



# MATERIAL SAFETY DATA SHEET

## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT:** Liquid Organic Flux

November 29, 2005

Vishay Micro-Measurements  
Post Office Box 27777  
Raleigh, NC 27611

**MSDS # MGM090A**

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           | %  |
|------------|-----------------------------|----|
| 138-15-8   | Glutamic Acid Hydrochloride | 11 |
| 57-13-6    | Urea                        | 9  |
| 7732-18-5  | Water                       | 80 |
| N/A        | Surfactants                 | <1 |

## SECTION 3: HEALTH HAZARD DATA

### Routes of Entry:

**Inhalation:** Yes    **Skin:** Yes    **Ingestion:** Yes

**Health Hazards (Acute and Chronic):** Fumes may cause irritation of eyes and mucous membranes, headache, and/or respiratory system irritation or damage. Prolonged or repeated contact with skin can cause a rash.

**Carcinogenicity:**  
NTP: Not listed  
IARC Monographs: Not listed  
OSHA Regulated: Not listed

**Signs and Symptoms of Exposure:**

**INHALATION:** Fumes during use may irritate mucous membranes and respiratory system.

**EYE CONTACT:** May cause irritation from contact with liquid and smoke during soldering.

**SKIN CONTACT:** May cause possible local irritation from contact with flux or fumes.

**INGESTION:** May cause burning sensation in the digestive tract.

**Conditions Generally Aggravated by Exposure:** Chemical hypersensitivity, asthma and other respiratory conditions, existing eye and skin.

**SECTION 4: EMERGENCY AND FIRST AID PROCEDURES**

**INHALATION:** Remove person from exposure to fumes.

**EYE CONTACT:** Flush eyes with plenty of water and get medical attention.

**SKIN CONTACT:** Wash thoroughly with soap and water.

**INGESTION:** Do NOT induce vomiting. Drink three to four glasses of milk or water and get prompt medical attention.

**SECTION 5: FIRE AND EXPLOSION HAZARD DATA**

**Flash Point (Method Used):** N/A

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

**Extinguishing Media:** Use extinguishing media for surrounding fire condition. Use water spray to cool fire-exposed containers and control vapors.

**Special Firefighting Procedures:** Firefighters should wear appropriate protective clothing and NIOSH approved self-contained breathing apparatus operated in the positive pressure mode.

**Unusual Fire and Explosion Hazards:** Toxic and acrid fumes may be produced in a fire.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Steps to be taken if material is released or spilled:** Prevent run off into storm sewers and natural waterways. Absorb with clay, diatomaceous earth, dry sand and other inert material. Do not use combustible materials such as sawdust. Place in a chemical waste container.

**SECTION 7: EXPOSURE CONTROLS -- PERSONAL PROTECTION**

**Respiratory Protection:** When ventilation is not sufficient to remove fumes from the breathing zone, an approved respirator or self-contained breathing apparatus should be worn.

**Ventilation:** Provide adequate exhaust ventilation (general and/or local) if necessary to meet exposure requirements. Local exhaust ventilation is preferred to minimize dispersion of smoke and fumes into the work area.

**Protective Gloves:** Neoprene or rubber gloves where necessary to avoid skin contact.

**Eye Protection:** Safety glasses or goggles should be used.

**Other Protective Clothing or Equipment:** An impermeable apron is advised to avoid contact through clothing.

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

**SECTION 8: HANDLING AND STORAGE**

**Precautions to be taken in handling and storing:** Store at temperatures above 32°F (0°C). Keep containers sealed when not in use. Empty containers may contain product residue. Observe all label precautions.

**Other Precautions:** Avoid breathing smoke/fumes generated during soldering. Avoid contact with eyes and skin.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

|   |               |
|---|---------------|
| <b>Boiling Point:</b>                         | 212°F (100°C) |
| <b>Vapor Pressure (mmHg):</b>                 | 19            |
| <b>Vapor Density (Air = 1):</b>               | N/A           |
| <b>Specific Gravity (H<sub>2</sub>O = 1):</b> | 1.08          |
| <b>Melting Point:</b>                         | N/A           |
| <b>Evaporation Rate (BuAc = 1):</b>           | N/A           |
| <b>Volatile Organic Compounds:</b>            | 0 g/liter     |
| <b>Solubility in Water:</b>                   | Complete      |

**Appearance and Odor:** Colorless liquid with mild odor.

**SECTION 10: STABILITY AND REACTIVITY DATA**

**Stability:** Stable.

**Conditions to Avoid:** Not established.

**Incompatibility (Materials to Avoid):** Not established.

**Hazardous Decomposition or By-products:** When heated to soldering temperatures, the water is evaporated and organic materials may be thermally degraded to liberate aliphatic aldehydes and acids.

**Hazardous Polymerization:** Will not occur.

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| <b>SECTION 11: TOXICOLOGICAL INFORMATION</b> |
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Glutamic Acid Hydrochloride

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

Urea

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

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| <b>SECTION 12: DISPOSAL CONSIDERATIONS</b> |
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**Waste Disposal Method:** Dispose of in accordance with local, state, and federal environmental regulations.

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| <b>SECTION 13: TRANSPORTATION INFORMATION</b> |
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| SHIPPING NAME            | CLASS | PACKING GROUP | UN NUMBER |
|--------------------------|-------|---------------|-----------|
| Corrosive Liquid, N.O.S. | 8     | III           | 1760      |

|   |
|---|
| <b>SECTION 14: REGULATORY INFORMATION</b> |
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**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 |
|-------------|---------------|-------------|
| None listed |               |             |

**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. Vishay Micro-Measurements specifically disclaims any and all form of liability and/or responsibility for the application of this product.