NSF40

HIGH RANGE WATER-REDUCING NAPHTHALENE SULFONATE / RAW MATERIAL FOR CONCRETE ADMIXTURE PRODUCTION

SHVA POLYMER
BY SHVA GROUP

Description: NAPHTHALENE SULFONATE is a high-performance naphthalene sulfonate polymer. It is intended as a raw material for the production of high-range water-reducing and superplasticizer admixtures.The polymer disperses cement particles effectively, reducing water demand and improving workability, pumpability, and concrete density.

Technical Properties:

Chemical Content	Naphthalene Sulfonate Polymer
Appearance	Liquid
Color	Dark brown
Solid Content	40 ± 1 %
pH	6 - 9
Density (20 °C)	1.18 – 1.24 g/cm³
Chloride Content (%)	< 0.1
Alkaline Content (%)	< 5
Water Solubility	Completely soluble
Freezing	-10 °C

Advantage:

- Provides high water reduction potential, typically up to 25–30% depending on formulation.
- Enhances workability and fluidity of fresh concrete.
- Reduces bleeding and segregation, improving concrete surface quality.
- Supports low water/cement ratio concrete production.
- Compatible with cement, fly ash, slag, and other mineral additions.
- Stable performance in a wide temperature range.
- Serves as a primary raw material for superplasticizer and water-reducing admixtures.

Area of Use:

- Superplasticizer formulations.
- Self-compacting concrete (SCC) admixtures.
- High-performance concrete admixtures.
- In cement and gypsum-based products.
- In flooring and field concrete.
- In concrete production where impermeability is required.
- Precast concrete admixtures.
- Pump concrete admixtures.
- Bridge, viaduct, tunnel, airport and dam concrete.
- In ports, water channels, treatment facilities and underwater concrete.
- Low water/cement ratio concrete systems.

Method of Application:

NAPHTHALENE SULFONATE is intended to be used as a primary dispersing component in the production of concrete admixtures.

- The product should be incorporated into the admixture formulation under continuous mechanical stirring.
- It can be blended with water, slump retention polymers, set regulators, defoamers, or other functional additives depending on the targeted performance.
- Dilution with deionized or clean industrial water is recommended when necessary.
- Mixing time and sequence should be optimized according to production equipment and formulation design.
- Laboratory trials must be conducted to determine the optimum dosage and combination ratio before industrial production.

Precautions in Application:

- It should not be used or mixed with naphthalene-based additives.
- Do not exceed the recommended dosage without prior laboratory verification.
- Always perform trial mixes before full-scale production.
- Do not add directly to dry cement; ensure addition into mixing water or fresh concrete.
- Adjust dosage in case of changes in cement type, aggregate grading, mineral additions, or ambient temperature.
- Protect the product from frost and direct sunlight.
- Ensure proper mixing time to achieve homogeneous distribution.
- Compatibility with other admixtures must be tested before combined use.
- Use appropriate personal protective equipment during handling.

Compatibility:NAPHTHALENE SULFONATE shows broad compatibility with most commonly used admixture components and cement types. However, compatibility testing is strongly recommended prior to large-scale production.

Compatible with:

- Portland cement (CEM I).
- Blended cements (CEM II, CEM III, etc.).
- Fly ash, slag, silica fume.
- Lignosulfonate based admixtures.
- Retarders and accelerators (dosage optimization required).
- Defoamers and viscosity modifying agents.

Precautions in Application:

- Avoid contamination with foreign materials.
- Protect from freezing. If frozen, thaw at room temperature and mix thoroughly before use.
- Avoid prolonged exposure to high temperatures.
- Use corrosion-resistant tanks and transfer lines.
- Do not mix with strong oxidizing agents.
- Ensure proper mixing to prevent phase separation during dilution.
- Improper formulation or incorrect dosage may negatively affect setting time and performance of final concrete admixture.
- The product should be incorporated into the admixture formulation under continuous mechanical stirring.
- It can be blended with water, slump retention polymers, set regulators, defoamers, or other functional additives depending on the targeted performance.
- Dilution with deionized or clean industrial water is recommended when necessary.
- Mixing time and sequence should be optimized according to production equipment and formulation design.
- Laboratory trials must be conducted to determine the optimum dosage and combination ratio before industrial production.admixture can be washed with fresh cold water and should not be allowed enter sewers or open bodies of water.

Cleaning: NAPHTHALENE SULFONATE is intended to be used as a primary dispersing component in the production of concrete admixtures.

Packing: 1000 kg container Bulk

Storage and Shelf Life: Must be stored at temperatures between +5°C and +35°C. Under proper storing conditions, the product's shelf life is 12 months from production date if kept in original packaging unopened and undamaged. Packaged products must be shaken before use.

Security Information: Use protective clothes, gloves, glasses and mask compatible with Health and Safety regulations during the application. It should not contact skin and eyes. In case it contacts to skin and eyes, rinse it with water and if swallowed ask for medical help. Food and beverage should not be allowed in the application area. It should be stored at the reach out of the children. The Material Safety Data Sheet (MSDS) should be read for detailed information.

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