ACUMER™ 4800 High Performance Scale Inhibitor

Description

ACUMER 4800 is a highly effective scale inhibitor 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 superior 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 Rohm and Haas representative.

Typical Properties

These properties are typical but do not constitute specifications.

| 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 |

*Mixed by aqueous GPC and reported as acid form

Application

ACUMER 4800 inhibits 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 is recommended for 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.
Material Safety Data Sheets

MSDS are available for all Rohm and Haas products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products.

We recommend that you obtain copies of the MSDS from your Rohm and Haas technical representative or from the sales office nearest to you, before using our products in your facilities. We also suggest that you contact your suppliers of other materials recommended for use with our products for appropriate health and safety precautions before using them.

To obtain samples, technical assistance, a Material Safety Data Sheet (MSDS) or to have a technical representative call for an appointment, contact the nearest Rohm and Haas branch office.

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