TECHNICAL DATA SHEET

Carbosperse™ K-7028 and K-7058 Series
Water Polymerized Polyacrylates

GENERAL

Carbosperse K-7028 and K-7058 series water polymerized polyacrylates are a family of low molecular weight water soluble acrylic acid polymers. These polymers are general purpose dispersants and scale inhibitors that provide high quality, reliable deposit control performance in many different applications when used alone or as components of formulations that may include corrosion inhibitors, microbiocides, and other additives.

PRODUCTS

The Carbosperse K-7028 and K-7058 series water polymerized polyacrylates include K-7028, K-7058, K-7058N, and K-7058D.

FEATURES AND BENEFITS

	Features	Benefits
•	Excellent threshold inhibition	Prevent the formation of scalant crystals which if formed may cause scale/deposit problems
•	Excellent crystal distortion	Reduce adherence of scale-forming minerals therefore keeping heat transfer surfaces clean and maximizing system efficiency
•	Efficient dispersant	Minimize blow down requirements thereby increasing equipment operating efficiency and reducing downtime
•	Effective at low dosages	Facilitate cost-effective products for formulators and end users
•	Consistent product quality	Ensure predictable performance
•	Compatible with most water treatment chemicals	Provide formulating latitude and prolonged shelf life
•	Compatible with chlorine	Suitable for use in cooling water formulations where chlorine is used to control microbiological fouling
•	Good calcium ion tolerance	Resist the formation of insoluble calcium/polymer salt; thereby are well suited for use in high hardness water and afford more protection in the event of system upsets (e.g., overdosing)

CBSK700-WPPAAs-Family-TDS (Oct-07)

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	Features (continued)	Benefits (continued)
•	Narrow molecular weight distribution	Maximum performance tailored to the desired function and application
•	Hydrolytically stable	Provide formulating latitude and excellent shelf life as supplied and as formulation component
•	Thermally stable	Retain activity in high pressure / temperature applications
•	High total solids and active polymer contents	Lower transportation and handling costs
•	Relatively nontoxic	No unusual environmental issues in water treatment applications

APPLICATIONS

Carbosperse K-7028 and K-7058 series polyacrylates provide high quality, reliable deposit control performance in many different applications when used alone or as components of formulations and/or treatment programs that may include corrosion inhibitors, microbiocides, and other additives.

TYPICAL PROPERTIES AND CHARACTERISTICS

Carbosperse K-7028, K-7058, and K-7058N polyacrylates are supplied as water white to amber, slightly hazy water solutions. Carbosperse K-7058D is the powdered sodium polyacrylate form of K-7058. The typical properties and characteristics of these polymers include:

Parameter	K-7028	K-7058	K-7058N	K-7058D
Nominal molecular weight [(a)]	2,300	7,300	7,300	7,300
Total solids (%) [(b)]	55	50	45	89
Moisture content (%)	n/a	n/a	n/a	11
Active solids (%) [(c)]	51.7	49.2	35.7	70
Neutralization (%) [(d)]	≤5	≤5	>85	>85
pH	3.7	2.5	7.0	7.5 [(e)]
Viscosity (cP at 25°C)	450	425	675	n/a
Specific gravity	1.2	1.22	1.2	n/a
Apparent gravity (gm/cc)	n/a	n/a	n/a	0.6

(a) M_W = Weight-average molecular weight expressed as polyacrylic acid as determined by an aqueous GPC method.
(b) Determined via Lubrizol's automated computerized microwave oven procedure.
(c) Active solids = total solids - counter ions (sodium) from post polymerization neutralization with sodium hydroxide.
(d) Percent neutralization of available carboxylic acid.
(e) pH of a 1% solution in water.

For more information, contact Lubrizol or go to the web site noted on the preceding page.