

Tinuvin® 479-DW (N)

Product Description

Tinuvin 479-DW (N) is an aqueous triazine-based UV absorber dispersion for coatings, overprint varnishes, adhesives and sealants.

Key Features & Benefits

- Extremely high extinction coefficient
- Highest long-term performance (photopermanence)
- Highest thermal stability
- Non migrating
- Stir-in product that easily mixes with water-based systems without high shear mixing
- Disperses homogeneously without cosolvents or any other dispersion aids
- Does not interact with amine- and/or metal-catalyzed coating systems or coatings applied on base coats or substrates containing such catalysts

Chemical Composition

Triazine UV absorber

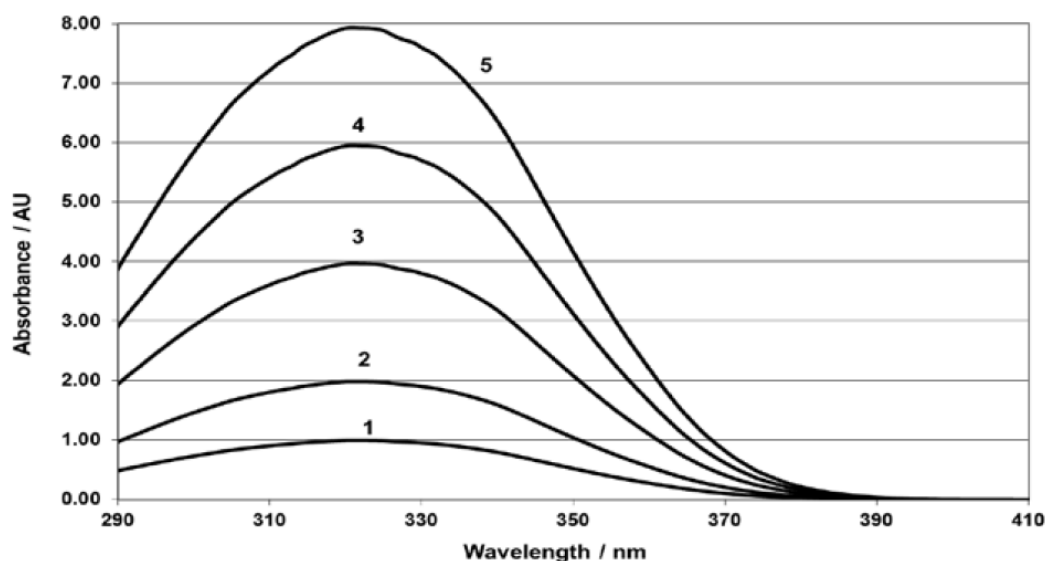
Properties

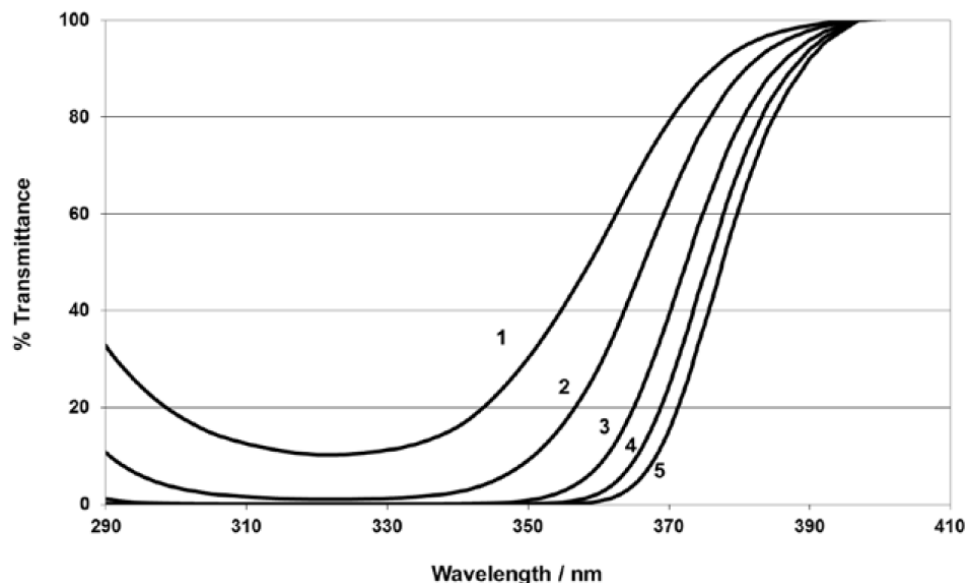
Typical Properties

Appearance		slightly yellowish dispersion
Active UV absorber	%	~ 20
Solids	%	~ 40
Viscosity at 20°C (Dynamic at 150s ⁻¹)	cps	~ 9
Density at 20°C (68°F)	g/cm ³	1.04 – 1.08
pH		7 - 9
Miscibility		readily miscible with most water-based coating systems

These typical values should not be interpreted as specifications.

