

® = registered trademark of BASF SE

Irganox[®] 1076

Phenolic primary antioxidant for processing and long-term thermal stabilization

Characterization

Irganox 1076, a sterically hindered phenolic antioxidant, is a highly efficient, non discoloring stabilizer for organic substrates such as plastics, synthetic fibers, elastomers, adhesives, waxes, oils and fats. It protects these substrates against thermooxidative degradation. Irganox 1076 is odorless, stable to light and has excellent color retention. It has good compatibility with most substrates, low volatility and high resistance to extraction.

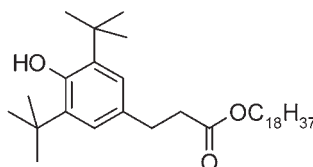
Chemical name

Octadecyl-3-(3,5 -di-tert.-butyl-4-hydroxyphenyl)-propionate

CAS number

2082-79-3

Chemical formula



Molecular weight

531 g/mol

Applications

Irganox 1076 can be applied in polyolefins, such as polyethylene, polypropylene, polybutene-1 as well as in other polymers, such as engineering plastics, styrene homo- and copolymers, polyurethanes, elastomers, adhesives, and other organic substrates.

Features/benefits

Irganox 1076 can be used in combination with other additives such as costabilizers (e. g. thioethers, phosphites, phosphonites), light stabilizers, and other functional stabilizers. The effectiveness of the blends of Irganox 1076 with Irgafos[®] 168 (Irganox B-blends) or with Irgafos 168 and Hydroxylamine FS042 is particularly noteworthy.

Product forms

Irganox 1076	white fine granules, powder
Irganox 1076 FD	white, free-flowing, dust free pastilles
Irganox 1076 Melt	clear liquid

Guidelines for use

0.05 % to 0.2 % of Irganox 1076 provide long-term thermal stability to the polymer. Concentrations up to several percent can be used depending on the substrate and the requirements of the end application. In polyolefins the concentration levels for Irganox 1076 range between 0.1 % and 0.4 % depending on substrate, processing conditions and long-term thermal stability requirements. The optimum level is application specific.

Irganox 1076 is recommended for styrene homo- and copolymers at a concentration level ranging from 0.1 % to 0.3 %.

Concentration levels of Irganox 1076 in hot melt adhesives range from 0.2 % to 1 % and in synthetic tackifier resins between 0.1 % and 0.5 %.

Extensive performance data of Irganox 1076 in various organic polymers and applications are available upon request.

Physical properties

Melting range	50–55 °C
Flashpoint	273 °C
Vapor pressure (20 °C)	2.5 E-7 Pa
Specific gravity	1.02 g/ml

Bulk density	560–760 g/l
FD	480–590 g/l

Solubility (20 °C)	g/100 g solution
Acetone	19
Benzene	57
Chloroform	57
Cyclohexane	40
Ethanol	1.5
Ethyl acetate	38
n-Hexane	32
Methanol	0.6
Toluene	50
Water	<0.01

Volatility (TGA, air at 20 °C/min)

Temperature at 1 % weight loss	230 °C
Temperature at 10 % weight loss	288 °C

Health & Safety

Irganox 1076 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

The descriptions, designs, data and information contained herein are presented in good faith, and are based on BASF's current knowledge and experience. They are provided for guidance only, and do not constitute the agreed contractual quality of the product or a part of BASF's terms and conditions of sale. Because many factors may affect processing or application/use of the product, BASF recommends that the reader carry out its own investigations and tests to determine the suitability of a product for its particular purpose prior to use. It is the responsibility of the recipient of product to ensure that any proprietary rights and existing laws and legislation are observed. No warranties of any kind, either expressed or implied, including, but not limited to, warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth herein, or that the products, descriptions, designs, data or information may be used without infringing the intellectual property rights of others. Any descriptions, designs, data and information given in this publication may change without prior information. The descriptions, designs, data and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability for the descriptions, designs, data or information given or results obtained, all such being given and accepted at the reader's risk.

September 2010

BASF Schweiz AG
 Plastic Additives
 4057 Basel, Switzerland
www.performancechemicals.basf.com