

BENTONE® 38

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.

CHEMICAL & PHYSICAL PROPERTIES

Composition	organic derivative of a hectorite clay
Colour / Form	off-white to white powder
Density	1.7 g/cm ³
Moisture	max. 3 %

These are typical properties not to be used for specification purposes.

APPLICATIONS

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

KEY PROPERTIES

- 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.

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.

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 %

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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

Before using this product please consult our Safety Data Sheet (SDS) for information on safe handling and storage. The SDS can be found on the company website.

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

Quality system at the site manufacturing this product complies with and is certified to ISO 9001 quality standards.

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North America

Elementis
469 Old Trenton Road
East Windsor
NJ 08512, USA
Tel.: +1 609 443 2500
Fax: +1 609 443 2422

Europe

Elementis UK Ltd.
c/o Elementis GmbH
Stolberger Strasse 370
50933 Cologne, Germany
Tel.: +49 221 2923 2066
Fax: +49 221 2923 2011

Asia

Deuchem (Shanghai) Chemical Co., Ltd.
99, Lianyang Road
Songjiang Industrial Zone
Shanghai, China 201613
Tel.: +86 21 5774 0348
Fax: +86 21 5774 3563