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Tinuvin® 477

Product Description

Tinuvin 477 is a liquid, high performance UV absorber developed for solventborne and liquid UV curable coatings. Based on a red shifted tris-resorcinol-triazine chromophore, it is suited for the protection of UVA range sensitive substrates or ingredients.

Key Features & Benefits

- Hydroxyphenyl-triazine UV absorber with high extinction in the UV-A range
- Excellent photo-permanence
- Minimal interaction with metal catalysts and amine crosslinkers

Chemical Composition

Hydroxy-phenyl-s-triazine UV absorber with 18-20% 2-methoxy-1-propyl-acetate

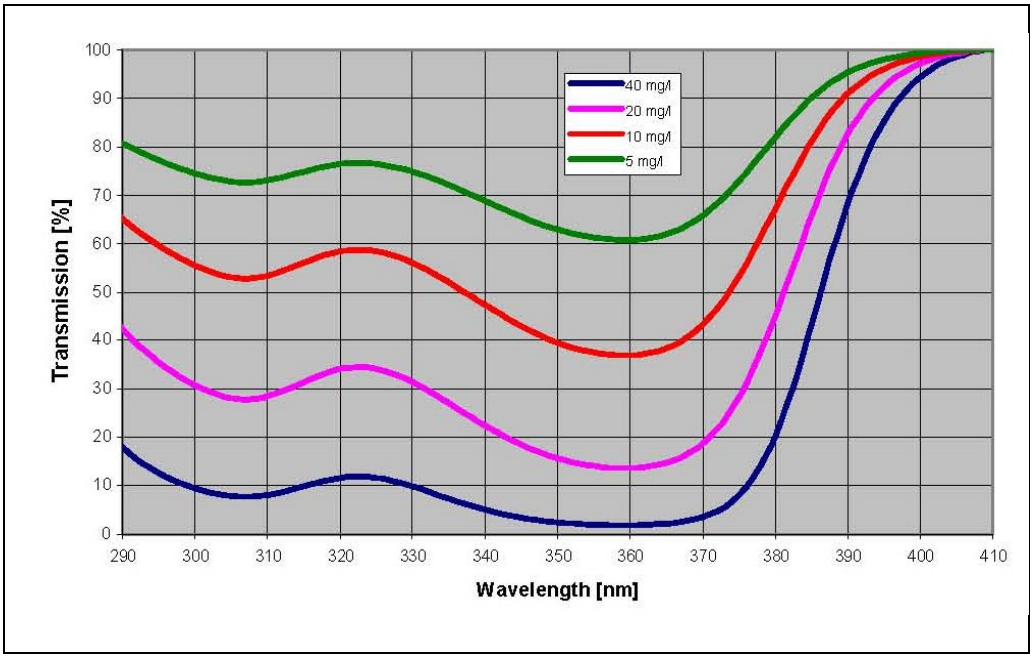
Properties

Typical Properties

Appearance		orange – brown liquid
Dynamic Viscosity at 20°C	cps	2,100
Density at 20°C	g/cm³	1.08
Miscibility at 20°C (g/100 g solution):		Tinuvin 477 is miscible to more than 50% with most commonly used paint solvents. Water solubility is less than 0.01%.

These typical values should not be interpreted as specifications.

UV Transmission Spectra
(cell thickness = 1 cm)



Applications

Tinuvin 477 is a liquid, high performance UV absorber developed for solvent borne and liquid UV curable coatings. Its high thermal stability and photo-permanence makes it suitable for coatings exposed to high bake temperatures and/or to extreme environmental conditions. It fulfills the long-term durability requirements of high performance decorative and industrial coatings.

Tinuvin 477 is a broad band absorbing UV absorber with high extinction particularly in the UVA range (320-390 nm) designed to block UVA light from sun and artificial lighting sources. Additionally, Tinuvin 477 protects substrate and contents or ingredients against UV damage and value loss.

For indoor varnishes, it stabilizes the color of substrates such as natural or stained wood as well as tinted or printed materials. It is used for content protection in coatings on transparent packaging films, sheets and containers.

For outdoor applications, the performance provided by Tinuvin 477 is enhanced when used in combination with HALS stabilizers such as Tinuvin 123, Tinuvin 249 or Tinuvin 292 or with stabilizers from the Tinuvin 5000 series.

Tinuvin 477 is recommended for clear and pigmented systems such as:

- Exterior wood coatings and penetrating finishes (I.e. LO Alkyd based clear and pigmented systems)
- Indoor solvent borne and UV cured wood coatings, waxes and wood care products
- Polishes, rejuvenators for plastics and leather
- Coatings on plastics (PC, PMMA, PET, sheets, films, bottles, packaging)
- Coatings on vinyl (displays, liners, tarpaulins)
- OVP UV blocking varnishes on prints (metal, board, paper, laminates)
- Glass coatings and glass bonding layers
- Adhesives

Possible interactions of Tinuvin 477 (color change) under high pH conditions should be carefully evaluated.

The amount of Tinuvin 477 required for optimum performance depends on film thickness and pigmentation. It should be determined by a series of laboratory trials covering a concentration range.

Recommended concentrations

For Indoor Applications:	1 – 3 %	Tinuvin 477
	(alone or in blend w/ UVA as Tinuvin 99-2 or Tinuvin 400)	
For Exterior Applications:	1 – 3 %	Tinuvin 477
	+	
	1 – 3 %	Tinuvin 123, 5100, or Tinuvin 292

(concentrations are based on weight % of binder solids)

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measure described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care, and wearing of protective goggles.

Safety Data Sheet

All safety information is provided in the Safety Data Sheet for Tinuvin 477.

Storage

Please refer to the “Handling and Storage of Polymer Dispersions” brochure.

Important

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BASF Corporation
Dispersions and Resins
11501 Steele Creek Road
Charlotte, North Carolina 28273
Phone: (800) 251 – 0612
Email: CustCare-Charlotte@basf.com
Email: edtech-info@basf.com
www.basf.us/dpsolutions