

A BioLoop dispersing agent for aqueous systems

Description

Introducing a new range of powerful dispersing agents containing components that are 100% renewable. Unlike many bio-based surfactants, these products offer excellent wetting and dispersing properties for a wide range of inorganic and organic pigment types. Lansperse BIO868 will be very much of interest to formulators that require good sustainability profiling along with excellent performance.

Specification

Appearance:	Light amber liquid
Colour Gardner	5 max
Solids Content %:	74 - 76
Cloud Point (1% aqueous)	80 - 88
pH (5% aqueous)	5 - 8

Typical Properties

Composition:	BioLoop dispersant
Odour:	Characteristic
Viscosity at 25°C (cP):	539
Specific Gravity at 20°C:	1.08
Pour Point °C:	-8
Flash Point Closed Cup °C:	>150
Surface Tension 0.1% (mN/m):	39.2

Key Features

- Based on BioLoop technology
- 100% renewable
- Powerful dispersing properties
- No flocculation
- VOC free
- Fast particle size reduction
- Biodegradeable
- Low ecotoxicity
- No skin or eye irritancy

Solubility

Soluble ● Insoluble ● Dispersible ●

Water	●	White Spirit	●	Shellsol A / Solvesso 100	●	Xylene	●	Butyl Acetate	●
Dowanol PMA	●	Ethyl Acetate	●	Isobutanol	●	MIBK	●	Dowanol PM	●
MEK	●	Acetone	●	N-Butyl Glycol	●	Mineral Oil	●	Soyabean Oil	●
Dowanol DPM	●	Ethanol	●	Soyabean Methyl Ester	●	DINP	●		

Titanium dioxide dispersions

Titanium dioxide dispersions and slurries are notoriously difficult to produce at high solids concentrations due to the high density of the TiO₂. This high density causes destabilisation and eventually separation at the top of the dispersion. Lansperse BIO868 helps to stabilise high active dispersions by maintaining good rheology control, but with light agitation the rheology drops immediately to help in the handling and processing within the end application. This property is noticeable for high solids loading between 60 - 70%, at lower solids levels the dispersion is a nice free-flowing liquid.

White 6

Applications - TiO₂ dispersions

- Decorative paints
- Inkjet
- Paper
- Industrial paints
- Coil coatings

Formulation Examples

	%
Titanium Dioxide	65
Lansperse BIO868	3.75
Biocide	as required
Dfoam AX1	as required
Water	31.25

Method of manufacture :

1. Prepare a millbase
2. Manufacture the dispersion using an Eiger Torrance bead mill

Note: An alternative method is to use a high shear homogeniser

Conclusion

Lansperse BIO868 offers fantastic dispersing properties for titanium dioxide dispersions and is far superior than many of the commercially available synthetic versions available in the marketplace. It gives a high solids loading along with good rheology and fast reduction of particle size.

Packaging and Storage

Lansperse BIO868 can be supplied in IBC's, 200kg or 25kg nett drums.

Stainless steel, polyethylene or glass lined equipment is necessary for the storage of Lansperse BIO868 in order to prevent corrosion and subsequent contamination. This material can separate on standing and at low temperatures. May require agitation and warming prior to use.

Rheology over time

	Viscosity - Din Cup 4
Initial	9 sec
Week 1	11 sec
Week 2	23 sec
Week 4	93 secs

After 5 months storage the dispersion is still mobile and pourable.

Particle size over time - microns

	D90 particle size
10 mins	0.448
20 mins	0.447
40 mins	0.448
60 mins	0.450

Extremely fast reduction in particle size noticed even after 10 mins

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