



MATERIAL SAFETY DATA SHEET



SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: M-Line 570-28R Solder

April 13, 2010

Vishay Measurements Group, Inc.
Post Office Box 27777
Raleigh, NC 27611

919-365-3800

CHEMTREC 1-800-424-9300 (U.S.)
703-527-3887 (Outside U.S.)

NOTE: CHEMTREC numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

SECTION 2: HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

CAS NUMBER	CHEMICAL IDENTITY	%
7439-92-1	Lead	60-100
7440-31-5	Tin	1-5
7440-22-4	Silver	1-5
Proprietary	Rosin Reacted Product	1-5

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

Inhalation: YES Skin: YES Ingestion: YES

Health Hazards (Acute and Chronic): Acute effects may include weakness, vomiting, loss of appetite, convulsions, stupor and possible coma. Chronic effects may include weakness, insomnia, hypertension, slight irritation of the eyes, headache, possible paralysis. Chronic over-exposure to lead may result in damage to blood forming organs, nervous, urinary and reproductive systems.

Carcinogenicity:
NTP: See note
IARC Monographs: See note
OSHA Regulated: See note

NOTE: Formaldehyde formed during the decomposition of rosin flux is classified by NIOSH as a potential occupational carcinogen. Lead is a cumulative poison listed by IARC as 2B.

Signs and Symptoms of Exposure:

INHALATION: Fumes may be irritating or cause sensitization to the respiratory system. Excessive inhalation of fumes from many metals can produce an acute reaction known as metal fume fever. Symptoms consist of chills and fever (similar to flu symptoms) which occur a few hours after a large exposure.

EYE CONTACT: Dust, vapor, and fumes may be irritating to the eyes.

SKIN CONTACT: Harmful if absorbed through the skin. Prolonged or repeated contact may cause irritation, skin sensitization and argyria (a non-toxic, cosmetic blue-gray discoloration of the skin and mucous membranes that is irreversible).

INGESTION: Lead is a cumulative poison and continuous exposure to small amounts over time can raise the body's content to toxic levels. Symptoms of lead poisoning include abdominal pain, nausea, vomiting and headache. May cause gastrointestinal tract irritation if swallowed. Lead poisoning may cause lassitude, weight loss, anemia, nausea, vomiting, central nervous system damage.

Conditions Generally Aggravated by Exposure: Repeated or prolonged exposure to lead and its compounds may produce general health deterioration by an accumulation in one or more human organs.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES
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INHALATION: Remove victim from exposure. Get medical attention if experiencing effect of overexposure.

EYE CONTACT: Rinse immediately with plenty of water for at least 15 minutes while lifting upper and lower eyelids. If irritation persists, seek medical aid.

SKIN CONTACT: Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. If person feels unwell or symptoms of skin irritation occur, consult a physician.

INGESTION: Get immediate medical attention.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA
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Flash Point (Method Used): N/A

Flammable limits: LEL: N/A UEL: N/A

Extinguishing Media: Carbon dioxide, dry chemical, foam.

Special Firefighting Procedures: Use full body protective clothing and full face piece, self-contained breathing apparatus operated in a positive pressure mode.

Unusual Fire and Explosion Hazards: Do not use water on fires when molten metal is present. High temperatures may produce heavy metal fumes, dust and/or vapor.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Particulate matter should be stored in dry containers for later disposal. Dust material should be vacuumed or wet-swept. Do not use compressed air or dry sweeping as a means of cleaning. Do not allow material to enter sewers or storm drains.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: Use NIOSH approved respirator if exposure exceeds PEL.

Ventilation:

Local Exhaust: Use local exhaust to remove smoke from breathing zone.

Mechanical: Keep below TLV.

Special: N/A

Other: N/A

Protective Gloves: Impervious gloves are recommended.

Eye Protection: Faceshield or safety glasses are recommended.

Other Protective Clothing or Equipment: Personal clothing and shoes should be protected from contamination. Eyewash station should be available in the work area.

Work / Hygienic Practices: Do not eat, drink, or smoke in work areas. Wash hands thoroughly after using and before eating, drinking, or smoking.

SECTION 8: HANDLING AND STORAGE

Precautions to be taken in handling and storing: Wash hands with soap and water after handling solder. Avoid skin contact. Avoid breathing smoke during soldering.

Other Precautions: Store in original container, in a dry area until ready to use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
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Boiling Point:	N/A
Vapor Pressure (mmHg):	N/A
Vapor Density (Air = 1):	>1
Specific Gravity (H ₂ O = 1):	11.1
Melting Point:	564-1049°F (296-565°C)
Evaporation Rate (BuAc = 1):	N/A
Volatile Organic Compounds:	<1
Solubility in Water:	Insoluble

Appearance and Odor: Solid gray metal with mild odor.

SECTION 10: STABILITY AND REACTIVITY DATA
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Stability: Stable under recommended storage conditions.

Conditions to Avoid: Solder alloy will react with concentrated nitric acid to produce toxic fumes of nitrogen oxides.

Incompatibility (Materials to Avoid): Strong oxidizers.

Hazardous Decomposition or By-products: High temperatures may produce heavy metal fumes, dust and/or vapors. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION
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Lead

OSHA PEL:	0.05 mg/m ³
ACGIH TLV:	0.15 mg/m ³
OTHER:	Not established

Tin

OSHA PEL:	2.0 mg/m ³
ACGIH TLV:	2.0 mg/m ³
OTHER:	Not established

Silver

OSHA PEL:	0.01 mg/m ³
ACGIH TLV:	0.1 mg/m ³
OTHER:	Not established

Rosin

OSHA PEL: Not established
ACGIH TLV: Not established
OTHER: Not established

SECTION 12: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Solder is reclaimable. Disposal should be in accordance with local, state, and federal regulations.

SECTION 13: TRANSPORTATION INFORMATION

SHIPPING NAME	CLASS	UN NUMBER
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Not required -- Shipped as non-hazardous article.

SECTION 14: REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION:

This product contains a toxic chemical or chemicals (as listed below) subject to the reporting requirements of Section 313 Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

CAS NUMBER	CHEMICAL NAME	% BY WEIGHT
7439-92-1	Lead	60-100
7440-22-4	Silver	1-5

TSCA NOTIFICATION:

All components of this product are listed in the Toxic Substance Control Act Chemical Substance Inventory (TSCA).

SECTION 15: OTHER INFORMATION

To the best of our knowledge, the information provided above meets the requirements of the United States Occupational Safety and Health Act and regulations established under 29 CFR 1910.1200 (g)(2)(c)(1)-(4) for a mixture of hazardous chemicals which has not been tested as a whole. The data provided on this Material Safety Data Sheet is from manufacturers of the original components. Micro-Measurements specifically disclaims any and all form of liability and/or responsibility for the application of this product.