ACUMER™ 6600 Dispersant
A High Performance Biodispersant

Regional Product Availability
- North America
- Europe, Middle East and Africa
- Latin America
- Asia-Pacific

Description
ACUMER™ 6600 Dispersant is a highly effective biodispersant for industrial water treatment. ACUMER™ 6600 dispersant is based on a carboxylated polyelectrolyte copolymer having a certain hydrophobic character that offers exceptional dispersing properties for organic and inorganic particles. It shows good activity over a wide pH range, water hardness and temperature conditions.

ACUMER™ 6600 Scale Dispersant contains no phosphorus, making its use acceptable where legislation requires that discharge waters contain low or no phosphorus.

Characteristics
Typical Physical Properties
These properties are typical but do not constitute specifications.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear yellow liquid</td>
</tr>
<tr>
<td>Chemical Nature</td>
<td>Carboxylate copolymer</td>
</tr>
<tr>
<td>Total Solids, %</td>
<td>25</td>
</tr>
<tr>
<td>pH (as is @ 25°C)</td>
<td>10</td>
</tr>
<tr>
<td>Molecular Weight¹</td>
<td>11 000</td>
</tr>
<tr>
<td>Density @ 25°C</td>
<td>1.1</td>
</tr>
<tr>
<td>Brookfield Viscosity (mPa.s(cps @ 25°C)</td>
<td>100</td>
</tr>
</tbody>
</table>

¹Measured by aqueous GPC and reported as acid form.

Application
ACUMER™ 6600 Dispersant, due to its chemistry, is extremely tolerant of calcium ions. Its solubility in calcium containing aqueous solutions is notably higher than acrylic homopolymers. The table below compares calcium tolerance of acrylic homopolymers and ACUMER™ 6600 Dispersant.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>CALCIUM TOLERANCE (mg CaCO3 / g polymer)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic homopolymer Mw 4500</td>
<td>1300</td>
</tr>
<tr>
<td>Acrylic homopolymer Mw 2000</td>
<td>3100</td>
</tr>
<tr>
<td>ACUMERTM 6000 Dispersant</td>
<td>&gt; 8000</td>
</tr>
</tbody>
</table>

*0.08 M NaCl, 300 ppm polymer, pH 10, titrated with 15 mg Ca / ml, 5 NTU end point
ACUMER™ 6600 Dispersant inhibits scale/fouling build up 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 organic and inorganic particulates from agglomerating and depositing on surfaces.

When used in a cooling circuit, ACUMER™ 6600 Dispersant, due to its dual hydrophilic – hydrophobic character, will help prevent inorganic as well as organic scale, keeping tubes and exchangers clean.

The absence of scale / fouling will limit corrosion and bacterial contamination.

ACUMER™ 6600 Dispersant can also be used in boilers. Its high thermal stability combined with high dispersing effect for organic and inorganic materials can significantly reduce the tendency for scale and sludge deposit.

ACUMER™ 6600 Dispersant, due to its hydrophobic part, is weakly surface active and can produce some foam at high dosage. However, at normal use levels, ACUMER™ 6600 Dispersant should present no foaming problem.

**Thermal and Chemical Stability**

ACUMER™ 6600 Dispersant has excellent thermal and chemical stability and can be used over a broad range of temperatures and pH levels.

**Storage Recommendation**

Under long term cold storage, freezing of ACUMER™ 6600 Dispersant 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 6600 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

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 Coating Materials 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, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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