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Irganox® 245

Phenolic Primary Antioxidant for Processing and Long-Term Thermal Stabilization

Characterization

Irganox 245 is a sterically hindered phenolic antioxidant particularly suitable for organic substrates. It protects the substrates against thermo-oxidative degradation during manufacturing, processing and end-use. Irganox 245 is odorless, of low volatility, has a good color stability and exhibits high extraction resistance.

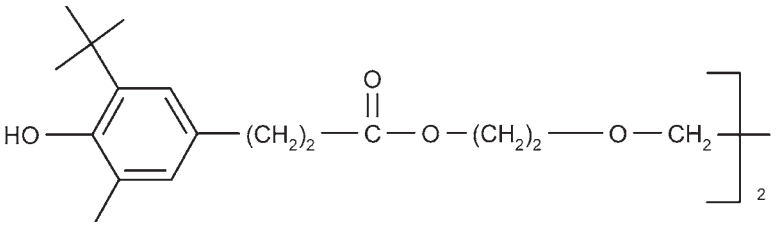
Chemical name

Ethylene bis(oxyethylene) bis-(3-(5-tert-butyl-4-hydroxy-m-tolyl)propionate)

CAS number

36443-68-2

Chemical formula



Molecular weight

586.8 g/mol

Applications

Irganox 245 is effective in styrene polymers, particularly impact modified polystyrenes, ABS, MBS, SB and SBR-latices as well as in POM homo- and copolymers. It is also very useful for the stabilization of polyurethanes, polyamides, thermoplastic polyesters, PVC and other polymers. In addition to imparting thermostability to the finished polymer Irganox 245 is effective as chain stopper during PVC polymerization.

Features/benefits

Irganox 245 can be used in combination with other additives such as costabilizers (e.g. thioesters, phosphites, phosphonites, lactones), light stabilizers, and other functional stabilizers. The effectiveness of the blends of Irganox 245 with IRGAFOS 168 (Irganox B-blends) is noteworthy.

Product forms

Irganox 245	white, free-flowing powder
Irganox 245 FF	white, free-flowing granules

Guidelines for use

Already 0.05–0.1 % of Irganox 245 provides long-term thermal stability to the polymer. Concentrations up to 1.0 % can be used depending on the substrate and the requirements of the end application.

Physical Properties

Melting range	76 – 79 °C
Flashpoint	> 150 °C
Vapor pressure (20 °C)	4 E-8 Pa
Density (20 °C)	1.14 g/ml

Solubility (20 °C)	**g/100 g solution**
Acetone	> 50
Benzene	18
Chloroform	> 40
Ethyl acetate	37
n-Hexane	< 0.1
Ethanol	10
Methanol	12
Methylene chloride	> 40
Toluene	6
Styrene	6
Polyetherol	~ 3
Water	< 0.01

Volatility (TGA, air at 20 K/min)	
Temperature at 1 % weight loss	280 °C
Temperature at 10 % weight loss	330 °C

Health & Safety

Irganox 245 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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