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Tinuvin® 5070

Product Description

Tinuvin 5070 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 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 and adhesives
- Provides excellent photo-protection for coatings against loss of gloss, cracking, and colorchange
- Low basicity HALS enables formulating with acidic materials including acid catalysts andacidic pigments

Chemical Composition

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

Properties

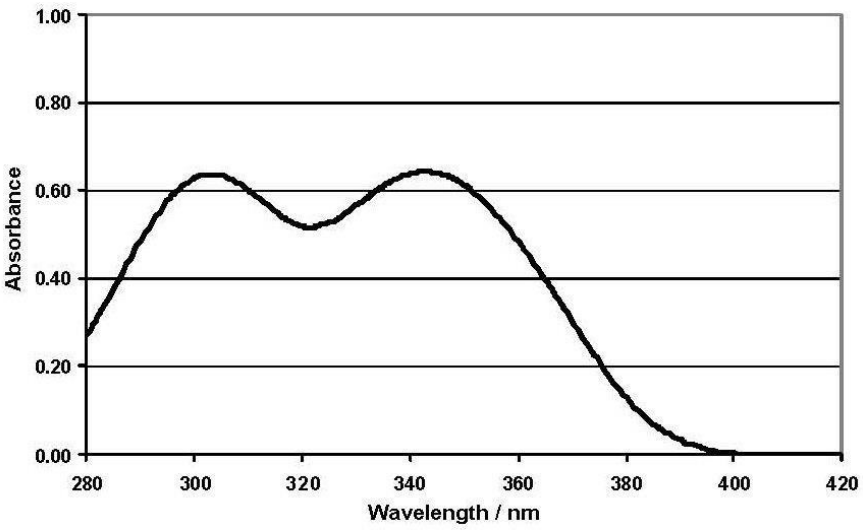
Typical Properties

Appearance		viscous yellow liquid
Dynamic Viscosity at 22°C	cps	1010
Density at 20°C	g/ml	0.98

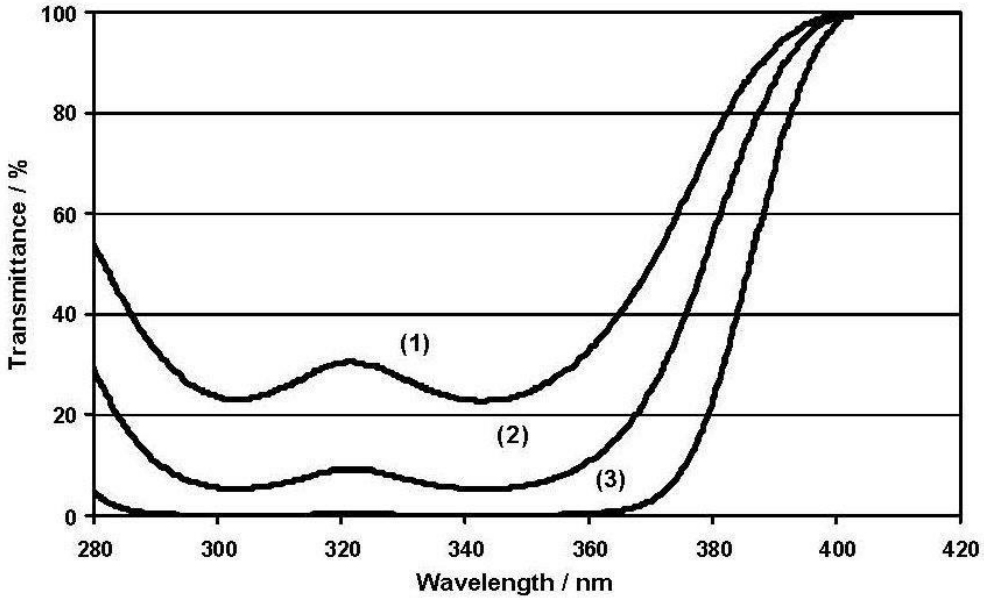
Miscibility: Tinuvin 5070 is miscible to more than 50% with most commonlyused paint solvents. Water miscibility is less than 0.01%.

These typical values should not be interpreted as specifications.

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



UV Transimssion Specturn. *(The theoretical concentration of the UVA n an applied 40 µm clear coat was calculated as a function of the concentration in chloroform (d= 1.48 g/cm^3) with the help of the Lambert Beer law)*



Line one: 0.003 % Tinuvin 5070 corresponds to 0.38% active UVA in a 40 µm film Line two: 0.005 % Tinuvin 5070 corresponds to 1.35% active UVA in a 40 µm film Line three: 0.014 % Tinuvin 5070 corresponds to 3.38% active UVA in a 40 µm film

Applications

Tinuvin 5070 is a versatile light stabilizer blend that can be used in a variety of coatings systems such as:

- Wood stains and varnishes, wood care products, waxes, candles
- 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 UVA used in Tinuvin 5070 makes it suitable for a wide range of coatings for wood, plastics, and metal. The non-basic character of the used 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 5070 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 5070.

Important

Responsible Care®
Good Chemistry at Work

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