

# Butonal<sup>®</sup> NX 4190

## Chemical Nature

Aqueous, high solids, cold-polymerized, cationic styrene-butadiene dispersion for modifying cationic asphalt emulsions

## Properties

### Typical Properties

Solids content	%	~ 64.0
pH		~ 5.4
Viscosity (Brookfield RV, Spindle #3, at 20 rpm)	mPa s	250 – 2000

### Other Properties of the dispersion

Glass transition temperature (DSC)	deg C	-53
Weight/volume	lbs/gal	~ 8.17
Specific gravity		~ 0.98

\* The above values should not be taken as specification.

## Application

### Features

Butonal NX 4190 is a mechanically stable latex polymer dispersion that is readily incorporated into cationic asphalt emulsions through addition to the soap solution (batch process) or co-milling (continuous process). Butonal NX 4190 provides excellent cohesion and adhesion properties with aggregate and significantly enhances the residue properties such as Forced Ductility, Toughness & Tenacity, Torsional Recovery and Softening Point over conventional cationic polymers.

### Applications

Butonal NX 4190 is used in the following applications:

- Chip Seal
- Slurry seal
- Microsurfacing

Butonal NX 4190 can also be used to modify hot asphalt cements in order to meet Superpave<sup>®</sup> "Plus" modified binder specifications as well as to provide improvements in conventional properties such as increased softening point and decreased penetration.

### Processing

Periodic mechanical stirring is required to maintain a homogeneous mixture. Some separation is possible due to the specific gravity and particle size distribution of this latex polymer dispersion.

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 tank bottom to prevent latex foaming or vortex formation. Center-stirring requires tank baffles. It is recommended that material be agitated for 10 - 20 minutes every 24 hours in storage.

## 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 Butonal NX 4190

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## Storage

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

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