

KemGuard® Antiscalants for Municipal Water Treatment

Kemira

Our KemGuard® product family is a versatile series of polymeric antiscalant and dispersant chemistries designed to handle the most vexing problems encountered by water treatment specialists.



Differentiated Technology

Kemira's range of water treatment polymers, well-recognized for their differentiated functionality, now includes polyacrylic acids and their salts, as well as other low molecular weight anionic copolymers. As part of a coherent water treatment program, KemGuard antiscalants inhibit the precipitation of insoluble alkaline earth metal salts, alter crystal morphology, disperse silt sludge and biological matter, stabilize calcium scale and provide iron transport.

This range of functions promotes cleaner systems leading to better heat transfer, improved economics and longer equipment life. KemGuard products are effective over a wide range of pH and hardness, in addition, these aqueous polymers and formulations exhibit excellent thermal stability. Our products are recommended for use in municipal and industrial water systems where mineral scales and other deposits must be controlled. They are fully compatible with commonly used chemicals in water treatment.

Benefits

- Capable of direct feed – simplifies dilution, feed and handling
- Cost-effective
- Easy to formulate
- Homogeneous liquids – do not require mixing before use
- Rapidly dissolving, readily dilutable liquids
- Stable over a wide range of storage/operating temperatures.
- NSF approvals

Applications

- Once-through and recirculating cooling water systems
- Boiler water treatment and sludge dispersion
- Membrane and thermal desalination
- Municipal wastewater treatment
- Industrial water treatment
- Detergents and cleaner formulations

KemGuard® Dispersants & Antiscalants for RO Water Treatment

Product	Chemistry	Possible Applications	pH	Mw	Total Solids
KemGuard 5800 *	Sulfonated dopolymer	Seawater, cooling and boiler waters	<1	2,300	50%
KemGuard 5802**	Poly (acrylic acid), part-neutralized (Na salt)	CaCO ₃ , CaSO ₄ , CaF ₂ scale control	4.5	2,200	54%
KemGuard 5803	Poly (acrylic acid), part-neutralized (Na salt)	Cooling and boiler water	4.0	4,000	50%
KemGuard 5804**	Poly (acrylic acid), sodium salt	Cooling and boiler water	7.2	2,200	43%
KemGuard 5805	Poly (acrylic acid), part-neutralized (Na salt)	Cooling and boiler water	2.5	4,500	50%
KemGuard 5806	Poly (acrylic acid), sodium salt	Cooling and boiler water neutralized	7.0	7,200	45%
KemGuard 5807	Poly (acrylic acid), sodium salt	Cooling and boiler water, detergents	6.3	6,500	45%
KemGuard 5810	Poly (methacrylic acid), sodium salt	Cooling and boiler water	9.5	17,000	30%
KemGuard 5811	Poly (acrylic acid), sodium salt	Cooling and boiler water, detergents	7.5	3,500	43%
KemGuard 5812	Poly (acrylic acid), ammonium salt	Mineral scales	7.2	4,000	40%
KemGuard 5817	Poly (acrylic acid), part-neutralized (Na salt)	Mineral scales and deposits	2.3	12,000	50%
KemGuard 5822	Poly (acrylic acid), sodium salt	Detergent deposit applications	8.0	100,000	35%
KemGuard 5823	Poly (acrylic acid), sodium salt	Mineral scales and deposits	8.5	3,500	40%
KemGuard 5826	Phosphono and carboxylic acid	Cooling and boiler water	7.0	2,700	43%
KemGuard 5840	Acrylic/sulfonic acid copolymer, Na salt	CaPO ₄ , CaSO ₄ control	3.2	18,000	46%
KemGuard 5841	Poly (acrylic acid), part-neutralized (Na salt)	Cooling water	2.8	2,000	52%
KemGuard 5861	Poly (acrylic acid), part-neutralized (Na salt)	Cooling and boiler water	2.0	6,000	49%
KemGuard 5865	Acrylic/sulfonic acid copolymer, Na salt	Cooling and boiler water	4.2	20,000	43%
KemGuard 5870	Acrylic acid copolymer	Mineral scales and deposits	8.5	2,200	50%
KemGuard 5876	Acrylic acid terpolymer, sodium salt	Detergent deposit applications	5.0	2,300	45%
KemGuard 8001	PAPEMP phosphonate & KemGuard 5840 blend	Severe CaCO ₃ , CaSO ₄ , BaSO ₄	4.7	N/A	13% PO ₄
KemGuard 8010	PAPEMP phosphonate	CaCO ₃ severe conditions	4.5	N/A	22% PO ₄

* Struvite and vivianite ** NSF Approved

Kemira makes this information available as an accommodation to its customers and it is intended to be solely a guide in customers' evaluation of the products. You must test our products to determine if they are suitable for your intended uses and applications, as well as from the health, safety and environmental standpoint. You must also instruct your employees, agents, contractors, customers or any third party which may be exposed to the products about all applicable precautions. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. You assume full liability and responsibility for compliance with all information and precautions and with all laws, statutes, ordinances and regulations of any governmental authority applicable to the processing, transportation, delivery, unloading, discharge, storage, handling, sale and use of each product. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use.

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Kemira in brief

Kemira is a global two billion euro chemicals company that is focused on serving customers in water-intensive industries. The company offers water quality and quantity management that improves customers' energy, water, and raw material efficiency. Kemira's goal is to be a leading water chemistry company.

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