Printing & Packaging
Industrial Coatings

Technical Data Sheet

Tinuvin® 123

BASF
The Chemical Company

Product Description

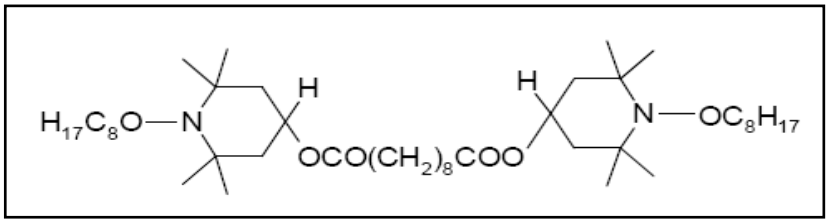
Tinuvin® 123 is a liquid hindered amine light stabilizer (HALS) based on an amino-ether functionality.

Key Features & Benefits

- Efficient protection against gloss loss and cracking of coatings
- Low basicity aminoether (NOR) HALS, permits formulating in acid catalyzed coatings and coatings containing acidic pigmentation
- Low volatility

Chemical Structure

Decanedioic acid, *bis* (2,2,6,6-tetramethyl-1-(octyloxy)-4-piperidinyl) ester



Properties

Typical Characteristics

Appearance	clear, slightly yellow liquid
CAS No.	129757-67-1
Molecular weight	737
Density at 20°C	0.97 g/cm^3
Viscosity at 20°C	2,900 – 3,100 cps
Miscibility at 20°C (g/100g solution):	
Most commonly used paint solvents	> 50
Water	< 0.01

These typical values should not be interpreted as specifications.

Applications

Tinuvin® 123 has been developed especially for high solids, acid catalyzed automotive and industrial coatings, such as two-coat metallic thermosetting acrylate systems or one-coat opaque thermosetting acrylate and polyester coatings. Its low basicity prevents possible interactions with acidic paint ingredients such as catalysts. Its efficiency provides significant improvement in coatings performance by minimizing paint defects such as cracking and gloss reduction for clear coats as well as chalking for pigmented paints.

Tinuvin® 123 is recommended for applications such as:

- Automotive and industrial coatings
- Decorative paints and wood stains or varnishes

In addition, Tinuvin® 123 may be used in a variety of other binders and applications such as:

- Alkyd/acrylic air drying automotive refinish paints
- Alkyd oxidative drying paints and varnishes
- Two-pack non-isocyanate coating technologies

Tinuvin® 123 also enables easy emulsification into waterborne systems. Its performance can be significantly improved when used in combination with a UV absorber.

In automotive coatings, combinations of Tinuvin® 123 with the UV absorbers Tinuvin® 384, Tinuvin ® 1130, Tinuvin® 928, or Tinuvin® 400 will significantly improve the weathering resistance and provide superior protection against gloss reduction, cracking, color change, blistering, and de-lamination. The light stabilizers may be added in two-coat applications to both the base and the clear coat.

In wood coatings, combinations of Tinuvin® 123 with the UV absorbers Tinuvin® 384 or Tinuvin® 1130 have been found highly effective in air drying alkyd-based formulations. The light stabilizer blends can be added to film forming as well as decorative penetrating stains.

The amount of Tinuvin® 123 required for optimum performance should be determined in trials covering a concentration range.

Recommended Concentrations
(concentrations are based on weight percent binder solids)

Application	Weight % of Tinuvin® 123
Automotive and industrial coatings	0.5 – 2 + 1 – 3% Tinuvin® 384, Tinuvin® 1130, Tinuvin® 928, or Tinuvin® 400
Decorative wood coatings	0.5 – 2 0.5 – 2 + 1 – 3% Tinuvin® 384 or Tinuvin® 1130

Safety

General

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

Material Safety Data Sheet

All safety information is provided in the Material Safety Data Sheet for Tinuvin® 123.

Important

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