

# MATERIAL SAFETY DATA SHEET

---

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**MSDS Name:** Poly(maleic acid)

**Synonyms:** Hydrolyed Polymaleic Anhydride; Polymaleic Acid Homopolymer; Poly(maleic acid); HPMA;

## 2. COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	%	EINECS#
26099-09-2	Poly(maleic acid)	48-52	N/A

**Hazard Symbols:** C

**Risk Phrases:** 34

## 3. HAZARDS IDENTIFICATION

### Emergency Overview

Harmful in contact with skin and if swallowed or splashed into the eyes. Causes burns.

### Potential Health Effects

**Eye:** Moderately irritating to eyes.

**Skin:** Moderately irritating to skin. No more than slightly toxic if absorbed.

**Ingestion:** No more than slightly toxic if swallowed. Significant adverse health effects are not expected to develop if only small amounts (less than a mouthful) are swallowed.

**Inhalation:** Not available.

**Chronic:** Not available.

## 4. FIRST AID MEASURES

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally

lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:**

## 5. FIRE FIGHTING MEASURES

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

**Flash point:** Non flammable aqueous solution

**Hazardous products of combustion:** carbon monoxide (CO); carbon dioxide;

**Extinguishing media:** Water spray, foam, dry chemical, or carbon dioxide

**Unusual fire and explosion hazards:** Decomposes in a fire giving off irritant fumes.

## 6. ACCIDENTAL RELEASE MEASURES

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Neutralize washings with soda ash or lime. Flush spill area with water.

## 7. HANDLING and STORAGE

**Handling:** Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.

**Storage:** Keep in a cool, dry, well ventilated place. Stable under normal conditions of handling and storage.

## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

**Engineering Controls:** Use adequate ventilation to keep airborne concentrations low.

**Personal Protective Equipment**

**Eyes:** Wear chemical goggles.

**Skin:** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

**Respirators:** Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	liquid
Appearance:	amber
Odor:	mild
pH:	2.0 – 3.0, max (1% aq.sol)
Vapor Pressure:	Not available.
Viscosity dl/g 30 deg.C:	38
Boiling Point:	Not available.
Freezing/Melting Point:	Not available.
Autoignition Temperature:	Not available.
Flash Point:	Not available.
Explosion Limits, lower:	Not available.
Explosion Limits, upper:	Not available.
Decomposition	Not available.
Temperature:	
Solubility in water:	Soluble.
Specific Gravity/Density:	1.18 – 1.24 g/ml, 20 deg C

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong alkalai, nitrites, sulfites.

**Hazardous Decomposition Products:** carbon monoxide (CO); carbon dioxide;

**Hazardous Polymerization:** Has not been reported.

## 11. TOXICOLOGICAL INFORMATION

### LD50/LC50:

Skin,rabbie, moderately irritating to skin.

Oral, rat: LD50 = 15000 mg/kg.

### Carcinogenicity:

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. See actual entry in RTECS for complete information.

## **12. ECOLOGICAL INFORMATION**

### **Environmental Toxicity:**

Invertebrates: 48 h, EC50 Water flea (*Daphnia magna*) > 1,000 mg/l;

Fish: 96 h, LC50 Rainbow trout (*Oncorhynchus mykiss*) > 100 mg/l

### **Biodegradation:**

Zahn-Wellens (OECD 302B) 18 % 35 d.

## **13. DISPOSAL CONSIDERATIONS**

Dispose of in a manner consistent with federal, state, and local regulations.

## **14. TRANSPORT INFORMATION**

### **IATA**

Shipping Name: CORROSIVE LIQUID, N.O.S.\*

Hazard Class: 8

UN Number: 1760

Packing Group: III

### **IMO**

Shipping Name: CORROSIVE LIQUID, N.O.S.

Hazard Class: 8

UN Number: 1760

Packing Group: III

### **RID/ADR**

Shipping Name: CORROSIVE LIQUID, N.O.S.

Hazard Class: 8

UN Number: 1730

Packing Group: III

## **15. REGULATORY INFORMATION**

### **European/International Regulations**

European Labeling in Accordance with EC Directives

Hazard Symbols: C Corrosive

Risk Phrases:

R34 Causes burns.

Safety Phrases:

S25 Avoid contact with eyes.

S36/37/39 Wear suitable protective clothing, gloves and eye/ face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**US FEDERAL**

TSCA: CAS# 26099-09-2 is listed on the TSCA inventory.