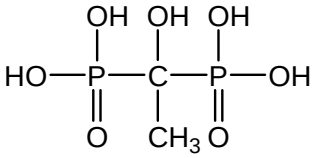
1-Hydroxy Ethylidene-1,1-Diphosphonic Acid (HEDP)

CAS No. 2809-21-4 **Dequest: 2010**

Molecular Formula: $C_2H_8O_7P_2$ **Molecular weight: 206.02**

Structural Formula:



Properties:

HEDP is an organophosphoric acid corrosion inhibitor. It can chelate with Fe, Cu, and Zn ions to form stable chelating compounds.It can dissolve the oxidized materials on these metals' surfaces. HEDP shows excellent scale and corrosion inhibition effects under temperature 250℃. 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 state of HEDP is crystal powder, suitable for usage in winter and freezing districts. Because of its high purity, it can be used as cleaning agent in electronic fields and as additives in daily chemicals.

Specification:

items	index	
Appearance	Colorless or light yellow transparent liquid	White crystal powder
Active content（HEDP）%	58.0-62.0	89.0min
Phosphorous acid（as PO_3^{3-}）%	2.0max	0.5max
Phosphoric acid （asPO_4^{3}）%	0.8max	0.5max
Chloride (as Cl^-)%	0.01max	0.01max
pH（1% solution）	2max	2max
Density （20℃）g/cm^3	1.40	—
Fe ion ppm	10max	20max
Colour APHA (Hazen)	40max	—

Usage:

HEDP is used as scale and corrosion inhibition in circulating cool water system, oil field and low-pressure boilers in fields such as electric power, chemical industry, metallurgy, fertilizer, etc.. In light woven 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.

Package and Storage:

HEDP liquid: Normally In 250kg net Plastic Drum, IBC drum can also be used as required

HEDP solid: 25kg inner liner polyethylene (PE) bag, outer plastic woven bag,, or confirmed by clients.

Storage for ten months in room shady and dry place.

Safety Protection:

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