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# Irganox<sup>®</sup> 1135

## Phenolic primary antioxidant for processing and long-term thermal stabilization

### Characterization

Irganox 1135 is a 100 % active, liquid sterically hindered phenolic antioxidant for polyols, polyurethanes, and other polymers.

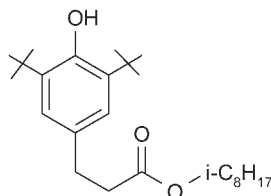
### Chemical name

Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C<sub>7</sub>-C<sub>9</sub> branched alkyl esters

### CAS number

125643-61-0

### Chemical formula



### Molecular weight

390 g/mol

### Applications

Irganox 1135 is an excellent antioxidant, which may be used in a variety of polymers. For the stabilization of polyurethane flexible slabstock foams, Irganox 1135 prevents the formation of peroxides in the polyol during storage, transport, and further protects against scorching during foaming.

### Features/benefits

Irganox 1135 offers excellent antioxidant performance with the convenience of a pumpable liquid. Due to its low volatility and excellent compatibility, Irganox 1135 is particularly well suited to be used in forced air cooling processes for polyurethane. The low volatility and excellent compatibility also helps to prevent fogging in automotive applications and to prevent staining of textiles (e. g. furniture, carpeting, head rests, etc.). The liquid nature and low volatility of Irganox 1135 make it a perfect fit where neat liquids, emulsions, suspensions, solutions or melts are an integral part of polymer manufacturing and processing. Irganox 1135 can be added before, during or after polymerization.

### Product forms

Irganox 1135

colorless to slightly yellow liquid

**Guidelines for use**

Typical use levels are between 0.15 % and 0.5 %. Irganox 1135 can be pumped or poured for ease of handling and efficient incorporation. It is easily emulsifiable. Irganox 1135 can be added to the process stream dissolved, dispersed, or as a pure liquid. The performance of Irganox 1135 can be further enhanced by using it in combination with other phenolic antioxidants, substituted aromatic amines, such as Irganox 5057, and/or with costabilizers (e. g. phosphites, phosphonites, thioethers, hydroxylamines), as well as light stabilizers (e. g. UV-absorbers, hindered amines). Performance data are available.

**Physical properties**

Melting range	< -30 °C
Flashpoint	152 °C
Vapor pressure (25 °C)	1.5 E-3 Pa
Viscosity (25 °C)	220 mPa·s
Relative density (20 °C)	0.95–1.00

**Solubility (20 °C)**

	<b>g/100 g solution</b>
Acetone	> 50
Benzene	> 50
Chloroform	57
1,1-Dichloromethane	> 50
Ethyl acetate	> 50
Methanol	> 50
Polyester polyol	< 10
Polyether polyol	> 50
Water	< 0.01

**Volatility (TGA, air at 20 °C/min)**

Temperature at 1 % weight loss	160 °C
Temperature at 10 % weight loss	200 °C

**Health & Safety**

Irganox 1135 exhibits a very low order of oral toxicity and does not present any abnormal problems in its handling or general use.

Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant health and safety information sheet.

**Note**

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