Polyfam® PR599

Preliminary Technical Data Sheet

Characteristics

Polyfam® PR599 is an aqueous dispersion of acrylic acid homopolymer.

Stabilization

Surfactants

Recommended Application Areas

General purpose antiscalant

Specification

These technical data are determined for each batch before its release by our quality control laboratory.

	Unit	Value	Dev.
Solids content (2gr, 2h; 150 °C)	%	50 ±	1
Viscosity (ISO 2555) Brookfield-viscometer	mPa.s (cP)	135 ±	25
pH value (ISO 976)		3.5 ±	0.5

Additional Data

These data are solely to describe the product. They are not subject to constant monitoring or part of the specification.

	Unit	Value
Average Molecular Weight		Approx. 2000
Density (ISO 2811)	g/cm^3	Approx. 1.2

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Applications

Polyfam® PR599 is a low molecular weight acrylic acid homopolymer that can effectively inhibit the deposition of Ca/Mg salts including carbonates and sulphates, barium sulfate, calcium oxalate and other low solubility salts, which generally deposit on metal surfaces in the form of scales.

Polyfam® PR599 is phosphorous free; therefore, it can be used in phosphorous restricted applications.

Polyfam® PR599 can be used very effectively in industrial water treatment, including boilers and cooling towers, as well as sugar and RO antiscalant formulations.

Advantages of *Polyfam® PR599 are:*

- Good thermal stability
- Excellent stability over wide range of pH
- Good antiscaling efficiency at low dosage over wide range of pH, water hardness and high temperature conditions
- Good inhibition for Calcium Carbonate ($CaCO_3$), Strontium Sulfate ($SrSO_4$), Barium Sulfate ($BaSO_4$) and Calcium Sulfate ($CaSO_4$)
- Good phosphate inhibition
- Exceptional stability in the presence of hypochlorite

For cooling tower and RO application, the dosage level of *Polyfam® PR599 should be between 5-10 ppm on active polymer basis.*

For boiler application, the dosage level of *Polyfam® PR599 should be between 10-15 ppm on active polymer basis.*

Comparative test results

Calcium carbonate and Calcium Phosphate inhibition

Criteria	Calcium Carbonate test	Calcium Phosphate test
Conc. of Ca as $CaCO_3$ (ppm)	1000	250
Conc. of PO_4 (ppm)	-	6
pH	7.5-8	8-8.5
Temperature (˚C)	55±1	70±1
Duration (hr)	24	18

Performance	Conc. as supplied (ppm)	*Polyfam® PR599*	Acumer™ 1000
Calcium Carbonate test	5	41.09 %	40.11 %
	10	57.43 %	56.57 %
Calcium Phosphate test	5	88.03 %	88.73 %
	10	90.68 %	90 %

Safety and handling

Polyfam® PR599 is generally safe but one should wear gloves and glasses to handle the product thereby avoiding contact with eyes and prolonged contact with skin.

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