

Univer CLEAN 550

Dispersant for Industrial Water Treatment

Scale and Corrosion Inhibitor for Industrial Water Programs

UNIVER CLEAN 550 is a scale and corrosion inhibitor for industrial boiler/cooling water systems and other related applications. It is highly stable in a wide range temperature and, also, effective dispersant and stabilizer for calcium carbonate, calcium phosphate, iron or zinc oxide either naturally occurring in the feed water or introduced via processing.

Typical Properties

Appearance	: Clear to Slightly Turbid Yellow
Odor	: Slight
Solid content	: approx. 45 %
pH (5% water diluted solution)	: 9.6
Molecular weight, GPC	: 3500
Specific Gravity	: 1.33
Viscosity	: 800 cps

Evaluation of CLEAN 550

Precipitation Inhibition of Calcium Silicate

Silicate is a stabilizer of peroxide in paper industry water treatment. Silicate forms insoluble scale, calcium silicate, at high pH and a polymeric stabilizer is required to control deposits of the calcium silicate. CLEAN 550 is highly effective performs this function.

Table 1: Inhibition Efficiency for Calcium Silicate		
Inhibitor	Mw (approx)	Inhibition Efficiency, %
None	-	0
Polyacrylic acid	2000	21
Clean 300L	3500	65
Condition : Ca ²⁺ : 200 ppm as CaCO ₃ CO ₃ ²⁻ : 100 ppm as CaCO ₃ SiO ₃ ²⁻ : 100 ppm pH : 11 Dosage Level 50ppm (active polymer)		

Calcium Carbonate Scale Inhibition Efficiency

Table 2: Calcium Binding Capacity		
Inhibitor	Mw (approx)	Inhibition Efficiency, %
None	-	0
Polyacrylic acid	2000	37
Clean 550	3500	65
Condition : Ca ²⁺ : 200 mg/L as CaCO ₃ HCO ₃ ⁻ : 250 mg/L as CaCO ₃ CO ₃ ²⁻ : 100mg/L as CaCO ₃ pH : 11 Dosage Level 50ppm (active polymer)		

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Calcium Phosphate Scale inhibition Efficiency

The performance of CLEAN 550 as a calcium phosphate inhibitor and dispersant was compared with that of other competitive polymers. As shown in Table 1, CLEAN 550 outperforms polyacrylate in bottle test.

Table 3: Threshold Efficiency for Calcium Phosphate		
Inhibitor	Mw (approx)	Turbidity, NTU
None	-	80
Polyacrylic acid	2000	56
Clean 550	3500	21
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⁺ : 100PPM as CaCO ₃ HCO ₃ ⁻ : 100 PPM as 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
	CLEAN 550	-	10.6	19.5	25.8	38.7	46.8

Thermal and Chemical Stability

CLEAN 550 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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