



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	<p>The chemical structure shows a central benzene ring. At the 4-position, there is a propionate chain: $-(CH_2)_2-C(=O)-O-C_{18}H_{37}$. At the 3 and 5 positions, there are tert-butyl groups, each represented by a central carbon atom bonded to three other carbon atoms. At the 1-position, there is a hydroxyl group (HO-).</p>	
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	<i>Code:</i> <i>Appearance:</i>	IRGANOX 1076 White fine granules, powder FF: white, free-flowing granules FD: white, free-flowing, dust free pastilles Melt: clear liquid

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	<i>Melting Range</i>	50 - 55°C
	<i>Flashpoint</i>	273°C
	<i>Vapor Pressure (20 °C)</i>	2.5 E-7 Pa
	<i>Bulk Density</i>	550 – 650 g/l
	Solubility (20 °C)	% w/w
	<i>Water</i>	< 0.01
	<i>Acetone</i>	19
	<i>Benzene</i>	57
	<i>Chloroform</i>	57
	<i>Cyclohexane</i>	40
	<i>Ethanol</i>	1.5
	<i>Ethylacetate</i>	38
	<i>n-Hexane</i>	32
	<i>Methanol</i>	0.6
<i>Toluene</i>	50	

Volatility
(TGA, in air at 20°C/ min)

<i>Temp. at 1% weight loss</i>	230°C
<i>Temp. at 10% weight loss</i>	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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