

# Tinuvin® 400

UV absorber

## Product description

Tinuvin® 400 is a liquid triazine-based UV absorber for coatings, adhesives, sealants and printing inks. It was designed to meet high performance and durability requirements of solvent-based transportation and industrial coatings including radiation-curable systems (UV, electron beam).

## Key benefits

- Excellent long-term performance (photo permanence)
- High thermal stability
- Does not interact with amine- and/or metal-catalyzed coating systems or coatings applied on base coats or substrates containing such catalysts
- Non-migrating
- Reactable via OH function into NCO- and melamine-crosslinked systems

## Chemical nature

2-hydroxyphenyl-s-triazine, 85 % in 1-methoxypropan-2-ol (CAS No.107-98-2)

## CAS number

153519-44-9

## Molecular weight

647 g/mol

## Properties

### Physical form

Viscous, slightly yellow to yellow liquid

### Technical data

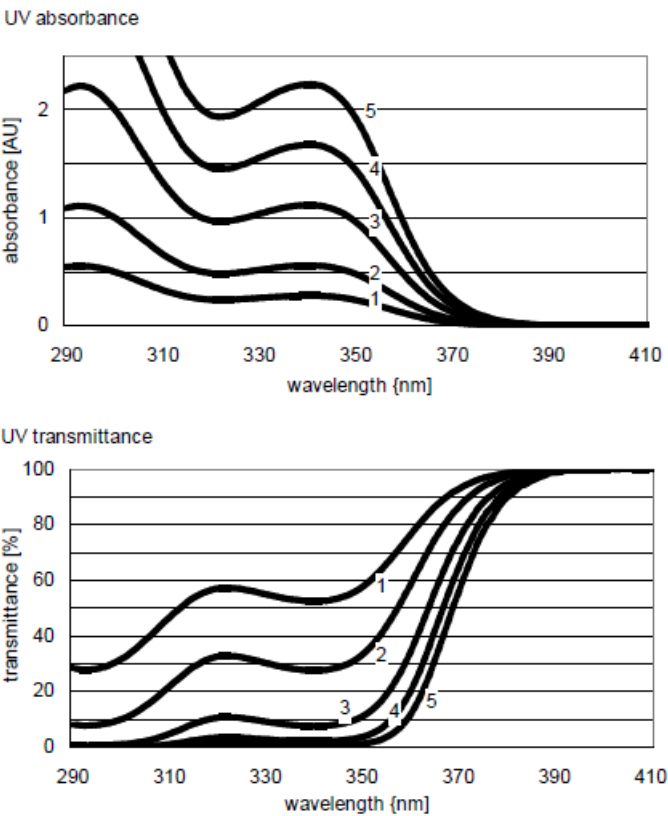
(not supply specification)

Viscosity, dynamic	DIN 53018/53019 (20 °C)	~ 7,400 mPa.s
Density	DIN 51757 (20 °C)	1.04 – 1.06 g/cm <sup>3</sup>
Flash point	DIN EN ISO 13736	39 – 43 °C

### Miscibility

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

Spectral properties



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

Tinuvin® 400 is especially suitable for coatings exposed to high baking temperatures and/or to extreme environmental conditions.

- High-performance automotive OEM and industrial coatings
- Plastic coatings (PC, PMMA, PET, sheets, films, packaging, ...)
- Coil coatings
- PVC floor coatings
- Architectural concrete coatings
- Adhesives and sealants

For outdoor applications, Tinuvin® 400 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® 152 (for coatings over plastics).

Binder systems

- 1K and 2K PUR (acrylic/NCO, PES/NCO, ...)
- Thermosetting (acrylic/melamine, PES/melamine, ...)
- Thermoplastic (acrylic, vinylic, ...)
- Epoxy/carboxy (amine- or metal-catalyzed)
- UV-curable systems (acrylic, PES, ...)

Recommended concentrations

The concentration of Tinuvin® 400 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	8.0 – 4.0 %
20 – 40 µm	4.0 – 2.0 %
40 – 60 µm	2.0 – 1.5 %

## Storage

When kept in original unopened containers and at temperatures of 5 – 35 °C.  
Tinuvin® 400 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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