

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.