

Butofan[®] NS 166

Aqueous polymer dispersion used to manufacture pressure-sensitive adhesives for self-adhesive products

Chemical Nature

Aqueous dispersion of a styrene/butadiene copolymer containing carboxyl groups

Properties

Typical Properties

Solids content	%	~ 51.0 ± 1.0
pH		~ 8.8
Viscosity (Brookfield RV, Spindle #2, at 20 rpm)	mPa s	~ 250 – 700

Other properties of the dispersion

Density	lbs/gal g/cm ³	ca. 8.3 ca. 1.0
Average particle size	µm	ca. 0.18
Bound Styrene	%	ca. 35
Dispersion type		anionic
Antioxidant		non-staining

Properties of the film

Density	g/cm ³	ca. 0.98
Glass transition temperature (DSC)	°C	ca. -40
Mechanical strength *		
Tensile strength	lbs/in ²	80
Elongation at break	%	1200
Appearance		clear, transparent
Surface		tacky
Flexibility		high

*These figures should be taken for comparison purposes only. All that can be obtained from them is an idea of the order of magnitude concerned.

Compatible with

Polymer dispersions

Butofan NS 144, 208, 222, some Acronal[®] anionic dispersions. Compatibility must be tested in each case.

Thickeners

Rheovis[®] AS 1420, Latekoll[®] MD na

Resins

Commercial rosin, rosin ester and hydrocarbon tackifier dispersions. Compatibility must be tested in each case.

Application

Field of application

General purpose adhesives requiring high specific adhesion to a variety of substrates. Manufacture of pressure-sensitive adhesives for self-adhesive products. This is often done in combination with tackifier resins. Figure 1 summarizes a lab study in which several commercially available tackifier dispersions were blended with Butofan NS 166 and tested for pressure sensitive performance.

Processing

Butofan NS 166 exhibits good chemical and mechanical stability. Adhesives based on Butofan NS 166 can be processed using standard latex compounding and applied by conventional coating methods such as Meyer bar, reverse roll, reverse gravure and slot die.

The addition of about 0.5% wetting agent (e.g. Lumiten® I-SC or Pluronic® L-92) can help if problems of poor substrate wettability arise. Commercial defoamers can be used (e.g. Drew Plus® L-108) up to approximately 0.2% on the adhesive.

It is recommended that a preservative be added to adhesives containing Butofan NS 166 to protect from microbial attack. Selection and suitability of such additives must be verified by trials. Recommendations available.

As with other styrene/butadiene latex based adhesives, those based on Butofan NS 166 can contribute to staining of pressure-sensitive paper labels articles after a period of time. In general, this effect can be reduced by priming of the substrate with suitable primers selected, verified and monitored by trials.

Safety**General**

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Butofan NS 166.

Storage

Please refer to the "Handling and Storage of Polymer Dispersions" brochure.

Important

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