OROTAN™ 2002 Dispersant

High Performance Hydrophobic Copolymer Emulsion Dispersant for Waterborne Paints

Regional Product Availability

- Asia-Pacific

Description

OROTAN™ 2002 Dispersant is a high-performance hydrophobic copolymer dispersant especially suitable for semi-gloss and gloss paints. OROTAN 2002 Dispersant is supplied in an emulsion form, manufactured without the use APEO surfactants(1). Relative to OROTAN 681 Dispersant, OROTAN 2002 Dispersant offers reduced use cost, reduced as-supplied viscosity, lower odor, higher as-supplied solids, and formulation flexibility via choice of neutralizing base and absence of solvent.

OROTAN 2002 Dispersant is supplied in the un-neutralized emulsion form and thus, allows the formulator to choose the neutralizing base to best meet odor and handling requirements. Sodium hydroxide, potassium hydroxide, sodium carbonate and AMP 95 Multifunctional Amine, as well as ammonia, can be used to neutralize the emulsion. Depending on the formulation, improved gloss and reduced silking compared to OROTAN 681 Dispersant has been seen in laboratory testing.

Similar to OROTAN 681 Dispersant, OROTAN 2002 Dispersant offers excellent gloss potential combined with good corrosion resistance and compatibility with reactive pigments. It is very compatible with HEUR rheology modifiers, such as ACRYSOL™ RM-995 and ACRYSOL™ RM-5000 Rheology Modifiers. Early water resistance of OROTAN 2002 Dispersant is strongly influenced by the choice of neutralizing base, with volatile bases typically giving better resistance.

Key Features

- Emulsion process dispersant.
- Low odor, un-neutralized emulsion form.
- Compatibility with HEUR rheology modifiers.
- Offers Water resistance, corrosion resistance and compatibility with reactive pigments.

Benefits

- Low viscosity at high solids for easy handling and efficiency.
- Facilitates the formulation of low odor paints.
- Facilitates the formulation of high gloss coatings.
- Facilitates the formulation of corrosion resistant metal primers and coatings.

Typical Properties

(These properties are typical but do not constitute specifications).

Property	Typical Values
Appearance	Opaque white to off-white liquid
Solids, by weight, %	42.0%
Density, wet, (g/ml)	1.06
pH	3.9
Viscosity (Brookfield LV #1, 60 rpm, 25 °C), cps	< 80

(1) Manufactured without the use of Alkyl Phenyl Ethoxylate (APEO) surfactants.

Formulating Guidelines

OROTAN™ 2002 Dispersant was designed to maximize dispersion and usually requires a usage of 3% to 5% dispersant solids on pigment solids. As a starting point, use the same level of OROTAN 2002 Dispersant as you would use of OROTAN 681 Dispersant on a solid basis. It is a prudent practice to test one or two lower levels of OROTAN 2002 Dispersant as well, since it may be possible to use lower levels of OROTAN 2002 Dispersant in some formulations with good results.

Since OROTAN 2002 Dispersant is supplied in the un-neutralized emulsion form, it requires neutralization and solubilization before it can efficiently disperse the pigment. Although OROTAN 2002 Dispersant must be neutralized before it can function as a dispersant, it is not necessary to pre-neutralize as a separate step. Usually all that is required is a slight modification to the order of addition.

If OROTAN 2002 Dispersant is added to the grind liquids (ensure that the total liquid volume is at least twice the volume of the OROTAN 2002 Dispersant), then base can be added with stirring until the pH is about 9. The pigment can then be added as usual. (Once the approximate level of base to achieve pH 9.0 is determined, the base can be added to grind liquids / OROTAN 2002 Dispersant mixture without measuring pH every time). Note that mixing OROTAN 2002 Dispersant with other grind liquids before adding base ensures adequate dilution, so that any viscosity increase on neutralization is minimized.

CAUTION: OROTAN 2002 Dispersant should not be exposed to "swelling solvents" such as methyl CARBITOL™ Glycol Ether Solvent while it is still in the emulsion form. The rapid swelling can result in gel formation. Adding methyl CARBITOL Glycol Ether Solvent after the base is preferred to avoid this problem.

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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

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.

Chemical Registration

Many countries within the Asia-Pacific require the registration of chemicals, either imported or produced locally, prior to their commercial use. Violation of these regulations may lead to substantial penalties imposed upon the user, the importer or manufacturer, and/or cessation of supply. It is in your interests to ensure that all chemicals used by you are registered. Dow does not supply unregistered products unless permitted under limited sampling procedures as a precursor to registration.

Note on Asia-Pacific Product Line

Product availability and grades vary throughout the countries in Asia-Pacific. Please contact your local Dow Coating Materials representative for further information and samples.

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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