

1-Hydroxy Ethylidene-1,1-Diphosphonic Acid(HEDP)

【CAS】 2809-21-4

Molecular Formula:C₂H₈O₇P₂

Molecular weight: 206.02

1, Properties

HEDP is an organophosphoric acid corrosion inhibitor. It can chelate with Fe, Cu, and Zn etc. metal ions and form stable complex compound. It can dissolve the oxidized materials on these metals' surfaces. Under 250°C HEDP shows excellent scale and corrosion inhibition ability. HEDP has good chemical stability under high pH value, hard to be hydrolyzed, and hard to be decomposed under ordinary light and heat conditions. Its acid/alkali and chlorine oxidation tolerance are better than that of other organophosphoric acids (salt). HEDP can react with metal ions in water system to form hexa-element chelating complex, with calcium ion in particular. Therefore, HEDP has good antiscale and visible threshold effects. When built together with other water treatment chemicals, it shows good synergistic effects.

The solid of HEDP is high purity product, suitable for using in winter and freezing districts. it is quite suitable for using as cleaning agent in electronic fields and as additives in daily chemicals.

2, Specification:

Items	Index		
	Colorless or light yellow transparent liquid		White crystal powder
Appearance			
Active content (as HEDP) % ≥	50.0	60.0	90.0
Phosphorous acid (as PO ₃ ³⁻)% ≤	2.0	2.0	0.80
Phosphoric acid (asPO ₄ ³⁻)% ≤	0.8	0.8	0.50
Chloride (as Cl ⁻)ppm ≤	200	100	100
pH (1% solution) ≤	1.5-2.0	1.5-2.0	1.5-2.0
Density (20°C)g/cm ³ ≥	1.36	1.40	—
Fe iron ppm ≤	10	10	5.0

3,HEDP Application range&using method

HEDP is widely used in the in circulating cool water system of electric power, chemical industry, metallurgy, fertilizer, etc. and widely used as a scale and corrosion inhibitor of low-pressure boilers, field waterflood, oil pipeline.

In light&textile industry, HEDP is used as detergent for metal and nonmetal. In dyeing industry, HEDP is used as peroxide stabilizer and dye-fixing agent; In non-cyanide electroplating, HEDP is used as chelating agent. The dosage of 1-10mg/L is preferred as scale inhibitor, 10-50mg/L as corrosion inhibitor, and 1000-2000mg/L as detergent. Usually, HEDP is used together with polycarboxylic acid.

4, Package and Storage:

ATMP liquid: Normally In 30kg or 250kg net Plastic Drum;ATMP solid: 25kg inner liner polyethylene (PE) bag, outer plastic woven bag, or confirmed by clients request.Storage for ten months in room shady and dry place.

5,Safety Protection:

HEDP is Acidity, Avoid contact with eye and skin, once contacted, flush with water.