



## 1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

**Name: MS-111**  
Epoxy Stripping Agent

**Product Use:** Epoxy Stripper

### **MANUFACTURER/DISTRIBUTOR:**

Miller-Stephenson Chemical  
55 Backus Ave.  
Danbury, Conn. 06810 USA  
(203) 743-4447

**Emergency Phone Number:**  
(800) 424-9300

## 2. HAZARDS IDENTIFICATION

### **Hazard classification**

Skin Corrosion/Irritation: Category 1  
Serious Eye Damage/Eye Irritation: Category 2

### **Label elements:**

#### **Signal word**

Danger

### **Pictograms**



### **Hazard Statements**

Causes skin burns and eye irritation.  
May cause respiratory irritation.

### **Precautionary Statements**

Wear protective gloves and aprons.  
Wear eye and face protection.  
Avoid breathing fumes.  
Use in a well-ventilated area or outdoors.  
Wash hands thoroughly after handling.  
If SWALLOWED: Immediately call a POISON CENTER or doctor/physician. DO NOT INDUCE VOMITING. DRINK TEPID WATER WITH BAKING SODA TO NEUTRALIZE.  
If ON SKIN (or hair) remove all contaminated clothing. Rinse/flush with copious amounts of water as product will burn.

Store in cool dry place. Do not permit fumes to be in contact with high heat.  
Dispose of contents and containers in accordance with all local, regional, and international regulations.  
Do not taste or swallow. Wash thoroughly after handling.

### 3. INGREDIENTS

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
Methylene Chloride	75-09-2	>50
Formic Acid	64-18-6	<20
Phenol (Carbolic Acid)	108-95-2	<15

### 4. FIRST AID MEASURES

**Inhalation:** Get medical attention immediately. Remove patient to fresh air and keep in a restful position comfortable for breathing.

**Eye:** Get medical attention immediately. Flush with large amounts of water for at least 20 minutes. Chemical burns must be promptly treated by a physician.

**Skin:** Get medical attention immediately. Flush with plenty of water, remove contaminated clothing and shoes. Continue to rinse for 20 minutes. Chemical burns must be treated promptly. Wash clothing and shoes before reuse.

**Oral:** Get medical attention immediately. **DO NOT INDUCE VOMITING.** Drink tepid water with baking soda to neutralize.

#### **Most Important Symptoms/Effects, Acute and Delayed:**

#### **Potential Acute Health Effects- Seek Medical Attention Immediately.**

Eye contact: Causes serious eye damage.

Inhalation: May cause respiratory irritation.

Skin contact: Causes severe burns.

Ingestion: Can cause death.

#### **Over-exposure symptoms/signs- Seek Medical Attention Immediately.**

Eye contact: Adverse symptoms may include the following: pain, watering, and redness

Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing.

Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur.

Ingestion: Adverse symptoms may include the following: Mouth, throat & stomach pain.

### 5. FIRE FIGHTING MEASURES

**Flash Point:** None to boiling point of 104°F

**Suitable Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire. Carbon Dioxide or foam.

**Unsuitable Extinguishing Media:** None known.

**Hazardous decomposition products:** None known.

**Product incompatibility:** All Alkaline materials.

**Special Fire Fighting Instructions:** Wear skin and eye protective clothing; duct type respirators.

## 6. ACCIDENTAL RELEASE MEASURES

**For Non-Emergency Personnel:** No action shall be taken involving any risk without suitable training. Evacuate surrounding areas. Do not touch or walk through spilled material. No flares, smoking or flames. Provide adequate ventilation.

**For Emergency Responders:** Wear full acid resistant clothing, use self-contained breathing apparatus with face shield.

**Environmental Precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterway, drains & sewers.

**Spill:** Completely cover spill with Soda Ash or Sodium Bicarbonate to neutralize. Scoop up slurry, place in a labeled waste container. Dispose of via licensed waste disposal contractor.

## 7. HANDLING AND STORAGE

**Handling:** Keep container dry. Do not ingest. Do not permit fumes to be in contact with high heat sources. Keep in a well ventilated area. Avoid contact with skin and eyes.

**Storage Conditions:** Keep container tightly closed. Keep in a cool and well-ventilated area.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>TLV (ACGIH)</u>
Methylene Chloride	50 ppm TWA
Formic Acid	5 ppm TWA
Phenol (Carbolic Acid)	5 ppm TWA

**Ventilation System:** Local and/or general exhaust is recommended to keep employee exposure below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

**Respiratory Protection:** If adequate ventilation is not available an approved respirator must be worn. In confined areas, use a self-contained breathing apparatus.

**Eye Protection:** Use chemical safety goggles and/or a full face shield as described by OSHA's eye and face protection regulations in 29 CFR 1910.133. Maintain eye wash fountain and quick-drench facilities in work area.

**Skin Protection:** Prolonged or repeated skin contact is likely, appropriate protective gloves, apron etc...should be used. Selection of protective clothing depends on work conditions, potential exposure conditions and may include gloves, boots, suits and other protective items.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Boiling Point:** 104°F/40°C

**Percent Volatile by Volume:** Not available

**Density:** 1.25 g/cc at 77°F/25°C

**Vapor Pressure:** 340 mmHg at 68°F/20°C

**Vapor Density (Air=1):** 2.93 at 68°F/20°C

**Solubility in H<sub>2</sub>O:** Appox. 14%

**pH Information:** Not available

**Evaporation Rate (BU-AC=1):** 0.07

**Form:** Liquid

**Appearance:** Clear volatile liquid

**Color:** Clear

**Odor:** Sharp acid odor

## 10. STABILITY AND REACTIVITY

**Stability:** Stable at normal temperatures and storage conditions.

**Material and Conditions to Avoid:** High heat sources. All Alkaline Materials.

**Decomposition:** Emits highly toxic fumes of phosgene, hydrogen chloride, carbon dioxide and carbon monoxide when heated to decomposition.

**Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Methylene Chloride

**Oral:** LD50 > 2,000 mg/kg in rats. No death occurred at this concentration.

**Dermal:** LD50 > 2,000 mg/kg in rats. No death occurred at this concentration.

**Inhalation:** 4 hour LC50 (vapor): 86 mg/l in mice.

In confined or poorly ventilated areas, vapor can readily accumulate and can cause unconsciousness and death. Vapor may cause irritation of the upper respiratory tract (nose and throat). May cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen. Minimal anesthetic or narcotic effect may be seen in the range of 500-1000 ppm methylene chloride. Progressively higher levels over 1000 ppm may cause dizziness, drunkenness, and low as 10,000 ppm, unconsciousness and death. These high levels may also cause cardiac arrhythmias (irregular heartbeats).

**Skin corrosion/irritation:** Brief contact may cause moderate skin irritation and local redness. Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage. Skin contact with methylene chloride, such as immersion, may cause an intense burning sensation, followed by cold, numb feeling which will subside after contact. May cause drying and flaking of the skin.

**Serious eye damage/eye irritation:** May cause moderate eye irritation which may be slow to heal. May cause slight corneal injury. Vapor may cause eye irritation experienced as mild discomfort and redness.

**Skin and respiratory sensitization:** No data available.

**Specific Target Organ Systemic Toxicity (Single Exposure):** May cause drowsiness or dizziness. May cause respiratory irritation. Route of Exposure: Inhalation. Target Organs: Central nervous system, Respiratory Tract.

**Specific Target Organ Systemic Toxicity (Repeated Exposure):** In animals, effects have been reported on the following organs: Kidney, Liver, Blood. May cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen.

**Carcinogenicity:** Methylene chloride has been shown to increase the incidence of malignant tumors in mice and benign tumors in rats. Other animal studies on methylene chloride alone, as well as several human epidemiology studies, failed to show a tumorigenic response. Methylene chloride is not believed to pose a measurable carcinogenic risk to humans when handled as recommended. Studies have shown that tumors observed in mice are unique to that species.

**Teratogenicity:** Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

**Reproductive toxicity:** In animal studies, did not interfere with reproduction.

#### **Phenol:**

**Symptoms (Acute):** Central Nervous System Disorders, Cardiovascular system, Impaired Kidney Function, Respiratory disorders, Numbness

**Acute Oral:** LD50: 317 mg/kg in rats

**Acute Dermal:** LD50: 630 mg/kg in rabbits

**Acute Inhalation:** 4 hour LC50: 316 mg/m<sup>3</sup>

#### **Chronic Effects:**

**Mutagenicity:** Evidence of mutagenic effect.

**Teratogenicity:** No evidence of teratogenic effect (birth defect).

**Sensitization:** No evidence of sensitization effect.

**Reproductive:** No evidence of negative reproductive effects.

**Target Organ Effects: Acute:** Kidneys, Central Nervous System, Cardiovascular system, Lungs. **Chronic:** Kidneys, Liver

#### **Formic Acid:**

**Oral:** LD50: 1100mg/kg in rats

**Inhalation:** Oral 4 hour LD50: 7.4 mg/l in rats

## **12. ECOLOGICAL INFORMATION**

#### **Aquatic Toxicity:**

##### **Methylene Chloride**

LC50/EC50 in most sensitive aquatic species: 10 – 100 mg/l

96 hour LC50 in fathead minnow, flow-through test: 193 mg/l

LC50 in Daphnia magna, static test, OECD Test Guideline 202 or Equivalent: 27 mg/l

96 hour EC50 in green algae, OECD Test Guideline 201 or Equivalent, Biomass: > 662 mg/l

40 min EC50 in activated sludge, static test, OECD 209 Test: 2,590 mg/l

28 day NOEC in fathead minnow, flow-through test, growth: 83 mg/l

**Phenol:**

96 hour LC50 in Zebrafish: 27.8 mg/l  
96 hour LC50 in Bluegill: 13.5 mg/l (Static)  
96 hour LC50 in Fathead Minnow: 32 mg/l  
48 hour EC50 in Daphnia Magna: 10.2 – 15.5 mg/l

**Formic Acid:**

48 hour EC50 in daphnia magna: 120 mg/l  
24 hour EC50 in bluegill: 175 mg/l (Static)

**13. DISPOSAL CONSIDERATIONS**

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**14. TRANSPORT INFORMATION**

**U.S. DOT**

**Proper Shipping Name:** Corrosive Liquid, Toxic, N.O.S. (Formic Acid, Phenol)

**Hazard Class:** 8, Sub Risk 6.1

**Identification No.** UN2922

**Packing Group:** II

**IATA**

**Proper Shipping Name:** Corrosive Liquid, Toxic, N.O.S. (Formic Acid, Phenol)

**Hazard Class:** 8, Sub Risk 6.1

**Identification No.** UN2922

**Packing Group:** II

**IMDG**

**Proper Shipping Name:** Corrosive Liquid, Toxic, N.O.S. (Formic Acid, Phenol)

**Hazard Class:** 8, Sub Risk 6.1

**Identification No.** UN2922

**Packing Group:** II

## 15. REGULATORY INFORMATION

**TSCA:** All ingredients are listed in TSCA inventory.

**California Proposition 65:** This product contains a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

## 16. OTHER INFORMATION

### NPCA-HMIS Ratings:

Health	- 3
Flammability	- 0
Reactivity	- 1

Personal Protective rating to be supplied by user depending on the conditions.

### **FOR INDUSTRIAL USE ONLY**

### **REVISION DATE: JUNE 2015**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.