



## ACUMER™ 4200

### Water Treatment Polymer

#### Description

Dow manufactures a wide range of polymers to serve the water treatment industry. Dow's research effort is application focused. Our background helps us to screen many different combinations of monomers, molecular weight and processes in search of the polymer that will offer enhanced benefit to our customers.

#### Typical Properties

ACUMER™ 4200	Typical	Range
Total solids (%)	49.0	47-51
pH	7.5	6.5-8.5

These properties are typical but do not constitute specifications.

For product specifications, please contact the Customer Information Group (CIG) of The Dow Chemical Company.

#### General Application

ACUMER™ 4200 polymer is a high performance scale inhibitor specifically developed to help prevent both calcium carbonate and calcium sulfate salt deposits in water systems. The unique feature of ACUMER 4200 polymer is the improved overall performance for inhibiting these calcium scales over conventional polymaleic acids, acrylate polymers and phosphonates. This product will also help prevent the formation of other scales such as calcium oxalate.

ACUMER 4200 polymer will also disperse colloids and fine particles such as clay.

#### Performance Benefits

- General purpose scale inhibitor/dispersant—effective on a variety of foulants and scale formers (calcium oxalate, calcium carbonate, calcium sulfate and silt).
- Exceptional calcium carbonate inhibition, performs in high alkalinity/hardness and high total dissolved solids systems and provides longer lasting efficacy than conventional polyacrylates.
- Excellent calcium sulfate inhibition, performs in high and low pH water systems.
- Very effective inhibition of barium sulfate.
- Enhances inhibition properties in blends with high performance dispersant polymers (e.g., ACUMER™ 2000 polymer and ACUMER™ 3100 polymer).
- Stable at all pH levels.

#### Chemical Mode of Action

ACUMER™ 4200 polymer is a modified acrylic homopolymer with selected molecular weight around 2000 in order to optimize the following properties:

- **Anti-precipitation**—ACUMER 4200 polymer will increase solubility of precipitating salts by threshold effect. This allows reduction of precipitation of inorganic salts (carbonates, phosphates, sulphates of Ca and Mg) in the boiler/cooling circuits.
- **Crystal distortion**—This polymer gets entrapped into crystal lattices, helping to prevent their growth and facilitating their breakage. This minimizes adherence of salts on surfaces.
- **Dispersing properties**—This polymer is a good dispersant for sludge/clay and will help to prevent their redeposition on surfaces.

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ACUMER™ 4200 Water Treatment Polymer

713-00079-1013-BDC

## **Handling Precautions**

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

## **Disposal Considerations**

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.

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.

## **Product Stewardship**

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products—from the initial concept and research, to manufacture, use, sale, disposal and recycle of each product.

## **Customer Notice**

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including Safety Data Sheets (SDS), should be consulted prior to use of Dow products. Current Safety Data Sheets are available from Dow.

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