



Ciba[®] IRGAFOS[®] 168

Hydrolytically Stable Phosphite Processing Stabilizer

Characterization	IRGAFOS 168 is a hydrolytically stable phosphite processing stabilizer. As a secondary antioxidant, IRGAFOS 168 reacts during processing with hydroperoxides formed by autoxidation of polymers preventing process induced degradation and extending the performance of primary antioxidants.	
Chemical name	Tris(2,4-ditert-butylphenyl)phosphite	
CAS number	31570-04-4	
Structure	IRGAFOS 168	
Molecular weight	646.9 g/mol	
Applications	The application range of IRGAFOS 168 -synergistically combined with other Ciba anti-oxidants - comprises polyolefins and olefin-copolymers such as polyethylene (e.g. HDPE, LLDPE), polypropylene, polybutene and ethylene-vinylacetate copolymers as well as polycarbonates and polyamides. The blends can also be used in polyesters, styrene homo- and copolymers, adhesives and natural and synthetic tackifier resins, elastomers such as BR, SEBS, SBS, and other organic substrates. IRGAFOS 168 blends can be used in combination with light stabilizers of the TINUVIN and CHIMASSORB range.	
Features/benefits	<p>IRGAFOS 168 is an organophosphite of low volatility and is particularly resistant to hydrolysis. It protects polymers which are prone to oxidation, during the processing steps (compounding/pelletizing, fabrication and recycling) from molecular weight change (e.g. chain scission/crosslinking) and prevents discoloration.</p> <p>IRGAFOS 168 performs best when combined with other Ciba antioxidants. Blends of IRGAFOS 168 with antioxidants of the IRGANOX range (IRGANOX B-blends) and with Hydroxylamine FS042 are particularly effective. The IRGANOX range antioxidants additionally provide storage stability and give the polymer long term protection against thermo-oxidative degradation.</p> <p>IRGAFOS 168 comprised in phenol free systems with other appropriate Ciba stabilizers addresses specific stabilization requirements.</p>	
Product forms	<i>Code:</i>	IRGAFOS 168
	<i>Appearance:</i>	Powder: white, free-flowing powder FF(C): white free-flowing granules

Guidelines for use Typically 500 - 2000 ppm of IRGAFOS 168 combined with appropriate levels of other additives are used for the processing stabilization of polymers. The optimum level is application specific. Extensive performance data of IRGAFOS 168 combinations in various organic polymers and applications are available upon request.

Physical Properties	<i>Melting Range</i>	183 - 186°C
	<i>Density (25 °C)</i>	1.03 g/cm ³
	<i>Bulk density</i>	Powder: 480 - 570 g/l FF (C): 480 - 550 g/l
	Solubility (20 °C)	% w/w
	<i>Acetone</i>	1
	<i>Chloroform</i>	36
	<i>Cyclohexane</i>	16
	<i>Ethanol</i>	0.1
	<i>Ethyl acetate</i>	4
	<i>n-Hexane</i>	11
	<i>Methanol</i>	< 0.01
	<i>Methylene chloride</i>	36
	<i>Toluene</i>	30
	<i>Water</i>	< 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 IRGAFOS 168 is listed on the following inventories:

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

IRGAFOS 168 is approved in many countries for use in food contact applications.

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