



Ciba Specialty Chemicals

Coating Effects



Ciba™ TINUVIN® 292

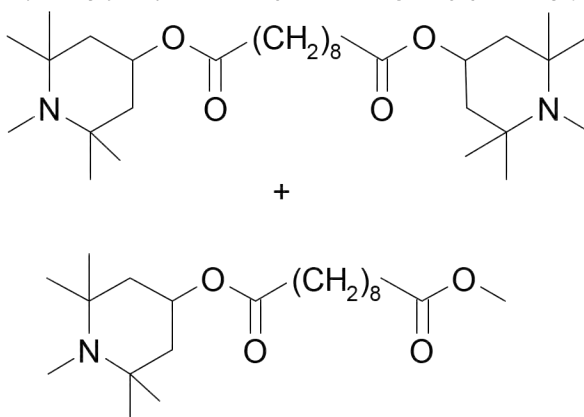
General

Ciba™ TINUVIN 292 is an excellent general purpose liquid hindered amine light stabilizer especially developed for coatings. Its cost efficiency provides significantly extended life time to coatings by minimizing paint defects such as cracking and gloss loss.

Chemical Name

The active substance is a mixture of:
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl)-sebacate
and
1-(Methyl)-8-(1,2,2,6,6-pentamethyl-4-piperidinyl)-sebacate

Structure



Molecular Weight 508.8 and 369.6



Physical Properties

Appearance:
slightly yellow liquid

Specific density at 20°C: 0.99 g/cm³

Miscibility (g/100 g solution) at 20°C:

butylcarbitol	> 50	
butanol	> 50	
butylacetate	> 50	
Depanol J ¹⁾	> 50	¹⁾ Trade Mark of Hoechst
ethylglycol	> 50	
1-methoxypropylacetate-2	> 50	
methylethylketone	> 50	
Solvesso 100 ²⁾	> 50	²⁾ Trade Mark of Esso
Solvesso 150 ²⁾	> 50	
xylene	> 50	
water	n.m.	n.m. = not miscible
hexanedioldiacrylate	> 50	
trimethylolpropanetriacrylate	> 50	

The dispersion of TINUVIN 292 in water may be simplified by dilution with a water miscible solvent such as butylcarbitol.

Applications

TINUVIN 292 may be used after adequate testing in a broad range of applications such as

- automotive refinish coatings
- industrial topcoats
- coil coatings
- wood stains or trade sales paints and varnishes
- radiation curable coatings

Its high cost efficiency has been demonstrated in coatings based on a variety of binders such as

- one- and two-component polyurethanes
- thermoplastic acrylics (physical drying)
- thermosetting acrylics, alkyds and polyesters
- alkyds (air drying)
- water borne acrylics
- phenolics, vinyls
- radiation curable acrylics

The weatherability of such coatings can be significantly improved by use of a combination of TINUVIN 292 with a UV absorber, e.g. TINUVIN 1130, TINUVIN 384, or TINUVIN 328. These synergistic combinations give automotive coatings superior protection against gloss reduction, cracking, blistering, delamination and color change.

The light stabilizers may be added in two coat automotive finishes to the base and clear coat. The optimum protection should be determined by evaluating a broad range of concentrations.

Possible interactions of TINUVIN 292 with paint ingredients such as acid catalysts should be carefully evaluated. Should a negative interaction occur, TINUVIN 123 would be recommended.

The optimum additive levels and ratios should be determined from experimental trials covering a range of concentrations.



Recommended Concentrations	Clear coats and	0.5 - 1.0 %	TINUVIN 292
	one coat metallic shades:	+	
		1.0 - 3.0 %	TINUVIN 1130, TINUVIN 384, TINUVIN 928 or TINUVIN 328
	One coat solid shades:	1.0 - 2.0 %	TINUVIN 292 alone or in combination with
		1.0 - 3.0 %	TINUVIN 1130, TINUVIN 384, TINUVIN 928 or TINUVIN 328

Percent by weight of coating resin solids.

Handling & Safety In accordance with good industrial practice, handle with care and avoid release to the environment. For more detailed information please refer to the material safety data sheet.

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