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Tinuvin® PA 328

Benzotriazole UV absorber

Characterization

Tinuvin PA 328 is an ultraviolet light absorber (UVA) of the hydroxyphenyl benzotriazole class, which imparts outstanding light stability to plastics and other organic substrates.

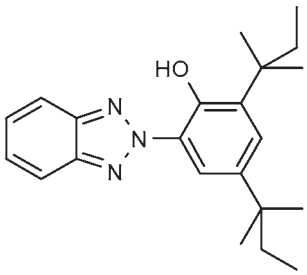
Chemical name

Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylpropyl)

CAS number

25973-55-1

Chemical formula



Molecular weight

352 g/mol

Applications

Tinuvin PA 328 is a highly effective light stabilizer for a variety of plastics and other organic substrates. Its use is recommended for the stabilization of styrene homo- and copolymers, acrylic polymers, unsaturated polyesters, polyvinyl chloride, polyolefins, polyurethanes, polyacetals, polyvinyl butyral, elastomers, and adhesives.

Features/benefits

Tinuvin PA 328 features strong UV absorption, low initial color, excellent compatibility in a wide vari-ety of substrates, good solubility in plasticizers and monomers, and moderately low volatility. It protects polymers as well as organic pigments from UV radiation, helping to preserve the original appear-ance and physical integrity of molded articles, films, sheets, and fibers during outdoor weathering.

Product forms

Tinuvin PA 328	Slightly yellow powder
Tinuvin PA 328 FF	Slightly yellow, free-flowing granules

Guidelines for use

The use levels of Tinuvin PA 328 range between 0.1 and 1.0 %, depending on substrate and performance requirements of the final application. Tinuvin PA 328 can be used alone or in combination with other functional additives such as antioxidants (hindered phenols, phosphites) and HALS light stabilizers, where often a synergistic performance is observed. Performance data for Tinuvin PA 328 alone and in combination with other additives are available in a variety of substrates.

Physical Properties

Melting Range	80 – 88 °C
Flashpoint	229 °C
Specific Gravity (20 °C)	1.17 g/ml
Bulk density	
Tinuvin PA 328	0.18 g/ml
Tinuvin PA 328 FF	0.56 g/ml
Angle of repose	
Tinuvin PA 328	48 °
Tinuvin PA 328 FF	40 °
Vapor Pressure (20 °C)	4.7 E-6 Pa

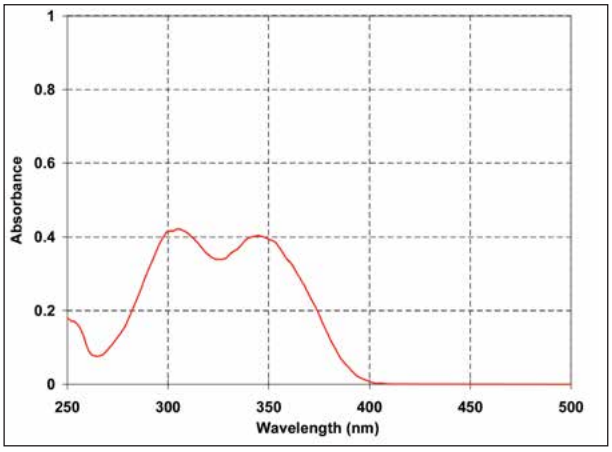
Solubility (20 °C)	**g/100 g solution**
Acetone	6
Benzene	39
Chloroform	44
Cyclohexane	15
Ethyl acetate	16
n-Hexane	16
Methanol	0.4
Water	< 0.01

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

Weight Loss %	Temperature °C
1.0	183
2.0	202
5.0	223

Absorbance spectrum

(10 mg/l, Chloroform)



Tinuvin PA *328 exhibits high absorbance in the 300 – 400 nm region and minimal absorbance in the visible region (> 400 nm) of the spectrum. The absorption maxima are at 306 nm and 347 nm (ε = 14760 l/mol · cm) in chloroform solution.*

Handling & Safety

Tinuvin PA 328 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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