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Tinuvin® 571

Liquid benzotriazole UV absorber

Characterization

Tinuvin 571 is a liquid ultraviolet light absorber (UVA) of the hydroxyphenyl benzotriazole class which imparts good light stability to a variety of polymers.

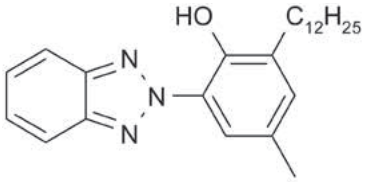
Chemical name

Phenol, 2-(2H-benzotriazol-2-yl)-4-methyl-6-dodecyl-, branched and linear

CAS number

125304-04-3

Chemical formula



Molecular weight

394 g/mol

Applications

Tinuvin 571 can be applied in thermoplastic PUR, coating and integral foams, rigid and plasticized PVC, PVB, PMMA, PVDC, EVOH, EVA, hot cured unsaturated polyesters and spin finishes for PA, PET, PUR, and PP fibers. The product is also suitable for latices, waxes, adhesives, styrene homo- and copolymers, elastomers and polyolefins.

Features/benefits

Tinuvin 571 is highly soluble in many solvents, monomers, or intermediates and easily emulsifiable in water-based adhesives. It can be considered for use during polymerization as well as for topical applications on PVC sheets.

Tinuvin 571 features high compatibility in various substrates, low volatility even at elevated temperatures, and high absorption and protection efficiency.

Product forms

Clear viscous yellow liquid

Guidelines for use

Use levels of Tinuvin 571 range between 0.2 % and 5.0 %, depending on substrate and performance requirements of the final application.

In polyurethanes, the concentration levels for Tinuvin 571 range between 0.2 % and 0.5 % depending on substrate, processing conditions and long-term light stability requirements.

Concentration levels of Tinuvin 571 in PVC applications range from 0.3 % to 0.5 %. Concentrations up to 5 % can be used in co-extruded PVC.

In adhesives, the concentration levels for Tinuvin 571 range between 0.5 % and 1.0%. Tinuvin 571 can be used alone or in a combination with other functional additives such as antioxidants (hindered phenols, phosphites) and HALS light stabilizers. Performance data are available in a variety of substrates.

Physical Properties

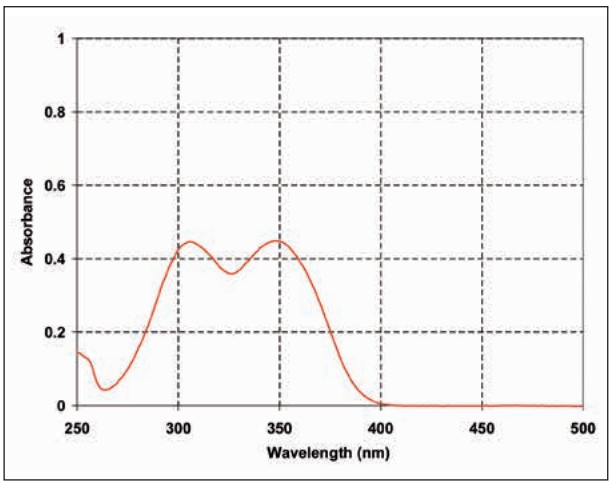
Melting Point	–56 °C
Flashpoint	>200 °C
Specific Gravity (20 °C)	1.0 g/ml
Vapor Pressure (20 °C)	1.2 E-5 Pa

Solubility (20 °C)	**g/100 g solution**
Acetone	>50
Chloroform	>50
Ethanol	12
Ethyl acetate	>50
n-Hexane	>50
Methanol	1
Methylene chloride	>50
Water	<0.01

Volatility (pure substance; TGA, heating rate 20 °C/min in air)

Weight Loss %	Temperature °C
1.0	214
2.0	231
5.0	253

Absorbance spectrum
(10 mg/l, Chloroform)



Tinuvin 571 exhibits strong absorbance in the 300–400 nm region and minimal absorbance in the visible region (>400 nm) of the spectrum. The absorption maxima are at 303 nm and 343 nm (ε = 14'210 l/mol·cm) in chloroform solution.

Handling & Safety

Tinuvin 571 exhibits a very low order of oral toxicity and does not present any abnormal problems in its handling or general use.

Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant health and safety information sheet.

Note

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BASF Schweiz AG
Performance Chemicals/Plastic Additives
Klybeckstrasse 141
4057 Basel, Switzerland