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Tinuvin® 5060

Product Description

Tinuvin 5060 is a solvent-free, liquid blend of a 2-(2-hydroxyphenyl)-benzotriazole UV absorber (UVA) and a non-basic hindered amine light stabilizer (HALS) designed to fulfill the high cost/performance and durability requirements of exterior solvent borne industrial and decorative coatings and is especially suited for oxidative drying and acid catalyzed systems.

Key Features & Benefits

- Synergistic blend of UVA/HALS for solvent-based coatings
- Provides excellent photo-protection for coatings against loss of gloss, cracking, and color change
- NOR HALS, low basicity HALS enables formulating with acidic materials including acid catalysts and acidic pigments

Chemical Composition

Blend of 2-(2-hydroxyphenyl)-benzotriazole UVA and a non-basic HALS

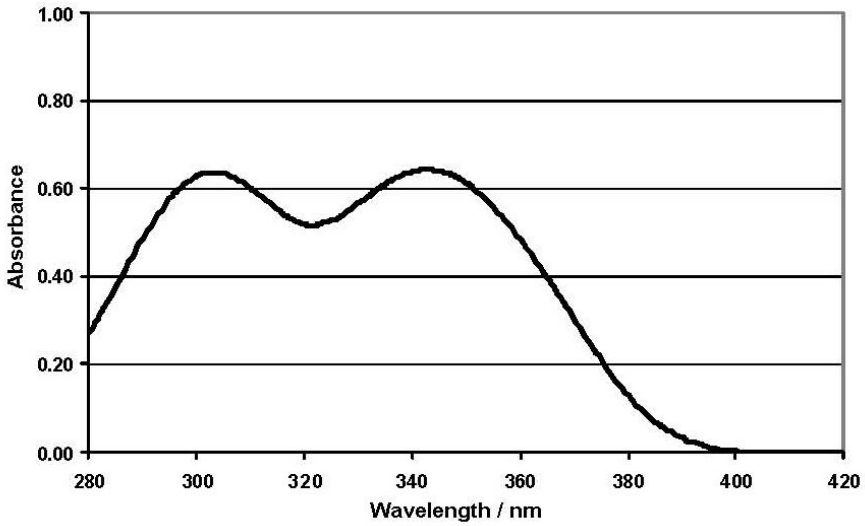
Properties

Typical Properties

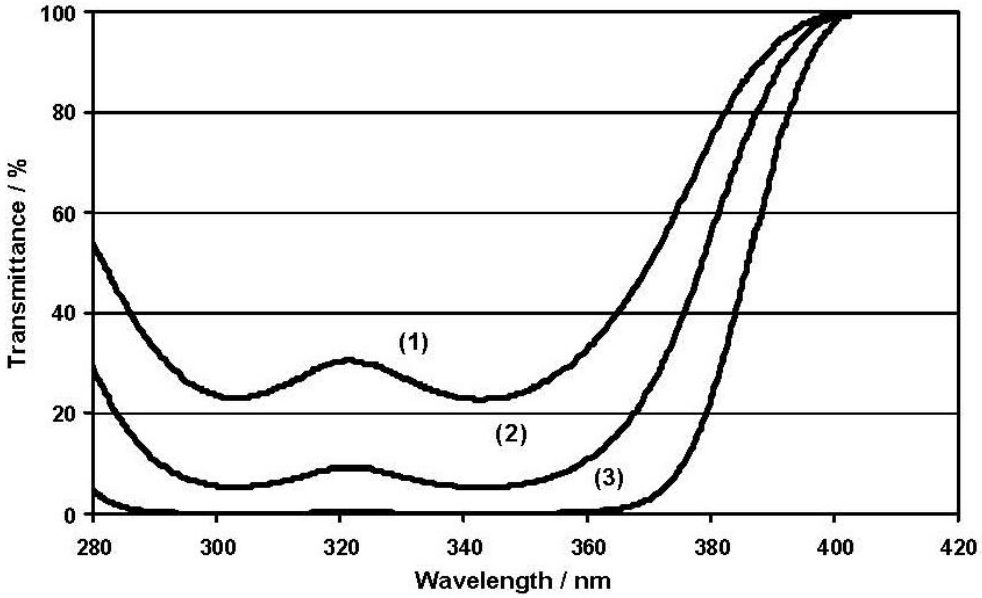
Appearance		viscous amber liquid
Dynamic Viscosity at 25°C	cps	10,000
Density at 20°C	g/ml	0.98
Miscibility		Tinuvin 5060 is miscible to more than 50% with most commonly used paint solvents. Water miscibility is less than 0.01%.

These typical values should not be interpreted as specifications.

UV Absorbance Spectrum
(40 mg/l in chloroform, cell thickness = 1 cm)



UV Transmission Spectrum
(The theoretical concentration of the UVA in an applied 40 µm clear coat was calculated as a function of the concentration in chloroform (d = 1.48 g/cm³) with the help of the Lambert-Beer law)



Line one: 0.003 % Tinuvin 5060 corresponds to 0.38% active UVA in a 40 µm film
Line two: 0.005 % Tinuvin 5060 corresponds to 1.35% active UVA in a 40 µm film
Line three: 0.014 % Tinuvin 5060 corresponds to 3.38% active UVA in a 40 µm film

Applications

Tinuvin 5060 is a versatile light stabilizer that can be used in a variety of coatings systems such as:
- Wood stains and varnishes, wood care products, waxes
- General Industrial Paints
- Heavy duty maintenance and marine coatings
- Architectural coatings (roof tiles, walls, floor coatings)
- Glass and ceramic coatings (architectural glazing, packaging)
- Adhesives and bonding layers

Its use is especially recommended for clear and light pigmented systems like:
- Thermoplastics (Acrylics, Vinylics)
- Acid-catalyzed paints (Acrylic, PES/melamine)
- Oxidative drying systems (Alkyds, oils, waxes)

The broad UV absorbance of the used UVA of Tinuvin 5060 makes it suitable for a wide range of coatings for wood, plastics, and metal. The non-basic character of the used NOR HALS prevents possible interactions with acidic paint ingredients such as catalysts, biocides, and pigments. The synergistic combination imparts superior coating protection against gloss reduction, cracking, blistering, delamination, and color change and provides full substrate protection.

Recommended concentrations

The amount of Tinuvin 5060 required for optimum performance should be determined in laboratory trials covering a concentration range.

The dry film thickness (DFT) directly affects the amount of UVA needed. The following amounts are recommended to achieve proper stabilization for given DFT (light stabilizers % is indicated on total formulation):

10 µm – 20 µm:	8.0 % – 4.0 %
20 µm – 40 µm:	4.0 % – 2.0 %
40 µm – 80 µm:	2.0 % – 1.0 %

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 5060.

Storage

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

Important

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