BASF
The Chemical Company

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.

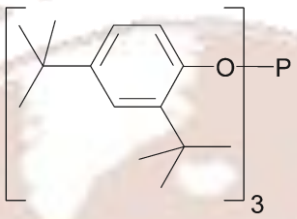
Chemical name

Tris(2,4-di-tert.-butylphenyl)phosphite

CAS number

31570-04-4

Chemical formula



Molecular weight

646.9 g/mol

Applications

The application range of Irgafos 168 – synergistically combined with other BASF anti-oxidants – comprises polyolefins and olefin-copolymers such as polyethylene (e. g. HDPE, LLDPE), polypropylene, polybutene and ethylenevinylacetate 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 Uvinul®, Tinuvin® and Chimassorb® range.

Features/benefits

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 (by chain scission or crosslinking) and prevents discoloration.

Irgafos 168 performs best when combined with other BASF antioxi- dants. Blends of Irgafos 168 with hindered phenols of the Irganox® range (Irganox B-blends) are particularly effective. The hindered phenols additionally provide storage stability and give the polymer long term protection against thermooxidative degradation. Irgafos 168 comprised in phenol free systems with other appropriate BASF stabilizers addresses specific stabilization requirements.

Health & Safety

Irgafos 168 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.

Product forms

Irgafos 168	white, free-flowing powder
Irgafos 168 FF	white, free-flowing granules

Physical properties

Melting range	183 – 186 °C
Specific gravity (20 °C)	1.03 g/ml
Bulk density	
Powder	480 – 570 g/l
FF	480 – 550 g/l

Solubility (20 °C)	**g/100 g solution**
Acetone	1
Chloroform	36
Cyclohexane	16
Ethanol	0.1
Ethyl acetate	4
n-Hexane	11
Methanol	< 0.01
Dichloromethane	36
Toluene	30
Water	< 0.01

Note

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