

Rheological Additive for Low to Intermediate Polarity Organic Systems

GENERAL INFORMATION

BENTONE 38 is an organic derivative of a hectorite clay. This highly efficient rheological additive is designed for low to intermediate polarity organic systems.

PHYSICAL PROPERTIES

Composition	organic derivative of a hectorite clay
Colour / Form	creamy white, finely divided powder
Density	1.7 g/cm ³
Moisture	Max. 3 %

APPLICATIONS

- Adhesives and mastic compounds
- Aerosol paints
- Anti-corrosive paints
- Automotive finishes, primers
- Coil coating systems
- Cosmetics
- Industrial paints
- Interior and exterior house paints
- Mould release agents
- Plastics, organosols
- Primers
- Refinish systems
- Trichlorethylene dip coatings
- Water-reducible systems
- Wood stains

KEY PROPERTIES

Advantages of BENTONE 38 in various systems:

- increases viscosity
- provides thixotropy
- prevents pigment settling during storage
- improves flow and leveling
- controls sagging on vertical surfaces and penetration on porous substrates
- prevents syneresis in thixotropic systems

INCORPORATION

General

Incorporation of BENTONE 38 in organic systems (e.g. paints) requires high-shear dispersion equipment and a chemical activator.

Two basic incorporation methods can be used:

1. Addition of BENTONE 38 as a dry powder for in-situ dispersion and activation

The BENTONE 38 powder is added directly to the resin/solvent blend and is thoroughly mixed for 10 minutes. A chemical activator (see below) should be added next and mixed for 10 minutes. The pigments and fillers are then added and dispersed with high shear for at least 15 minutes.

2. Addition of BENTONE 38 as pregel of 5%–10% by weight

The solvent is charged to the mixing tank. BENTONE 38 powder is added and dispersed under high shear. A chemical activator can then be introduced to optimize gelation (see below).

For incorporation in the full formulation the pregel is added to the resin/solvent mixture with stirring. Pigments and fillers are then incorporated and dispersed under high shear.

For more details see the Elementis Specialties Rheology Handbook.

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Suitable dispersion equipment

High-speed disc impellers (Cowles dissolver); Ultra-Turrax, pearl-, sand-, ball- and three-roll mills.

Chemical activators

Recommended to ensure full activation, i.e. optimum efficiency of BENTONE 38.

Suitable chemical activator	% based on weight of dry BENTONE 38
Methanol/H ₂ O (95/5)	33 %
Propylene carbonate	33 %
Propylene carbonate/ H ₂ O (95/5)	33 %
Ethanol/ H ₂ O (95/5)	50 %
Acetone/ H ₂ O (95/5)	60 %

LEVELS OF USE

The level depends on the system in which BENTONE 38 is to be used. For house paints and industrial paints typical levels are between 0.2 and 0.5% (dry) BENTONE 38 based on total system weight. In synthetic resins (epoxy, polyester), quantities range between 0.5 and 1.0 %.

HEALTH AND SAFETY DATA

Before using this product please consult our Material Safety Data Sheet (MSDS) for information on safe handling and storage. MSDS's can be found on the company website at www.elementis-specialties.com.

STORAGE RECOMMENDATIONS

Store in a cool, dry location.

SHELF LIFE

BENTONE 38 has a shelf life of 4 (four) years from date of manufacture.

QUALITY ASSURANCE

Since 1992 the company is a holder of the ISO 9001 / ISO 9002 certificates, which guarantees that all operations are conducted according to the stipulated standards.

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