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Irganox® 1010

Product Description

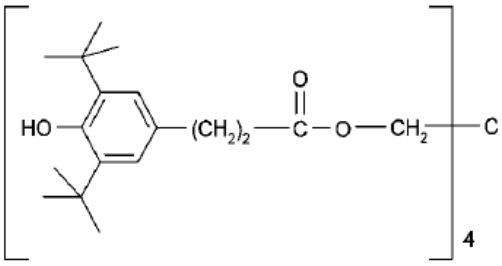
Irganox1010 is a highly effective, non-discoloring, sterically hindered primary phenolic antioxidant stabilizer that protects organic substrates against thermo-oxidative degradation.

Key Features & Benefits

- Good compatibility
- High resistance to extraction
- Low volatility
- Odorless
- Can be used in combination with other additives
- Manufactured using a tin-free process

Chemical Composition

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



Properties

Typical Properties

Appearance	white, free-flowing powder
CAS number	6683-19-8
Molecular weight	1,178 g/mol
Melting range	110 – 125°C
Flash point	297°C
Vapor pressure at 20°C	7 E-10 Pa (extrapolated)
Density at 20°C	1.15 g/ml
Density (bulk)	530 – 630 g/l

Solubility at 20°C (g/100 g solution)

Acetone	47
Chloroform	71
Ethanol	1.5
Ethyl acetate	47
n-Hexane	0.3
Methanol	0.9
Methylene chloride	63

These typical values should not be interpreted as specifications.

Resins

Modified and unmodified natural resins; these are added as solutions or dispersions

Pigments

Adhesives can be colored with the water-dispersable Dispers® or Luconyl® preparations
* These typical values should not be interpreted as specifications.

Applications

Irganox1010 is used in polyolefins such as polyethylene, polypropylene, polybutene, as well as, in olefin co-polymers such as ethylene vinyl acetate co-polymers. It is also recommended for the processing of polymers such as polyacetals, polyamides, and polyurethanes, polyesters, PVC, styrene homo- and co-polymers, ABS, elastomers such as butyl rubber (IIR), SBS, SEBS, EPM, and EPDM, other synthetic rubbers, adhesives, natural and synthetic tackifiers resins, and other organic substrates.

It has good compatibility, high resistance to extraction, low volatility, and odorless. Irganox1010 can be used in combination with other additives such as co-stabilizers (thioethers, phosphites, phosphonites), light stabilizers, and other functional stabilizers.

Irganox1010 is recommended for applications such as:

- Solvent-based coating applications
- Tackifier resins
- Hot-melt adhesives

Recommended Concentrations

The amount of Irganox1010 required for optimum performance should be determined in trials covering a concentration range. Concentrations up to several percent may be used depending on the substrate, processing conditions, requirements of the end application, and long term thermal stability requirements.

0.05 – 0.1% ppm of Irganox1010 provides long term thermal stability to the polymer.

Application	Concentration
Polyolefins	0.05 – 0.4%
Hot melt adhesives	0.2 – 1%
Synthetic tackifier resins	0.1 – 0.5%
Solvent-based coatings	0.2 – 1.0%

Important

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