

ZEELCHEM™ 3100 — Copolymer of AA/AMPS

Acrylic Acid – AMPS Copolymer (AA/AMPS)

Technical Data Sheet · Revision 00 · Date of issue 19-10-2026

ISO 9001:2015 · ISO 22000:2018 · ISO 14001:2015 CERTIFIED MANUFACTURER · MADE IN INDIA

Product name	ZEELCHEM™ 3100 Copolymer of AA/AMPS
Chemical name	Acrylic Acid – AMPS Copolymer (AA/AMPS)
Synonyms / abbreviation	AA/AMPS
CAS No.	40623-75-4
Molecular formula	$(C_3H_4O_2 \cdot C_7H_{13}NO_4S)_n$
Molecular weight	Approx. 5,000 – 15,000
Category	Water Treatment Polymer
HS code (indicative)	3906.90
Physical form	Colourless to light-yellow transparent liquid

PRODUCT DESCRIPTION

ZEELCHEM™ 3100 is a sulfonated copolymer of acrylic acid and 2-acrylamido-2-methylpropane sulfonic acid (AMPS). The strongly acidic sulfonate group keeps the polymer active in waters with very high calcium hardness, and gives outstanding inhibition of calcium phosphate and stabilisation of zinc, iron and manganese.

Calcium phosphate is the main deposit risk in phosphate-based cooling water programmes. ZEELCHEM™ 3100 inhibits $Ca_3(PO_4)_2$ formation, stabilises zinc ions so they remain available as cathodic corrosion inhibitors, and disperses iron oxide and suspended solids even under oxidising biocide (chlorine) dosing.

Because of its calcium tolerance and resistance to chlorine, AA/AMPS is a core building block in modern high-cycle cooling water programmes and in membrane antiscalant formulations for reverse-osmosis (RO) and nanofiltration systems.

KEY FEATURES & BENEFITS

- Excellent calcium phosphate and calcium carbonate inhibition
- Stabilises zinc, ferric iron and manganese
- High calcium tolerance; resists polymer–calcium precipitation
- Stable in the presence of chlorine and other oxidising biocides
- Disperses iron oxide, silt and suspended matter
- Key raw material for RO antiscalant blends

TYPICAL SPECIFICATIONS

Parameter	Specification	Test method
Appearance	Colourless to light-yellow transparent liquid	Visual (25 °C, clear glass)
Solid content	≥ 40.0 %	Gravimetric, oven 120 °C

Parameter	Specification	Test method
Free monomer (as acrylic acid)	≤ 0.50 %	Bromination titration / HPLC
pH (1 % aqueous solution)	2.5 – 4.0	pH meter, 1 % aq., 25 °C
Density at 20 °C	≥ 1.15 g/cm ³	Density bottle / hydrometer, 20 °C

Values are typical specifications. Each consignment is supplied with a batch Certificate of Analysis (COA). Custom specifications are available on request.

APPLICATIONS

- High-cycle open cooling towers
- Phosphate / zinc corrosion inhibitor programmes
- RO and NF membrane antiscalant formulations
- Boiler water dispersant
- Oilfield water injection
- Iron and manganese control in process water

DOSAGE & METHOD OF USE

Typical dosage is 5 – 30 mg/L in cooling water, depending on phosphate, zinc and iron levels and cycles of concentration. In RO antiscalant formulations, it is normally used at 5 – 20 % of the formulation.

Dose with a metering pump into a point of good mixing. The product may be diluted with good-quality (soft or demineralised) water; dilute solutions should be prepared fresh. Compatible with other ZEELCHEM™ polymers and phosphonates; check compatibility before blending with strong oxidisers or cationic products.

PACKAGING

60.0 kg net HDPE carboy. Each carboy is labelled with product name, batch number, net weight and GHS hazard information.

STORAGE & SHELF LIFE

Store in closed HDPE containers in a cool, shaded, ventilated area between 5 °C and 40 °C. Avoid freezing and direct sunlight; mix gently before use if slight stratification is seen. Shelf life: 12 months in unopened packing.

SAFETY & HANDLING

	Signal word: WARNING H315: Causes skin irritation. H319: Causes serious eye irritation.
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Mildly acidic polymer solution. Use goggles and gloves; avoid contact with eyes and prolonged skin contact. Rinse spills with water. Refer to the ZEELCHEM™ SDS (GHS format) before handling. Full information is given in the ZEELCHEM™ Safety Data Sheet (SDS/MSDS).

QUALITY & REGULATORY

- Manufactured under an ISO 9001:2015 quality management system; ISO 22000:2018 and ISO 14001:2015 certified.
- Batch traceability with retained samples; COA with every consignment.
- SDS prepared to GHS (UN Rev. 10), ISO 11014, Indian MSIHC Rules 1989 (Schedule 9), EU REACH Annex II and US OSHA HCS formats.

- Transport: Not regulated as dangerous goods (ADR / IMDG / IATA).

The information in this data sheet is based on our present knowledge and experience and is given in good faith. It does not constitute a warranty of specific properties or suitability for a particular application. Users should carry out their own tests. ZEEL PRODUCT accepts no liability for use outside our recommendations.