



DYESTUFF DISPERSANTS

BORREGAARD LIGNOTECH'S DYE DISPERSANTS

Borregaard LignoTech offers a range of primary and secondary dispersants for use in disperse, vat, reactive and acid dyes. Our high quality dispersants are based on a renewable, naturally occurring raw material source and offer the following benefits:

- Milling economy
- Wide range of heat stability
- Controlled fibre staining
- Azo reduction
- Lower paste viscosity in the formulation
- Improved cost/performance after standardization of dye strength
- Environmentally friendly

MILLING ECONOMY

Grinding efficiency is the ability to reduce the milling time required to achieve a desired particle size during milling. Grinding particles to colloidal size increases the surface energy considerably. When a dispersant is adsorbed onto the dye particle, the surface energy is decreased, thus stabilizing the system. Fast adsorption of the dispersant and good repulsion between the particles improves grinding efficiency and stability of the dispersion.

We offer several lignin-based dispersants, which provide formulation economy by enabling milling at higher solids and spray drying at higher temperatures.

HEAT STABILITY

The stability of a dyestuff at high temperatures is essential and often determines the success or failure of a dyeing operation. Our dye dispersants have the ability to improve heat stability, which can be attributed to the unique adsorbent and solubility groups present in the dispersants. The relationship between these groups has a direct impact on the temperature stability of a dyestuff at high temperatures.

Borregaard LignoTech dispersants are available to provide heat stability to formulations incorporating low to high energy dyes.

STAINING

The degree to which a dispersant shall stain fibres is a function of its colour, affinity to the fibre and the dyeing process.

Borregaard LignoTech offers light to moderately staining dispersants to be used as primary and secondary dispersants.

AZO REDUCTION

Color loss in azo dye systems is the result of nitrogen bond breakage in the dye structure.

Our secondary dispersants contribute to lower azo bond reduction and improved coloration due to lower interference with the dye structure.

RECOMMENDED USE

Borregaard LignoTech dispersants are recommended for Disperse, Vat, Reactive and Acid dyes.

Disperse dyes	Typically offered in paste (liquid) and powder form. Classified by energy level. Usually require a primary dispersant
Vat dyes	Typically offered in paste (liquid) and powder form. Vanisperse CB is an ideal dispersant for liquid vat dyes.
Reactive dyes	Reactive dyes have traditionally been standardized with naphthalene sulphonates. Ultrazine NA is popular in this application, due to its purity and low staining properties.

Our dispersants are used either alone or in blended formulations to meet the specific requirements of a customer's operation. The choice of dispersant(s) is dyestuff and process dependent. Primary dispersants, such as Ufoxane 2, Dynasperse LCD and Vanisperse CB are mainly used to enable dyeing performance at higher temperatures, while secondary dispersants, like Ultrazine NA, Borresperse 3A and Borresperse NA are used for milling and standardization. Ultrazine NA has a very low insolubles and calcium content and is among the least staining of Borregaard LignoTech's products. Milling with dispersant combinations/blends is an effective technique to reduce cost. The combination of a primary dispersant along with Borresperse 3A or Borresperse NA at a ratio of 1:1 to 1:3 is recommended.

PRODUCT RANGE

PRIMARY DISPERSANTS

(HEAT STABILITY + MILLING PASTE VISCOSITY)
Vanisperse CB, Dynasperse LCD, Ufoxane 2

SECONDARY DISPERSANTS

Ultrazine NA, Borresperse NA, Borresperse NA-SA,
Borresperse 3A, Borresperse AM 320, Lignosol SFX-65

DILUENTS (CUTTING AGENTS)

Borresperse NA, Borresperse NA-SA, Borresperse AM 320,
Lignosol SFX-65



PRODUCT / PROPERTY MATRIX OF BORREGAARD LIGNOTECH DYE DISPERSANTS

Performance Property	PRIMARY DISPERSANTS			SECONDARY DISPERSANTS				
	Dynasperse LCD	Ufoxane 2	Vanisperse CB	Ultrazine NA	Borresperse 3A	Borresperse NA	Borresperse AM 320	Lignosol SFX-65
Heat Stability	Good	Better	Best	Good	Good	Good	Good	Good
Milling Efficiency								
High Energy Dyes	Good	Better	Best	Good	Good	Good	Good	Good
Low Energy Dyes	Good	Good	Good	Good	Good	Good	Good	Good
Fiber Staining								
130 °C	Good	Good	Good	Good	Good	Good	Good	Good
Thermosol	Good	Good	Good	Good	Good	Good	Good	Good
Azo Reduction	Good	Good	Good	Good	Good	Good	Good	Good
Foaming	Good	Good	Good	Good	Good	Good	Good	Good
Rheological Control	Good	Good	Good	Good	Good	Good	Good	Good

Good Better Best



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