Ciba® IRGANOX® 1076

Phenolic Primary Antioxidant for Processing and Long-Term Thermal Stabilization

Characterization

IRGANOX 1076, a sterically hindered phenolic antioxidant, is highly efficient, non discoloring stabilizer for organic substrates such as plastics, synthetic fibers, elastomers, adhesives, waxes, oils and fats. It protects these substrates against thermo-oxidative 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

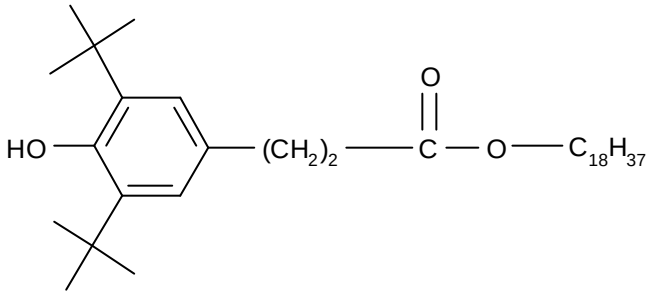
Octadecyl-3-(3,5-di-tert.butyl-4-hydroxyphenyl)-propionate

CAS number

2082-79-3

Structure

IRGANOX 1076



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. thioesters, 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

Code:	IRGANOX 1076
Appearance:	White fine granules, powder
FF:	white, free-flowing granules
FD:	white, free-flowing, dust free pastilles
Melt:	clear liquid

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Guidelines for use

500 ppm - 2000 ppm 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
Bulk Density	550 – 650 g/l

Solubility (20 °C)	**% w/w**
Water	< 0.01
Acetone	19
Benzene	57
Chloroform	57
Cyclohexane	40
Ethanol	1.5
Ethylacetate	38
n-Hexane	32
Methanol	0.6
Toluene	*50*

Volatility
(TGA, in air at 20°C/ min)

Temp. at 1% weight loss	230°C
Temp. at 10% weight loss	288°C

Handling & Safety

In accordance with good industrial practice, handle with care and prevent contamination of the environment. Avoid dust formation and ignition sources. For more detailed information please refer to the material safety data sheet.

Registration

IRGANOX 1076 is listed on the following Inventories:

Australia	AICS
Canada	DSL
China	IECSC
Europe	EINECS
Japan	ENCS
Korea	ECL
New Zealand	TSA
Philippines	PICCS
Switzerland	BUWAL
USA	TSCA

IRGANOX 1076 is approved in many countries for use in food contact applications. For detailed information refer to our Positive List or contact your local sales office.

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