Construction

Technical Data Sheet

Butonal® NS 175

Chemical Nature	**Aqueous, high solids, cold-polymerized, anionic styrene-butadiene dispersion for modifying asphalt cements and anionic asphalt emulsions**

Properties

Typical Properties	Solids content	%	70 – 72
	pH		10.0 – 11.0
	Viscosity (Brookfield RVT, Spindle #3, at 20 rpm)	mPa s	1000 – 1500
Other properties of the dispersion	Bound styrene	%	24
	Residual monomer	%	0.08 max.
	Surface tension	mN/m	34
	Specific gravity		0.94
	Antioxidant		none
	Glass transition temperature (DSC)	°C	-53
	Weight/volume	lb/gal	7.8
		kg/l	0.94

Applications

Features

Butonal® NS 175 is a mechanically stable latex polymer dispersion that can be readily pre-blended into hot asphalt cement in order to meet Superpave® "Plus" modified binder specifications as well as to provide improvements in conventional properties such as increased softening point and decreased penetration. It can also be used to modify asphalt cement at the hot mix plant via addition directly to the pug mill (batch HMA plant) following asphalt addition or injection into the asphalt line prior to entering the drum (continuous HMA plant). Butonal® NS 175 is also particularly effective at increasing asphalt viscosity and is utilized to produce modified binders for use in OGFC mixes to prevent drain-down.

Butonal® NS 175 can also be incorporated into anionic asphalt emulsions via addition to the soap solution (batch process) or co-milling (continuous process).

Processing

Butonal® NS 175 can be used in the following applications:

- PG-graded binders
- OGFC binders
- Chip seal
- Slurry seal
- Below-grade foundation waterproofing

Periodic mechanical stirring is required to maintain a homogeneous mixture. Some separation is possible due to the specific gravity and particle size distribution of these dispersions.

Generally, the preferred means of stirring is with a separate propeller type stirrer. This low-speed, low-shear mechanical stirrer can be located off-center, set at an angle, or side mounted near the bottom to prevent foaming or vortexing. Center stirring requires tank baffles. It is recommended that the material be agitated for 10 - 20 minutes every 24 hours when the material is being used in production.

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.

Material Safety Data Sheet

All safety information is provided in the Material Safety Data Sheet for Butonal® NS 175.

Industrial Hygiene

Butonal® NS 175 does not exert any harmful effects provided it is used for the purpose for which it is intended and processed in accordance with current industrial practice. Butonal® NS 175 may contain technically unavoidable traces of volatile organic compounds. Observe appropriate workplace exposure limits when indicated in the Material Safety Data Sheet. Butonal® NS 175 may irritate the skin and mucous membranes on prolonged contact with the product.

Labeling

Butonal® NS 175 is not classified as a hazardous product under DOT or OSHA regulations or as a controlled product under WHMIS (Canada) regulations. It does not contain any hazardous components at levels which have implications for labeling under these regulations.

Storage

Butonal® NS 175 has a shelf life of six months from delivery date, provided it is stored in accordance with the “Handling and Storage of polymer dispersions” brochure. Technical information regarding the storage of BASF polymer dispersion products is available upon request.

Important

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BASF Corporation
Dispersions and Pigments
11501 Steele Creek Road
Charlotte, North Carolina 28273
Phone: (800) 251 – 0612
Email: edtech_info@basf.com
www.basf.com
www.worldaccount.basf.com
www.dispersions-pigments.basf.com