Tinuvin® 900 (ED)

UV absorber

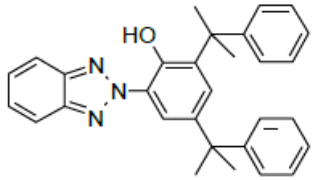
Product description

Tinuvin® 900 (ED) is a solid benzotriazole-based UV absorber for coatings, printing and packaging, adhesives and sealants. It was designed to meet high performance and durability requirements of solvent-based industrial and powder coatings.

Key benefits

- Broad spectral coverage
- Good long-term performance (photo permanence)
- Medium thermal stability

Chemical nature



2-(2-hydroxyphenyl)-benzotriazole

CAS number 70321-86-7

Molecular weight 447.6 g/mol

Properties

Physical form Slightly yellowish powder

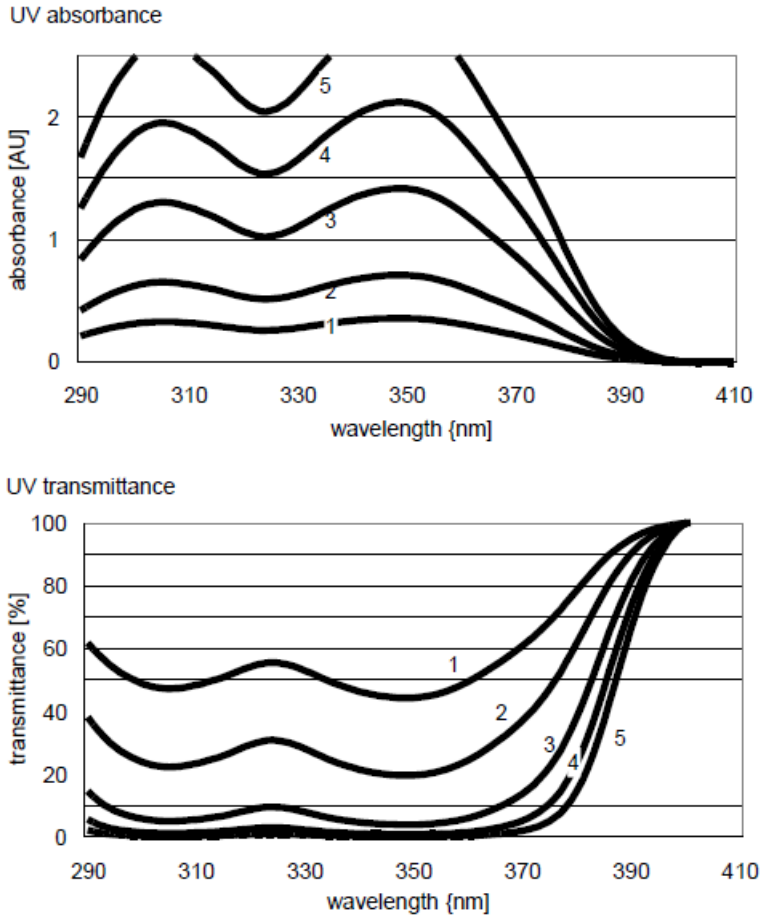
Technical data
(not supply specification)

Melting point	92/69/EEC A.1 DSC	138 – 142 °C

Solubility

Solvesso®100 (registered trademark of Exxon Mobil Corporation)	≤ 10 %
Butyl acetate (CAS No.: 123-86-4)	≤ 5 %

Spectral properties



Legend

1	10 mg/l (0.001 % ≈ 0.25 % active in 40 µm)
2	20 mg/l (0.002 % ≈ 0.50 % active in 40 µm)
3	40 mg/l (0.004 % ≈ 1.00 % active in 40 µm)
4	60 mg/l (0.006 % ≈ 1.50 % active in 40 µm)
5	80 mg/l (0.008 % ≈ 2.00 % active in 40 µm)

The theoretical concentration in an applied 40-µm clear coat was calculated as a function of the concentration in toluene with the help of the Lambert-Beer law. Spectra were recorded in toluene, light path length = 1 cm.

Application

Fields of application

- Automotive OEM and industrial high-temperature baking coatings
- Powder coatings
- Coil coatings
- Overprint varnishes over metal, board, paper, laminates, …
- Adhesives and sealants

For outdoor applications, Tinuvin® 900 (ED) needs to be combined with a hindered amine light stabilizer (HALS) such as Tinuvin® 123 (for acid- catalyzed systems), Tinuvin® 292 (for 2K PUR) or Tinuvin® 144 (for powder coatings).

Binder systems

- 1K and 2K PUR (acrylic/NCO, PES/NCO, …)
- Thermosetting (acrylic/melamine, PES/melamine, …)
- Thermoplastic (acrylic, vinylic, …)
- PES/Primid® (registered trademark of EMS-Chemie AG)

Recommended concentrations

The concentration of Tinuvin® 900 (ED) depends on dry-film thickness and desired degree of protection. The amount required for optimum performance should be determined in trials covering a concentration range.

Dry-film thickness	By weight on binder solids
10 – 20 µm	9.0 – 4.5 %
20 – 40 µm	4.5 – 2.5 %
40 – 60 µm	2.5 – 1.5 %

Storage

When kept in original unopened containers and at temperatures of 5 – 35 °C.

Tinuvin® 900 (ED) can be stored for up to 3 years from the date of manufacture.

Safety

When handling this product, please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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