

# Tinuvin® 99-2

UV absorber

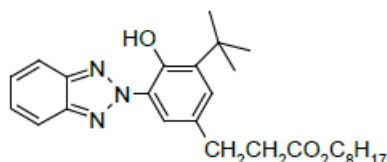
## Product description

Tinuvin® 99-2 is a liquid benzotriazole-based UV absorber for coatings, adhesives and sealants. It was designed to meet performance and durability requirements of solvent-based industrial and architectural coatings including UV-curable systems.

## Key benefits

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

## Chemical nature



2-(2-hydroxyphenyl)-benzotriazole, containing 5 % of 1-methoxy-2-propyl acetate (CAS No. 108-65-6)

## CAS number

127519-17-9

## Molecular weight

451.6 g/mol

## Properties

### Physical form

Viscous, greenish to amber liquid

### Technical data

(not supply specification)

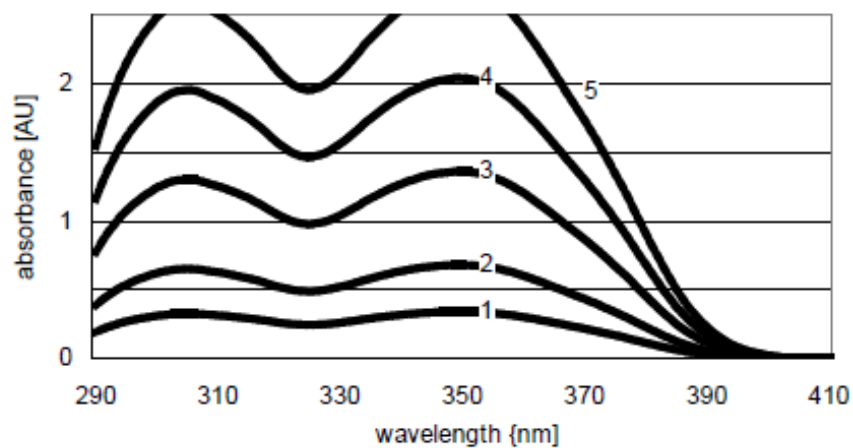
Viscosity, dynamic	DIN 53018/53019 (20 °C)	~ 3.4 Pa.s
Density	DIN 51757 (20 °C)	1.05 – 1.09 g/cm <sup>3</sup>
Flash point	92/69/EWG A. 9	73 – 77 °C

### Miscibility

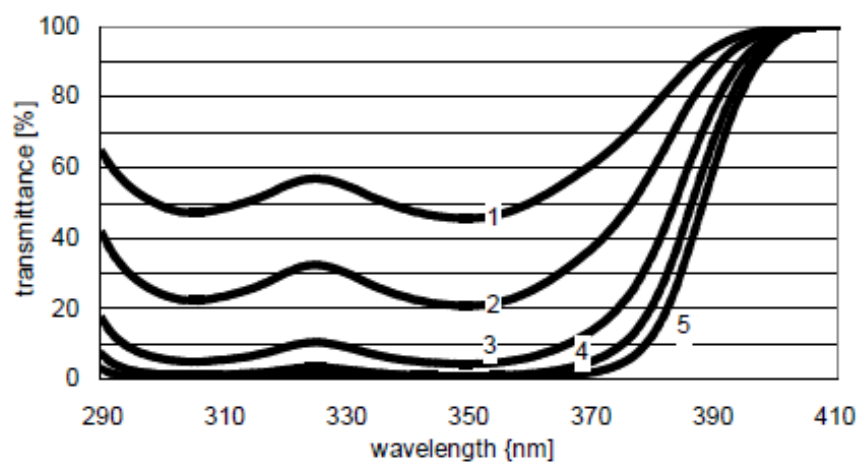
With most common organic solvents, easy to incorporate into water-based systems by use of co-solvents

## Spectral properties

UV absorbance



UV transmittance



### Legend

- |   |   |
|---|---|
| 1 | 10 mg/l (0.001 % $\approx$ 0.25 % active in 40 $\mu$ m) |
| 2 | 20 mg/l (0.002 % $\approx$ 0.50 % active in 40 $\mu$ m) |
| 3 | 40 mg/l (0.004 % $\approx$ 1.00 % active in 40 $\mu$ m) |
| 4 | 60 mg/l (0.006 % $\approx$ 1.50 % active in 40 $\mu$ m) |
| 5 | 80 mg/l (0.008 % $\approx$ 2.00 % active in 40 $\mu$ m) |

The theoretical concentration in an applied 40  $\mu$ m 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

- General industrial coatings
- Architectural coatings
- Wood stains and varnishes, wood-care products
- Heavy-duty maintenance and marine coatings
- Adhesives and sealants

For outdoor applications, Tinuvin® 99-2 needs to be combined with a hindered amine light stabilizer (HALS) such as Tinuvin® 5100 (for acid-catalyzed or air-drying systems) or Tinuvin® 292 (for 2K PUR).

### Binder systems

- 1K and 2K PUR (acrylic/NCO, PES/NCO, ...)
- Alkyds, waxes, oils (air-drying systems)
- Thermoplastic (acrylic, vinylic, ...)
- UV-curable systems (acrylic, PES, ...)

### Recommended concentrations

The amount of Tinuvin® 99-2 required for optimum performance should be determined in trials covering a concentration range.

Dry-film thickness	By weight on binder solids
10 – 20 µm	10.0 – 5.0 %
20 – 40 µm	5.0 – 2.5 %
40 – 60 µm	2.5 – 1.5 %

## Storage

When kept in original unopened containers and at temperatures of 5 –35 °C.  
Tinuvin® 99-2 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.