

Technical Data Sheet

ACUMER™ 1000

Scale Inhibitor and Dispersant

Typical Properties

Property	Typical Values
Appearance	Clear solution*
Chemical nature	Polycarboxylate
Grade	Na salt
Average molecular weight	30000 (Mw)
Total solids (%)	30
pH as is (at 25°C)	10
Bulk density (at 25°C)	1.19
Brookfield Viscosity (m Pa. s/cps at 25°C)	225

*A slight haze may appear; this does not affect the intrinsic properties of the product or its performance.

Chemistry and Mode of Action

ACUMER™ 1000 is a low molecular weight polycarboxylate with a selected molecular weight around 30000 to optimize the dispersant performance. It can be used effectively through at least three mechanisms:

- Solubility enhancement by threshold effect, which reduces precipitation of low solubility inorganic salts (calcium carbonate in particular).
- Crystal modification, which deforms the growing inorganic salt crystal to give small, irregular, readily fractured crystals that do not adhere well to surfaces and can be easily removed during cleaning operations.

• Dispersing activity, which prevents precipitated crystals or other inorganic particles from agglomerating and depositing on surfaces. ACUMER™ 1000 is a general-purpose scale inhibitor and dispersant. It is effective to inhibit scale deposition on equipment surfaces. It acts against precipitation and deposition of calcium carbonate, calcium sulphate and other sparingly soluble salts.

ACUMER 1000 is thermally very stable. There is no weight loss up to 450°C (thermo gravimetric analysis). It is particularly recommended to use ACUMER 1000 as sludge dispersant and scale control polymer in boiler, even in high pressure boilers

Suggested Applications

• **Industrial water treatment:**

- o Scale inhibition in open recirculating cooling circuits
- o Dispersant for all types of cooling circuits
- o Dispersant for boiler sludge control

Benefits of ACUMER™ 1000

- Contains no phosphorus, making its use acceptable where legislation requires that discharge waters contain no or low phosphorous.
- Exhibits exceptional stability in the presence of hypochlorite.
- Shows good anti-scaling efficiency at low dosage over a wide range of pH, water hardness and temperature conditions.
- Exhibits a very good thermal stability.
- Offers a very strong dispersant activity.