

Tinuvin® 123-DW (N)

Product Description

Tinuvin 123-DW (N) is a solvent-free, non-basic aminoether (NOR) hindered amine light stabilizer (HALS) developed for waterborne coatings that require a non-basic, non-interacting radical scavenger light stabilizer. This dispersion fulfills most stringent durability requirements of high performance industrial and decorative applications.

Key Features & Benefits

- Encapsulated low basicity, NOR-HALS ideal for use in coatings containing an acid catalyst or acidic pigments
- Ease of incorporation
- Permits formulation of low/zero VOC coatings

Chemical Composition

Non-basic aminoether HALS

Properties

Typical Properties

Appearance		off-white dispersion
HALS active content	wt%	30
Solid content	wt%	ca 50
pH		~ 9.5
Dynamic Viscosity	cps	50 – 500
Particle size D _{INT}	nm	< 250
Density at 20 °C	g/cm ³	~ 1.06

These typical values should not be interpreted as specifications.

Applications

Tinuvin 123-DW (N) inhibits the photo-oxidation of binders and increases the coatings resistance to gloss loss, chalking, cracking, delamination, and to color change. It helps to maintain flexibility, adhesion, water repellency, and appearance and provides significant improved coating durability and service life time.

Tinuvin 123-DW (N) is recommended for clear and pigmented coatings in applications such as:

- Automotive and general industrial paints
- Wood stains and coatings, waxes and wood care products
- Plastic coatings (films, sheets, containers, liners, tarpaulins, tiles, ...)
- Overprint varnishes (graphic arts, prints, displays, signs, decals, ...)
- Architectural coatings (roof tiles, walls, floors, ...)
- Glass and ceramic coatings (architectural glazing, packaging, ...)
- Adhesives and bonding layers

Processing

Tinuvin 123-DW (N) is easy to incorporate into aqueous paints as a simple stir-in product. Homogeneous mixing is obtained without adding co-solvents and without high shear mixing. Sedimentation or separation does not occur during storage of paints. In general, it fully keeps film optics such as gloss and transparency and has a minor influence on other film properties such as hardness, scratch, and water resistance. Its excellent compatibility and chemical stability makes high dosage possible without color.

The amount of Tinuvin 123-DW (N) required for optimal performance depends on pigmentation. For outdoor clear coats and light pigmented coatings, the protection is enhanced when Tinuvin 123-DW (N) is used in combination with UV absorbers like Tinuvin 9945-DW (N), Tinuvin 400-DW (N), or Tinuvin 477-DW (N). For opaque paints, Tinuvin 123-DW (N) can be used alone. It should be determined by a series of laboratory trials covering a concentration range.

Recommend Concentrations

2.0 – 10.0% Tinuvin 123-DW (N) (as supplied) = 0.6 – 3.0% active HALS

(concentrations are based on weight percent binder solids)

Clear and light pigmented systems:

2 – 10% Tinuvin 123-DW (N) +

2 – 10% Tinuvin 9945-DW (N), Tinuvin 400-DW (N), or Tinuvin 477-DW (N)

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measure 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 Tinuvin 123-DW (N).

Storage

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

Important

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