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Tinuvin® 622

Oligomeric hindered amine light stabilizer (HALS)

Characterization

Tinuvin 622 is the light stabilizer of choice for all applications calling for low volatility and minimal migration, because of its oligomeric structure with high molecular weight. Furthermore Tinuvin 622 is effective as antioxidant and contributes significantly to the long-term heat stability of polyolefins and tackifier resins.

Chemical name

Butanedioic acid, dimethylester, polymer with 4-hydroxy-2,2,6,6-tetramethyl-1-piperidine ethanol

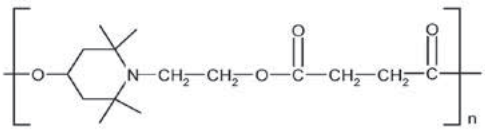
CAS number

65447-77-0

Structure

Tinuvin 622

Chemical formula



Molecular weight

M_n = 3100 – 4000

Applications

Tinuvin 622 areas of application include polyolefins (PP, PE), olefin copolymers such as EVA as well as blends of polypropylene with elastomers. In addition Tinuvin 622 is highly effective in polyacetals, polyamides and polyurethane applications.

Features/benefits

The effectiveness of Tinuvin 622 surpasses significantly that of UV absorbers, particularly in pigmented systems. Combinations of Tinuvin 622 with UV absorbers, e. g. Tinuvin range or other HALS, e. g. Chimassorb® range in many cases result in synergistic effects. Typical examples are Tinuvin 783 and Tinuvin 111.

Product forms

Code:	Tinuvin 622 SF
Appearance:	White to slightly yellowish coarsely ground powder

Guidelines for use

Thick sections*	UV stabilization of HDPE, LLDPE, LDPE and PP	0.15 – 0.5 %
Films	UV stabilization of LDPE and LLDPE	0.1 – 1.2 %
Tapes	UV stabilization of HDPE and PP	0.2 – 0.8 %
Fibers	UV stabilization of PP fibers	0.1 – 1.0 %

* *The presence of an UV absorber (e. g. TINUVIN 326/328 and Chimassorb 81) is recommended in unpigmented or slightly pigmented articles or to improve the light fastness of certain organic pigments.*

Physical Properties

Melting Range	50 – 70 °C
Flashpoint	> 250 °C
Specific Gravity (20 °C)	1.22 g/cm^3
Vapor Pressure (20 °C)	2.5 E-6 Pa
Bulk density	500 – 700 g/l

Solubility (20 °C)	**% w/w**
Acetone	4.0
Chloroforme	> 40
Ethanole	0.08
Ethyl acetate	3.0
n-Hexane	< 0.01
Methanole	0.05
Methylene chloride	> 40
Toluene	15
Water	1.6 mg/l

Volatility	**Pure substance; TGA, heating rate 20 °C/ min in air**
Weight Loss (%)	Temperature °C
0.1	200
0.2	225
0.4	250
1.1	275
3.1	300
8.4	325

Note

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BASF Schweiz AG
Performance Chemicals/Plastic Additives
Klybeckstrasse 141
4057 Basel, Switzerland