UV Absorbance Spectrum





Line one: 50 mg/l (0.001% Tinuvin 479-DW (N), corresponds to 0.25% in a 40 µm film)
 Line two: 100 mg/l (0.002% Tinuvin 479-DW (N), corresponds to 0.50% in a 40 µm film)
 Line three: 200 mg/l (0.004% Tinuvin 479-DW (N), corresponds to 1.00% in a 40 µm film)
 Line four: 300 mg/l (0.006% Tinuvin 479-DW (N), corresponds to 1.50% in a 40 µm film)
 Line five: 400 mg/l (0.008% Tinuvin 479-DW (N), corresponds to 2.00% in a 40 µm film)

The theoretical concentration in an applied 40 µm clear coat was calculated as a function of the concentration with the help of the Lambert-Bee Law. Spectra were recorded in an 80:20 blend of THF and toluene, light path length = 1 cm.

Applications

Tinuvin 479-DW (N) is an aqueous triazine-based UV absorber dispersion for coatings, adhesives and sealants. It was designed to meet the highest performance and durability requirements, particularly in thin films or at reduced film thickness in water-based transportation and industrial applications including energy curable systems (UV, EB).

Due to its extremely high extinction, Tinuvin 479-DW (N) is especially suitable for all water-based coatings applied at reduced film thickness or for thin film applications exposed to high baking temperatures and/or to extreme environmental conditions.

Tinuvin 479-DW (N) is recommended for applications such as:

- High performance transportation and automotive coatings
- High performance industrial and decorative coatings
- Plastic coatings over PC, PMMA, PET sheets or films, packaging
- Overprint varnishes over metal, board, paper or laminates
- Glass coatings and glass bonding layers
- Adhesives and sealants

For outdoor applications, Tinuvin 479-DW (N) needs to be combined with a hindered amine light stabilizer (HALS) such as Tinuvin 123-DW (N) (over base-sensitive substrates such as PC) or Tinuvin 292.

Binders

Automotive and industrial 2K WB polyurethanes
 Polyurethane dispersions
 Acrylic dispersions or emulsions
 Thermosetting acryl / melamine systems
 UV curable modified acrylates (e.g. urethane acrylates)
 Epoxy / carboxy systems

The amount of Tinuvin 479-DW (N) required for optimum performance should be determined in laboratory trials covering a concentration range. The concentration of Tinuvin 479-DW (N) depends on the dry film thickness and the desired degree of protection.

Recommend Concentrations

Dry film thickness	Weight % of Tinuvin 479-DW (N) on binder solids
10 µm	20%
20 µm	10%
40 µm	5%

For optimum spectral coverage, Tinuvin 479-DW (N) should be combined with a triazine-based UV absorber such as Tinuvin 400-DW (N). The ratio of Tinuvin 479-DW (N) and Tinuvin 400-DW (N) should be 1:1, 2:3 or preferably, 1:2.

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 479-DW (N).

Storage

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

Important

The descriptions, designs, and data contained herein are presented for your guidance only. Because there are many factors under your control which may affect processing or application/use it is necessary for you to make appropriate tests to determine whether the product is suitable for your particular purpose prior to use. **NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, OR DATA MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, DATA OR DESIGNS PROVIDED BE PRESUMED TO BE A PART OF OUR TERMS AND CONDITIONS OF SALE.** Further, you expressly understand and agree that the descriptions, designs, and data furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for same or results obtained from use thereof, all such being given to you and accepted by you at your risk.

Tinuvin is a registered trademark of BASF Group.

© BASF Corporation, 2019



BASF Corporation is fully committed to the Responsible Care® initiative in the USA, Canada, and Mexico.

For more information on Responsible Care® go to:

U.S.: www.basf.us/responsiblecare_usa

Canada: www.basf.us/responsiblecare_canada

México: www.basf.us/responsiblecare_mexico

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