



ACUMER™ 4800 High Performance Scale Inhibitor

Description

ACUMER™ 4800 is a highly effective scale inhibitor that can be used in water treatment applications targeted toward scale prevention of reverse osmosis membranes and thermal desalination processes. ACUMER 4800 is a low molecular weight carboxylate copolymer that offers exceptional precipitation inhibition for calcium carbonate and other sparingly soluble salts. It shows good activity over a wide pH range, water hardness and temperature conditions.

ACUMER 4800 contains no phosphorus, making its use acceptable where legislation requires that discharge waters contain low or no phosphorus.

ACUMER 4800 is promoted for indirect food contact application in Europe and has some approvals. For more information, please contact your local Dow representative.

Typical Properties

(These properties are typical but do not constitute specifications.)

Property	Value
Appearance	Clear to slightly hazy light amber liquid
Chemical nature	Carboxylate copolymer
Molecular weight*	2000
Total solids (%)	55
pH as is (at 25°C)	4
Density (at 25°C)	1.3
Brookfield viscosity (mPa.s/cps at 25°C)	500

*Measured by aqueous GPC and reported as acid form

Application

ACUMER™ 4800 can be used to inhibit scale buildup on surfaces through at least three mechanisms:

- Solubility enhancement or threshold effect, which reduces precipitation of sparingly soluble inorganic salts.
- Crystal modification, which deforms the growing inorganic salt crystal to give small, irregular, readily fractured crystals that do not adhere well to surfaces.
- Dispersing activity, which prevents precipitated crystals or other inorganic particulates from agglomerating and depositing on surfaces.

ACUMER 4800 anti-scaling efficacy is better than current acrylic homopolymers and can be used in very harsh conditions when acrylic homopolymers fail.

ACUMER 4800 can be used in cooling circuits particularly in the food industry.

Thermal and Chemical Stability

ACUMER™ 4800 has excellent thermal and chemical stability and can be used over a broad range of temperature and pH. However, products containing ACUMER 4800 should be formulated between pH 2 and 9 to maintain product stability.

Storage
Recommendation

Under long term cold storage, freezing of ACUMER™ 4800 may cause some separation of the components.

Although product performance is not impaired as long as the whole container is heated and well mixed, it is recommended to keep ACUMER 4800 from freezing.

Handling Precautions	Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.
Storage	Store products in tightly closed original containers at temperatures recommended on the product label.
Disposal Considerations	<p>Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.</p> <p>It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.</p>
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