TLV. Persons with sensitive skin should avoid contact with product.

Effects of Overexposure:

FUMES AND GASES can be dangerous to your health. **PRIMARY ROUTES OF ENTRY** are the respiratory system, skin contact, or ingestion. **PREEXISTING** respiratory or allergic conditions may be aggravated in some individuals. **SHORT TERM (ACUTE) AND CHRONIC OVEREXPOSURE** to fumes may result in discomfort such as dizziness, nausea, or dryness or irritation of nose, throat or eyes. Symptoms and effects to exposure are listed below:

TIN: Inhalation of tin oxide may lead to benign pneumoconiosis. Certain tin salts are mild irritants to the skin and mucous membranes. May also result in irritation to skin, eyes, and respiratory system. Dust of tin oxides has caused a pneumoconiosis which is relatively benign.

AMMONIUM CHLORIDE FUME: Irritation to eyes, skin, respiratory system, cough, dyspnea (breathing difficulty), pulmonary sensitization.

LEAD: Chronic overexposure to high levels of airborne or ingested lead may result in anemia, insomnia, weakness, constipation, nausea and abdominal pain. Prolonged overexposure may result in kidney and nervous system involvement and reproductive effects. It is unlikely that exposure to this material would result in acute illness. However, if symptoms are present, the individual should be removed from exposure and a physician consulted. Diseases of the blood and blood-foaming organs, kidneys, nervous systems, and possibly reproductive systems may be aggravated by overexposure to lead. Exposure to lead may result in injury to a developing fetus. Occasional blood testing for lead level should be done routinely for individuals who are chronically exposed to lead.

Emergency & First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by The American Red Cross.

SWALLOWING: Call a physician or your poison control center at once. Advise of Section II. **SKIN:** Wash thoroughly with water to remove all residue. If a rash develops, call a physician. **INHALATION:** Remove to fresh air. **EYES:** Flush with water for at least 15 minutes to remove all residue. Get medical attention immediately.

CARCINOGENICITY

LEAD - is listed as being carcinogenic to humans by **IARC**.

WELDING FUMES (not otherwise specified) are considered to be carcinogenic defined with no further categorization by **NIOSH** and **IARC**.

SECTION VII (PRECAUTION FOR SAFE HANDLING AND USE/APPLICABLE CONTROL MEASURES)

Steps to be taken if material is released or spilled: Contain spill, absorb, sweep up and dispose. Flush area to chemical sewer.

Waste disposal method: Dispose of in accordance with all federal state, and local regulations.

SECTION VIII (SPECIAL PROTECTION INFORMATION)

Read and understand the manufacturer's instructions and precautionary label on this product. See American National Standard Z49.1 Safety in Welding and Cutting, published by the American Welding Society, P.O. Box 351040, Miami FL 33135 and OSHA Publication 2206 (29CFR 1910), U. S. Government Printing Office, Washington, D.C. 20402 for more detail on the following:

Ventilation: Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below the TLV's in the workers breathing zone and the general area. Train the worker to keep his head out of the fumes. Maintain airflow away from user to exhaust all dusts and fumes, so that the TLV is never exceeded.

Respiratory protection: Use respirable fume respirator or air supplied respirator when soldering in confined space or where local exhaust or ventilation does not keep exposure below TLV.

Eye protection: Wear helmet or face shield and safety goggles.

Protective Clothing: Wear head, hand, and body protection which help to prevent injury from material. See ANSI Z49.1. At a minimum, this includes chemical impervious gloves and a protective face shield and may include arm protectors, aprons, hats, shoulder protection, and any other equipment used in soldering operations as to prevent any contact. Wash hands thoroughly after using product.

Waste: Dispose of any grinding dust or waste residues in accordance with all federal, state, and local regulations. If material is spilled or released, contain spillage, absorb, sweep up, dispose.

Storage: Store in dry conditions, ambient temperatures. Keep covered until use.

Wash thoroughly after handling to remove all residue. Remove and professionally wash contaminated clothing before reuse.

SUPPLEMENTAL INFORMATION

IARC: International Agency for the Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

PEL: Permissible Exposure Limit

OSHA: U.S. Occupational Safety and Health Administration

TLV: Threshold Limit Value

CAS: Chemical Abstracts Service Registry Number

Exposure limits are subject to change. Contact ACGIH, OSHA, NIOSH, and IARC for current values.

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