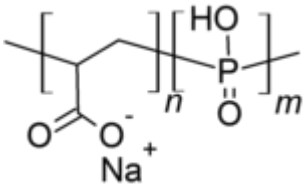
Phosphino-Carboxylic Acid(PCA)

CAS No.	71050-62-9	**EINECS No.**	615-245-4
Molecular Formula	$(C_3H_4O_2.H_3O_2P.Na)_n$		

Structural Formula



Product Features

Through the introduction of phosphonic group into carboxylic group, Phosphino-Carboxylic Acid(PCA) has good dispersion property for scale of calcium carbonate and calcium phosphate in circulating cool water system. Phosphino-Carboxylic Acid(PCA) has good scale inhibition for barium sulfate, strontium sulfate and silica scale.

Phosphino-Carboxylic Acid(PCA) has below properties as well.

Cost effective
Thermally and hydrolytically stable
Excellent performance under pulp/paper conditions
Effective against barium sulphate and calcium oxalate
Can be used in applications where steam may contact food
Cost savings by removing need for more expensive speciality copolymers
Provides extended performance under boiler conditions at pressures up to 1000 psig
Outperforms polyacrylates in pulp/paper applications
Multifunctional scale control and dispersancy in paper machines

.

Technical Specification

Parameter	Standard
Appearance	Colorless to light yellow transparent liquid
Solid content, %	50.0 min
Total phosphor (as PO43-), %	0.5 max
Density (20℃), g/cm^3	1.20 min
pH(1% water solution)	3.0~5.0

Applications & Usage

Phosphino-Carboxylic Acid(PCA) can be used as scale and corrosion inhibitor in circulating cool water system and oilfield refill water system. When used alone, the dosage of 5-20mg/L is preferred. Phosphino-Carboxylic Acid(PCA) can also be used together with organophosphines, copolymer, zinc salt or BTA.

Scale & Corrosion Inhibition Performance

$CaCO_3$ inhibition	$CaSO_4$ inhibition	$Ca_3(PO_4)_2$ inhibition	$BaSO_4$ inhibition	Silicate inhibition
Excellent	Very good	Good	Excellent	Very Good
Calcium tolerance	**Clay/Silt Dispersion**	**Iron Oxide Dispersion**	**Thermal Stability**	--
Very Good	Very good	Very good	Excellent	--

Package & Storage

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

Hazard & Safety Precaution

Hazard Information	Safety Precaution
Not regulated	
Once contacted with eye and skin, flush with plenty of clean water.	

Alternative Name / Synonyms

- PCA;
- POCA;
- phosphino carboxylic acid;
- Phosphino Carboxilic Acid (PCA) ;
- dispersant PCA;
- Copolymer of Phosphono and carboxylic Acid;
- 2-Propenoic acid, polymer with sodium phosphinate