



®TINUVIN P

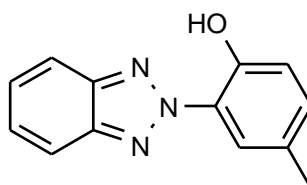
Benzotriazole UV Absorber

Characterization ®TINUVIN P is an ultraviolet light absorber (UVA) of the hydroxyphenol benzotriazole class, imparting good light stability to a wide variety of polymers during its use.

Chemical Name 2-(2H-benzotriazol-2-yl)-p-cresol

CAS Number 2440-22-4

Structure ®TINUVIN P



Molecular weight 225 g/mol

Applications ®TINUVIN P provides ultraviolet protection in a wide variety of polymers including styrene homo- and copolymers, engineering plastics such as polyesters and acrylic resins, polyvinyl chloride, and other halogen containing polymers and copolymers (e.g. vinylidenes), acetals and cellulose esters. Elastomers, adhesives, polycarbonates, polyurethanes, and some cellulose esters and epoxy materials also benefit from the use of ®TINUVIN P.

Features/ Benefits ®TINUVIN P features a strong absorption of ultraviolet radiation in the 300-400 nm region. It also has a high degree of photostability over long periods of light exposure. The high absorbance combined with photostability and the ability to release absorbed energy in non sensitizing ways make ®TINUVIN P an effective stabilizer against the effects of ultraviolet light.

®TINUVIN P has Food Contact Approvals in rigid and flexible PVC applications for food, consumer care products and pharmaceuticals, preserving the package contents from the detrimental effects of light.

Product Forms	Code:	Appearance:
	®TINUVIN P	slightly yellow powder
	®TINUVIN P FF	slightly yellow, free-flowing granules

Guidelines for use The use levels of ®TINUVIN P range between 0.10% and 0.50%, depending on substrate and performance requirements of the final application. ®TINUVIN P can be used alone or in a variety of blends and combinations with ®IRGAFOS, ®IRGANOX and ®CHIMASSORB stabilizers where often a synergistic performance is observed.

®TINUVIN P may react with various heavy metal ions to form salts or complexes. For example, if ®TINUVIN P comes into contact with iron or cobalt ions, colored complexes are formed. Reducing and oxidizing agents used in polymerization and curing processes have no effect on the stability of ®TINUVIN P.

Distributed by

Date first Edition: Jun-75
Printing Date: Aug-98

Product Name: ®TINUVIN P

page 1

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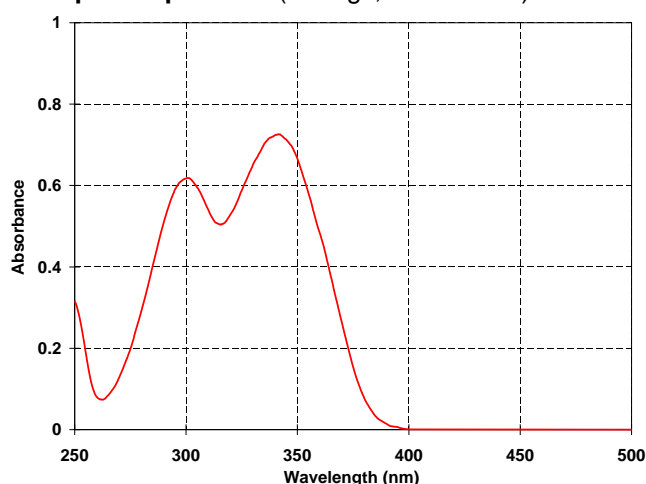
Physical Properties

Melting Range	128-132°C
Flashpoint	205°C
Specific Gravity (20°C)	1.38 g/cm ³
Vapor Pressure (20°C)	1.5 E-4 Pa
Solubility (20°C)	% w/w
Water	< 0.01
Acetone	3
Benzene	7
Chloroform	13
Cyclohexane	1
Ethyl acetate	3.5
n-Hexane	0.8
Methanol	0.2
Methylene chloride	16

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

Weight loss (%)	Temperature (°C)
1.0	153
2.0	170
5.0	190

Absorption Spectrum (10 mg/l, Chloroform)



®TINUVIN P 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 301 nm and 341 nm ($\epsilon = 16150$ l/mol-cm) in chloroform solution.

Handling & Safety

In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Protect skin. Prevent contamination of the environment. Avoid dust formation and ignition sources.

For more detailed information please refer to the material safety data sheet.

Registration

®TINUVIN P is listed on the following Inventories:

Australia: AICS	Canada: DSL	China: First Import
Europe: EINECS	Japan: MITI	Korea: ECL
Philippines: PICCS	USA: TSCA	

®TINUVIN P is approved in many countries for use in food contact applications.

For detailed information refer to our Positive List or contact your local sales office.

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