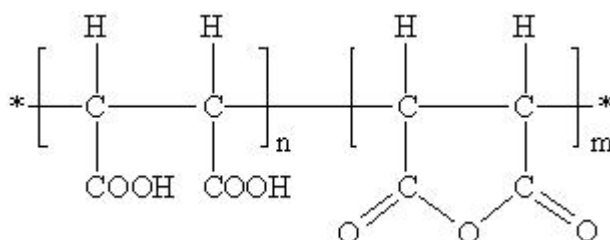


## Hydrolyzed Polymaleic Anhydride (HPMA)



<b>CAS No.</b>	26099-09-2	<b>EINECS No.</b>	607-861-7
<b>Molecular Formula</b>	(C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> ) <sub>n</sub>	<b>Molecular Weight</b>	400~800

### Structural Formula



### Product Features

HPMA is a low molecular weight polymeride, with average molecular weight 400-800. No toxicity, soluble in water, high chemical and thermal stability, decomposed temperature above 330 °C .HPMA has obvious threshold effect under high temperature (350 °C ) and high pH(8.3)level, suitable to be used in alkaline water system or built with agents. It has good scale inhibition against carbonate and phosphate scales under temperature 300 °C with effective time as long as 100 hours. Due to its good scale inhibition and high temperature tolerance properties, HPMA is widely used in desalination plant of flash vaporization equipment, low pressure boiler, steam locomotive, crude oil evaporation, petroleum pipeline, and industrial circulating cool water systems. In addition, HPMA has good corrosion inhibition effect when used together with zinc salt. HPMA can also used as additives for cement.

### Applications & Usage

HPMA is usually used together with organic phosphonate at dosage of 1-15ppm for circulating cool water system, oilfield fill water, crude oil dewatering and low-pressure boilers. HPMA has good scale inhibition (98%) and scale stripping properties. When used together with zinc salts, it can effectively inhibit carbon steel corrosion.

HPMA is also widely used in desalination plant of flash vaporization equipment, steam locomotive and petroleum pipeline. In addition, It can be used in combination with

phosphonates to improve performance and reduce phosphonate levels and thus provide a superior alternative to acrylate-based polymers. It can also be used as dispersant and scale inhibitor in cooling water treatment, Reverse Osmosis systems and many other scale control applications.

## Technical Specification

Parameter	Standard
Appearance	Pale yellow to umber transparent liquid
Solid content, %	48.0 min
Bromine value, mg/g	50.0 max
pH (1% water solution)	2.0-3.0
Density (20℃), g/cm <sup>3</sup>	1.18 min



## Scale & Corrosion Inhibition Performance

CaCO <sub>3</sub> inhibition	CaSO <sub>4</sub> inhibition	Silicate inhibition	Calcium tolerance
Excellent	Very good	Very good	Excellent
Clay/Silt Dispersion	Thermal Stability		
Very good	Excellent		

## Package & Storage

25L Drum	200L Drum	1000L IBC	ISO Tank
			
Storage for 10 months in shady room and dry place.			

## Hazard & Safety Precaution

Hazard Information	Safety Precaution
 Corrosive, Class 8, UN 3265	
Once contacted with eye and skin, flush with plenty of clean water.	

## Alternative Name / Synonyms

- HPMA;
- Hydrolyzed Polymaleic Anhydride;
- poly(maleicacid);
- Polymaleic Acid;
- MALEIC ACID POLYMER;
- Polymaleic Acid