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# Tinuvin® 111

## Synergistic mixture of monomeric and oligomeric hindered amine stabilizers

### Characterization

Tinuvin 111 is a synergistic mixture of a methylated high molecular weight hindered amine light stabilizer (HALS) and oligomeric Tinuvin 622.

It is an excellent UV stabilizer with outstanding extraction resistance, low gasfading and low pigment interaction. Tinuvin 111 is particularly well suited for PP fibers and applications with moderate chemical exposure, as in some agricultural applications.

### Chemical name

Methylated high molecular weight HALS: 1,3,5-Triazine-2,4,6-triamine,N,N"-[1,2-ethane-diyl-bis[[[4,6-bis-[butyl(1,2,2,6,6-pentamethyl-4-piperidiny)] amino]-1,3,5-triazine-2-yl]imino]-3,1-propa-nediyl]]bis[N',N"-dibutyl-N',N"-bis(1,2,2,6,6-pentamethyl-4-piperidiny)]-

Tinuvin 622: Butanedioic acid, dimethylester, polymer with 4-hydroxy-2,2,6,6-tetramethyl-1-piperidine ethanol

### CAS number

Preparation

### Structure

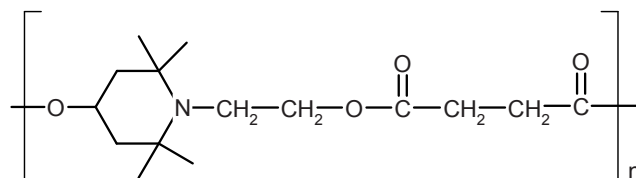
Methylated high molecular weight HALS

### Molecular weight

$M_w = 2286$

### Structure

Tinuvin 622



### Molecular weight

$M_n = 3100 - 4000$

### Applications

Tinuvin 111 areas of application include polyolefins (PP, PE), olefin copolymers such as EVA as well as blends of polypropylene with elastomers.

### Features/benefits

The non-interacting nature of Tinuvin 111 provides exceptional ancillary properties such as performance in agricultural, especially mulch applications.

### Product forms

Code: Tinuvin 111 FDL  
Appearance: white to light yellowish pastilles

<b>Guidelines for use</b>	Films:	UV stabilization of mulch films	0.5 – 1.5%
	Fibers:	UV stabilization of PP fibers	0.1 – 1.0%
	Thick section:	UV stabilization of PO thick sections	0.05 – 1.0%

<b>Physical properties</b>	Density (20 °C):	1.05 g/cm <sup>3</sup>
	Melting range:	115 – 150 °C
	Flashpoint (ASTM D 92 – 78):	> 275 °C

**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. Protect skin. Prevent contamination of the environment. Avoid dust formation and ignition sources.

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

**Note**

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