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The Chemical Company

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Tinuvin® 770

Low molecular weight hindered amine light stabilizer (HALS)

Characterization

Tinuvin 770 is a low molecular weight hindered amine light stabilizer (HALS) for applications demanding particularly high light stability. It provides excellent light stability for thick sections but can also be used for articles with a high surface area such as films and tapes.

Chemical name

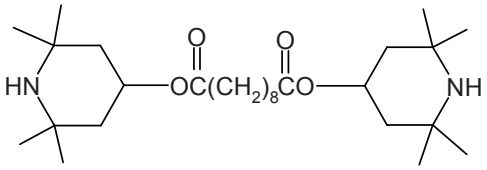
Bis(2,2,6,6,-tetramethyl-4-piperidyl)sebaceate

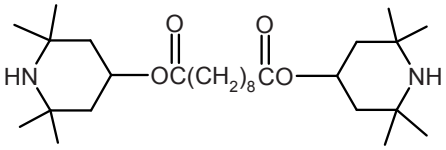
CAS number

52829-07-9

Structure

Tinuvin 770





Molecular weight

481 g/mol

Applications

Tinuvin 770 is recommended to be used in polypropylene, impact modified PP (TPO), EPDM, polystyrene, impact polystyrene, ABS, SAN, ASA, polyurethanes, and is also effective in polyamides and polyacetals.

Features/benefits

Tinuvin 770 is a low molecular weight hindered amine light stabilizer that provides excellent light stability for thick sections and films in the recommended substrates. Benefit of using Tinuvin 770 is the high light-stabilizing performance, particularly in PP thick sections to protect the surface. It has broad compatibility and can be easily dispersed.

Compared to UV absorbers, the effectiveness of HALS, like Tinuvin 770, is not dependent on the polymer's thickness. For this reason the use of Tinuvin 770 also provides good light stability in articles with higher specific surface, e. g. films and tapes.

Product forms

Code:	Tinuvin 770 DF
Appearance:	white crystalline granules

Guidelines for use

The recommended concentrations range between 0.1 % and 1.0 %, depending on the substrate, processing conditions and application. The optimum level is substrate and application specific. Extensive performance data of Tinuvin 770 in various substrates and for various applications is available upon request.

Physical properties

Melting range:	81 – 85 °C
Flashpoint (DIN 51584):	> 150 °C
Specific gravity (20 °C):	1.05 g/cm^3
Vapor pressure (20 °C):	1.3 E-8 Pa
Bulk density:	470 – 510 g/l

Solubility (20 °C)	**% w/w**
Acetone	19
Chloroform	45
Ethanol	–
Ethyl acetate	24
n-Hexane	5
Methanol	38
Dichloromethane	56
Toluene	–
Water	< 0.01

Volatility	**Pure substance;**
Weight Loss (%)	**TGA, heating rate at 20 °C/min in air**
	Temperature °C
0.7	150
0.7	175
1.0	200
2.1	225
7.2	250
19.8	275

Handling & Safety

In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Avoid continuous or repetitive breathing of dust. Use only with adequate ventilation. Avoid contact with eyes. Avoid release to the environment. Avoid dust formation and ignition sources.

For more detailed information please refer to the material safety data sheet.

Note

November 2010

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