Ciba® IRGANOX® 1010

Phenolic Primary Antioxidant for Processing and Long-Term Thermal Stabilization

Characterization

IRGANOX 1010 - a sterically hindered phenolic antioxidant - is a highly effective, 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.

Chemical Name

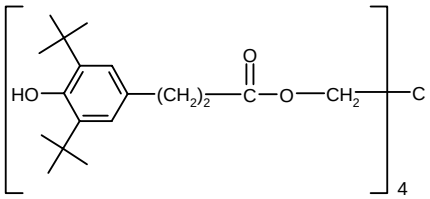
Pentaerythritol Tetrakis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate)

CAS Number

6683-19-8

Structure

IRGANOX 1010



Molecular weight

1178

Applications

IRGANOX 1010 can be applied in polyolefins, such as polyethylene, polypropylene, polybutene and olefin copolymers such as ethylene-vinylacetate copolymers. Also, its use is recommended in other polymers such as polyacetals, polyamides and polyurethanes, polyesters, PVC, styrene homo- and copolymers, ABS, elastomers such as butyl rubber (IIR), SBS, SEBS, EPM and EPDM as well as other synthetic rubbers, adhesives, natural and synthetic tackifier resins, and other organic substrates.

Features/ Benefits

IRGANOX 1010 has good compatibility, high resistance to extraction and low volatility. It is odorless and tasteless.
The product 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 1010 with IRGAFOS 168 (IRGANOX B-blends) or with IRGAFOS 168 and HP-136 (IRGANOX HP products) is particularly noteworthy.

Product Forms	Code:	Appearance:
Powder :	powder	white, free-flowing powder
	FF (C)	white, free-flowing granules
	DD	white to slightly green pellets

Guidelines for Use

Already 500 ppm - 1000 ppm of IRGANOX 1010 provide long-term thermal stability to the polymer. Concentrations up to several percent may be used depending on the substrate and the requirements of the end application.
In polyolefins the concentration levels for IRGANOX 1010 range between 0.05% and 0.4% depending on substrate, processing conditions and long-term thermal stability requirements. The optimum level has to be determined application specific.
Concentration levels of IRGANOX 1010 in hot melt adhesives range from 0.2% to 1%, in synthetic tackifier resins, IRGANOX 1010 concentration ranges between 0.1% and 0.5%. Extensive performance data of IRGANOX 1010 in various organic polymers and applications are available upon request.

Physical Properties

Melting Range (°C)	110-125	
Flashpoint (°C)	297	
Specific Gravity (20°C)	1.15 g/cm^3	
Bulk density	powder:	530 - 630 g/l
	FF (C):	480 - 570 g/l
	DD:	450 - 550 g/l

Solubility (20°C)	g/100g solution
Acetone	47
Chloroform	71
Ethanol	1.5
Ethylacetate	47
n-Hexane	0.3
Methanol	0.9
Methylene Chloride	63
Toluene	60
Water	<0.01

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 1010 is listed on the following inventories:

Australia:	AICS	Canada:	DSL	China: First Import
Europe:	EINECS	Japan:	MITI	Korea: ECL
Philippines:	PICCS	USA:	TSCA	

IRGANOX 1010 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.