

Emulsifier for Emulsion Polymers

Description

Lanphos PS10 is a powerful emulsifier that can be used across a wide range of polymer systems and more importantly is used as a primary emulsifier without the need for a secondary surfactant to stabilise the system. As a versatile emulsifier this is the first choice for any formulator. As well as providing extremely small particle sizes it has an in-built stabiliser system to prevent re-agglomeration of polymer particles.

Specification

Appearance at 25°C:	Clear pale straw liquid free from foreign matter
pH 5% aqueous:	9.0 - 11.0
Solids content %:	24.0 - 26.0
Colour - Hazen:	150 Max
Free nonionic content %:	4.5 Max

Typical Properties

Composition:	C13 ethoxy phosphate ester potassium salt
Odour:	Characteristic
Viscosity at 25°C (cP):	~1000
Specific gravity at 25°C:	1.04
Solubility in water:	Soluble
Pour point °C:	<0
Flash point closed cup °C:	>150
Surface tension at 0.1% aqueous (mN/m):	36.7
Critical micelle concentration (mg/l):	12.1

Applications

Lanphos PS10 can be used across a wide range of different polymer systems and offers sub-micron particle sizes and excellent stability, examples are:

Styrene - Butyl Acrylates

Styrene acrylic copolymer dispersions are used in a variety of industrial and consumer end-use applications, including:

- Architectural decorative coatings
- Adhesives and fillers
- Glass fibre binder applications, such as wall coverings

Key Features

- Powerful primary emulsifier
- In-built stabilisation of polymer emulsion - Excellent stability
- No requirement for a nonionic stabiliser
- Can be used across the range of the most common polymer systems
- APE free
- VOC free

Shear Stability Analysis	Particle size initial μm	Particle size after shear μm
Typical system - without stabiliser	0.207	99.8
Lanphos PS10	0.245	0.227

Vinyl Acetate Homopolymer (PVA)

Polyvinyl acetate homopolymer emulsions, often called PVAc or occasionally PVA homopolymers. Polyvinyl acetate is synthesized by the emulsion polymerisation of vinyl acetate monomer (VAM).

PVAc emulsions are best known for their use in wood glues or school glues due to their strong adhesion properties. However, PVAc emulsions are also widely used in many industrial and consumer end-use applications:

- Water-based adhesives
- Carpet backings
- Paper and paperboard coatings
- Carpet backings
- Building and construction products

Shear Stability Analysis	Particle size initial μm	Particle size after shear μm
Typical system - without stabiliser	0.159	59.3
Lanphos PS10	0.155	24.6

Acrylic Systems (100%)

Pure (100 percent) acrylic emulsions are widely utilised in the formulation of the following industrial and consumer end-use products. These systems will include such monomers as ethyl acrylate, butyl acrylate and methyl methacrylic acid:

- Architectural decorative coatings for interior and exterior use
- Industrial coatings, including wood stains, metals and plastic coatings
- Building materials
- Non-woven fabrics

Shear Stability Analysis	Particle size initial μm	Particle size after shear μm
Typical system - without stabiliser	0.147	18.6
Lanphos PS10	0.149	0.145

Packaging and Storage

Lanphos PS10 can be supplied in bulk road tankers, IBC's, 200kg or 25kg nett drums.

Stainless steel, polyethylene or glass lined equipment is necessary for the storage of Lanphos PS10 to prevent corrosion and subsequent contamination. This material can separate on standing and at low temperatures. May require agitation and warming prior to use.

All information, recommendations and suggestions appearing in the literature concerning the use of the product are based upon tests and data believed to be reliable. However it is the users responsibility to determine the suitability for their own use of the products described here. For non English datasheets translation has been carried out using translation software, Lankem accepts no liability due to errors that occur during translation. Typical properties are based on our own measurements and do not constitute part of the sales specification.