Benetex® OB-M1
Water-Soluble Fluorescent Whitening Agent

Overview
Benetex OB-M1 is a light-fast, chlorine-stable, water-soluble fluorescent whitening agent for use in a wide range of water-based products and formulations. Like other optical brighteners, Benetex OB-M1 functions by a fluorescence process involving absorption of invisible UV light and emission of visible blue light.

Chemistry
- Chemical Name: Benzenesulfonic acid, 2,2'−([1,1'−biphenyl]−4,4'−diyldi−2,1−ethenediyl)bis−, sodium salt (1:2)
- CAS Number: 27344-41-8
- Chemical Structure:

![Chemical Structure Image]

Typical Properties
- Product Form: Solid
- Melting Range: > 300°C
- Molecular Weight: 562.6 g/mol

Solubility in water
- ~ 25 g/L (25°C)
- ~ 300 g/L (95°C)

Applications
Benetex OB-M1 is recommended as a fluorescent whitening agent in a variety of water-based products and formulations, including conventional and compact detergent powders, liquid detergents, industrial detergents as well as soap bars, softeners, and boosters. It is effective at relative low loading levels over the whole temperature range from cold to medium washing temperatures. It is also useful as a tracer in water systems.
Advantages

- Improves detergent color and provides a whiter appearance
- Whiteness delivery: Benetex OB-M1 yields intense white effects on cellulosic fibers in both cold and hot water washing
- Stability: Benetex OB-M1 is stable against bleaching agents such as hypochlorite and peroxide and also to alkali, acids, and perspiration
- Excellent exhaustion rate
- High solubility in water, even at low temperatures
- Very good wet and dry light-fastness
- Good leveling and low spotting FWA

Guidelines for Use

Suggested loading levels for Benetex OB-M1 are provided in the table below. The exact formulation to be used is dependent on the application, performance requirements, and other factors, and should be determined by the user based on testing to simulate actual conditions of use. Please contact Mayzo for specific recommendations.

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Suggested Loading Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional detergent powders</td>
<td>0.05 – 0.25%</td>
</tr>
<tr>
<td>Compact detergent powders</td>
<td>0.10 – 0.40%</td>
</tr>
<tr>
<td>Unstructured liquid detergent</td>
<td>0.05 – 0.40%</td>
</tr>
<tr>
<td>Structured liquid detergent</td>
<td>0.05 – 0.15%</td>
</tr>
<tr>
<td>Anhydrous liquid detergents</td>
<td>0.10 – 0.40%</td>
</tr>
<tr>
<td>Detergent bars</td>
<td>0.05 – 0.15%</td>
</tr>
<tr>
<td>Soap bars</td>
<td>0.02 – 0.05%</td>
</tr>
<tr>
<td>Industrial detergents</td>
<td>0.20 – 1.00%</td>
</tr>
<tr>
<td>Rinse softeners</td>
<td>0.02 – 0.05%</td>
</tr>
<tr>
<td>Boosters</td>
<td>0.20 – 1.00%</td>
</tr>
<tr>
<td>Creams</td>
<td>0.05 – 0.15%</td>
</tr>
</tbody>
</table>

Storage

This product may be stored up to two years in a sealed container. Containers should be kept tightly closed when not in use and stored in a cool, dry place.

Safety

Please consult the Safety Data Sheet (SDS) prior to handling or using this product.

FDA Regulations

Benetex OB-M1 has not been cleared by the FDA for use in food contact applications.