

Tinuvin[®] 152

Product Description

Tinuvin 152 is a high performance Hindered Amine Light Stabilizer (HALS) that significantly improves coating durability. It minimizes paint degradation that could otherwise lead to cracking and gloss loss in clear coats, and also chalking in pigmented paints. It features:

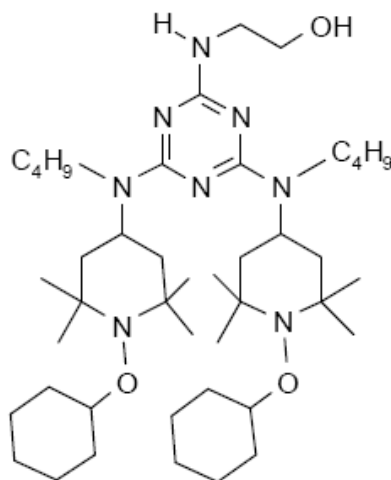
- Reactable primary hydroxyl enabling Tinuvin 152 to co-condense with melamine and isocyanate cross-linkers and to exhibit improved compatibility and resistance to migration in many systems, such as coatings over plastics
- Low basicity, making Tinuvin 152 suitable for use in acid catalyzed systems and in coatings using acidic pigments
- Very low volatility

Key Features & Benefits

- *Non-interacting low basicity aminoether (NOR) HALS*
- *Hydroxy functional group can be reacted with isocyanate and melamine crosslinkers*
- *Low volatility*

Chemical Structure

2, 4-bis [N-Butyl-N-(1-cyclohexyloxy-2, 2, 6, 6-tetramethylpiperidin-4-yl) amino]-6-(2-hydroxyethylamine)-1, 3, 5-triazine



Properties

Typical Properties

CAS No:	191743 – 75 – 6
Appearance	off white powder
Molecular weight	756.6
Piperidine Eq. weight	378.3
pK _b	7.0, 9.4
Melting point	83 – 90 °C
Specific gravity at 25°C	not determined

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

water	< 0.01
methyl amyl ketone	75
methyl iso-amyl ketone	65
n-butyl acetate	70
ethyl acetate	75
xylene	70
Exxate® 600 ¹	70
Exxate® 1000 ¹	65
Solvesso™ 100 ¹	70
n-methyl pyrrolidone	60
1-methoxy 2-propyl acetate	60
isobutanol	60
4-chlorobenzotrifluoride	60
(Oxso® 100 ² equivalent)	
Dowanol® PM ³	70

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² registered trademark of Occidental Chemical Corp.

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Note: dissolution rates are sometimes slow and most of the approximate maximum concentrations yield viscous solutions.

These typical values should not be interpreted as specifications.

Applications

Migration of stabilizers can cause depletion from and subsequent degradation of coatings. This is especially apparent when coatings are applied over plastics but may also occur when clear coats are applied over pigmented basecoats, or during “wet-on-wet (-on-wet)” coatings applications. Through the primary hydroxyl, Tinuvin 152 can co-condense with many coating chemistries, such as melamine and isocyanate crosslinkers, anchoring it into the coating thereby preventing migration.

Tinuvin 152 provides superior compatibility and prolonged effectiveness in polar, highly crosslinked coating systems where conventional HALS may be incompatible. These coatings include polyester or acrylic urethanes, and highly crosslinked polyester or acrylic melamine systems.

Because of its low basicity, Tinuvin 152 is also effective in thermosetting systems such as traditional acid catalyzed automotive and coil coatings, as well as in thermoplastic acrylic and oxidative drying alkyds for industrial/ decorative paints and varnishes.

Recommended Concentrations 1 - 2% by weight based on resin solids in light stable pigmented systems.

In clear coatings or pigmented coatings susceptible to fading or discoloration or over light sensitive substrates, maximum effectiveness is achieved by combining 1 - 3% UV absorber, such as Tinuvin 400 or Tinuvin 928. If reactivity of the UVA is also required, then Tinuvin 400 (secondary hydroxyl), or Tinuvin 1130 (50% primary hydroxyl) are recommended. In powder coatings, both UV or thermally cured, Tinuvin 405 is the first choice of UVA.

The amount of Tinuvin 152 required for optimum performance should be determined in laboratory trials covering a concentration range.

Incorporation

Add neat solid product to polyol portion of two-component urethanes or to formulate one-component coating. Mix well before application. Tinuvin 152 can also be pre-dissolved in coating solvent before addition to the coating.

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 152.

Storage

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

Important

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