



MATERIAL SAFETY DATA SHEET



SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: M-Flux SS

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	%
7646-85-7	Zinc Chloride	<30.0
12125-02-9	Ammonium Chloride	<5.0
7647-01-0	Hydrochloric Acid	<30.0
67-56-1	Methyl Alcohol	<3.0
10043-35-3	Boric Acid	<5.0

NOTE: Others, if any, are non-hazardous and are classified as trade secret.

SECTION 3: HEALTH HAZARD DATA

Routes of Entry:

Inhalation: YES Skin: YES Ingestion: Accidental

Health Hazards (Acute and Chronic): Contact burns, dermatitis. Possible liver and kidney effects.

Carcinogenicity: NTP: Not known
 IARC Monographs: Not known
 OSHA Regulated: Not known

Signs and Symptoms of Exposure:

INHALATION: May cause irritation of respiratory system, headache, cough or fever. Pre-existing lung disorders may be aggravated.

EYE CONTACT: May cause irritation of eyes. May burn eye surfaces and cause tearing. May result in blindness.

SKIN CONTACT: May cause dermatitis and/or possible chemical burn. Pre-existing skin disorders will be aggravated.

INGESTION: May cause chemical burn to digestive system. Symptoms may include nausea, vomiting and possible shock.

Conditions Generally Aggravated by Exposure: Pre-existing lung or skin disorders will be aggravated.

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove to fresh air. Do not aspirate into lungs. Call a physician.

EYE CONTACT: Flush with water for at least 15 minutes to remove all residue. Get medical attention immediately. Blindness may result.

SKIN CONTACT: Wash skin thoroughly with soap and water to remove all residue. If rash or burn develops, consult a physician. Burns may result from prolonged contact. Material is corrosive.

INGESTION: Contains strong acid! Call a physician or poison control center and advise of chemical composition.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): 52°F (11°C) as Methyl Alcohol

Flammable limits: LEL: N/E UEL: N/E

Extinguishing Media: Does not support combustion. Be aware of other materials in surrounding area to determine if water, fog, foam or carbon dioxide may be used.

Special Firefighting Procedures: Full protective equipment required.

Unusual Fire and Explosion Hazards: May release toxic metal halide and corrosive hydrochloric acid fumes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled: Contain spill. Absorb with inert material and sweep up for disposal. Flush area with water to chemical sewer. Avoid contact with skin and tissue.

SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION

Respiratory Protection: If the work station is not properly ventilated to exhaust all fumes and vapors, use a NIOSH approved respirator.

Ventilation: Maintain air flow away from user to exhaust all fumes and vapors, so that the PEL is never exceeded. Adhere to environmental regulations for exhausts.

Protective Gloves: Chemical impervious gloves are recommended.

Eye Protection: Chemical safety goggles are recommended. Do not wear contact lenses.

Other Protective Clothing or Equipment: Full protective equipment should be used in braze/welding operations to prevent any contact. Review operations to avoid contact with hazardous gas, liquids or solids.

Work / Hygienic Practices: Wash thoroughly after use and before eating, drinking or smoking.

SECTION 8: HANDLING AND STORAGE

Precautions to be taken in handling and storing: Wash hands thoroughly after handling to remove all residue. Store flux in closed containers at ambient conditions. Do not use metal container.

Other Precautions: Remove and professionally wash contaminated clothing before reuse. Use full protection equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (@ 760 mgHg):	228°F (108°C)
Vapor Pressure (mmHg):	Not known
Vapor Density (Air = 1):	0.48
Specific Gravity (H₂O = 1):	1.35
Melting Point:	Not known
Evaporation Rate (BuAc = 1):	<1
Volatile Organic Compounds:	<15% by volume
Solubility in Water:	Complete

Appearance and Odor: Clear, water-white liquid with no characteristic odor.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: Stable under normal conditions of use and storage.

Conditions to Avoid: Reacts with metals.

Incompatibility (Materials to Avoid): In contact with hot metals like iron, explosive hydrogen gas may evolve.

Hazardous Decomposition or By-products: Hydrogen chloride, zinc oxide, ammonia.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION
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Zinc Chloride

OSHA PEL:	1 mg/m ³ (fume)
ACGIH TLV:	1 mg/m ³ (fume)
OTHER:	2 mg/m ³ STEL

Ammonium Chloride

OSHA PEL:	10 mg/m ³ (fume)
ACGIH TLV:	10 mg/m ³ (fume)
OTHER:	20 mg/m ³ STEL

Hydrochloric Acid

OSHA PEL:	7 mg/m ³
ACGIH TLV:	7.5 mg/m ³
OTHER:	N/E

Methyl Alcohol

OSHA PEL:	1 mg/m ³
ACGIH TLV:	1 mg/m ³
OTHER:	N/E

Boric Acid

OSHA PEL:	15 mg/m ³ (as Boric Oxide)
ACGIH TLV:	10 mg/m ³
OTHER:	N/E

SECTION 12: DISPOSAL CONSIDERATIONS
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Waste Disposal Method: Dispose of in accordance with all local, state, and federal regulations.

SECTION 13: TRANSPORTATION INFORMATION

SHIPPING NAME	CLASS	PACKING GROUP	UN NUMBER
Corrosive Liquid, N.O.S. (Zinc Chloride, Hydrochloric Acid)	8	II	1760

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
7647-01-0	Hydrochloric Acid	<30.0
7646-85-7	Zinc Compounds	<30.0
67-56-1	Methanol	<3.0

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.