

BENTONE® 34

Rheological Additive for Low to Intermediate Polarity Organic Systems

GENERAL INFORMATION

BENTONE 34 is an organic derivative of a bentonite clay. This rheological additive is designed for low to intermediate polarity organic systems.

CHEMICAL & PHYSICAL PROPERTIES

Composition	Organic derivative of a bentonite clay
Color/ 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
- Anti-corrosive paints
- Automotive finishes
- Bituminous compositions
- Buffing compounds
- Coil coating systems
- Dip coatings
- Finishes for household appliances
- Greases
- High-build systems
- Industrial finishes
- Interior and exterior house paints including do-it-yourself paints
- Knifing fillers
- Mould release agents
- Paint stripper pastes
- Plastisols
- Primers, undercoats, fillers
- Printing inks
- Putty and caulking compounds
- Refinishes for household appliances
- Road marking paints
- Underbody sealants and sound-absorbing compounds
- Wood preservatives and finishing systems
- Waxes
- Wood preservatives and finishing systems

KEY PROPERTIES

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

INCORPORATION

Incorporation of **BENTONE 34** 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 34** as a dry powder for in-situ dispersion and activation

The **BENTONE 34** 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 34** as pregel of 5%–10% by weight

The solvent is charged to the mixing tank. **BENTONE 34** 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 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 34**.

Suitable chemical activator	% based on weight of dry product
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 34** is to be used. For house paints and industrial paints typical levels are between 0.2 and 0.5 % (dry).

BENTONE 34 based on total system weight. For primers slightly higher quantities are required (0.5 -- 1 % dry **BENTONE 34**).

In aqueous systems between 0.2 and 0.3 % **BENTONE 34** (dry) are used

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

BENTONE 34 should be stored in a cool, dry location.

SHELF LIFE

BENTONE 34 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.

NOTE: The information herein is currently believed to be accurate. We do not guarantee its accuracy. Purchasers shall not rely on statements herein when purchasing any products. Purchasers should make their own investigations to determine if such products are suitable for a particular use. The products discussed are sold without warranty, express or implied, including a warranty of merchantability and fitness for use. Purchasers will be subject to a separate agreement which will not incorporate this document.

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