

Univer CLEAN 300L

Dispersant for Industrial Water Treatment

Univer CLEAN 300L, as a highly quality phosphate stabilizer, is scale and corrosion inhibitor for industrial cooling water systems that rely on the corrosion inhibiting properties of organic phosphonates. The product is highly effective dispersant and stabilizer for calcium carbonate, calcium phosphate, iron and zinc oxide.

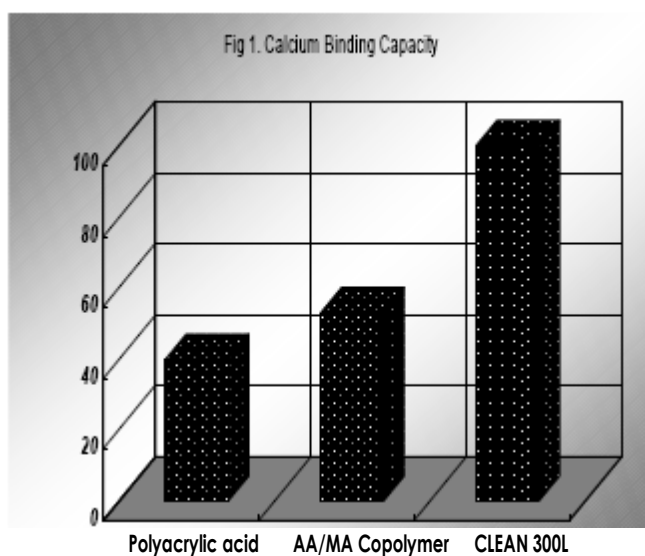
Typical Properties

Appearance : Clear to Slightly Turbid Yellow
Solid content : approx. 43 %
pH (Undiluted) : 5.6
Molecular weight, GPC : 4500
Specific Gravity : 1.21
Viscosity : 300 cps

Evaluation of CLEAN 300L

Calcium Carbonate Scale Inhibition Efficiency

Calcium Carbonate Scale Inhibition Efficiency Figure 1 compares the performance of CLEAN 300L with that of other competitive polymers.



Conditions

Ca^{2+} : 200 mg / L as CaCO_3

HCO_3^- : 250mg/L as CaCO_3

CO_3^{2-} : 100mg/L as CaCO_3

pH : 11

Dosage : 50ppm (actives)

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Calcium Phosphate Scale inhibition Efficiency

The performance of CLEAN 300L as a calcium phosphate inhibitor and dispersant was compared with that of other competitive polymers. As shown in Table 2, CLEAN 300L outperforms the both AA/MA Copolymer and polyacrylate in bottle test.

Table 2: Threshold Efficiency for Calcium Phosphate		
Inhibitor	Mw (approx)	Turbidity, NTU
None	-	80
Polyacrylic acid	2000	56
AA/MA Copolymer	3500	21
Clean 300L	4500	7.5
Condition : Ca^{2+} : 200 ppm as CaCO_3 PO_4^{3-} :100ppm pH : 8.5 Dosage Level 50mg/l		

Inhibition Efficiency for Ferric Hydroxide

Condition Fe^{3+} :100PPM Ca^{2+} :100PPMas CaCO_3 HCO_3^- :100PPMas CaCO_3 pH 8.5 40hr at 60°C							
Active Polymer, ppm		B	10	20	30	40	50
Inhibition Efficiency (%)	Polyacrylic acid	-	3.2	6.9	12.4	18.7	25.4
	AA/MA Copolymer	-	10.6	19.5	25.8	38.7	46.8
	CLEAN 300L	-	20.7	79.3	92.1	94.6	97.8

Test of Gel Formation

The degree of gelation for CLEAN 300L was compared with that of polyacrylate and AA/MA copolymer. As shown in Table, CLEAN 300L has a superior inhibiting efficiency for gel formation compared with other water treatment polymers.

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Inhibiting Efficiency of Gel formation

Condition						
Vessel: 500ml tall beaker						
Active Polymer: Concentration of 200ppm in a sample solution(solid content)						
Sample solution: Buffer, 10ml(0.12mol/dm ³						
H ₃ BO ₃ +0.02mol/dm ³ Na ₂ B ₄ O ₇ •10H ₂ O)						
CaCl ₂ solution as Ca ²⁺						
pH 8.5 (controlled by 1N NaOH Solution)						
Placing the sample vessel in a stationary state for 1hr at 90°C						
Concentration of Ca ²⁺ , ppm		200	400	600	800	1000
Precipitation take place	Polyacrylic acid	C	O	O	O	O
	AA/MA Copolymer	C	C	O	O	O
	CLEAN 300L	C	C	C	C	C

Thermal and Chemical Stability

CLEAN 300L has excellent thermal and chemical stability and can be used and stored over a broad range temperature and pH. It is not affected by chlorine or other oxidizing agents under normal use conditions.

Package

Drum 220Kg

CNTR 1,100kg

The information given in this bulletin is to the best of our knowledge accurate. It is intended to be helpful but no warranty is expressed or implied regarding the accuracy of such data. This is a chemical product developed and produced for industrial use. It is strictly requested not to use this product(s) to the application to be taken into human body.

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