

DOVERNOX 76

Octadecyl 3,5-di-t-butyl-4-hydroxyhydrocinnamate

Dovernox 76 is a solid high molecular weight hindered phenolic antioxidant that is effective in a wide range of polymers. The low volatility of **Dovernox 76** provides good long term heat aging and high temperature processing stability. **Dovernox 76** is an effective stabilizer for polyolefins, styrenics, block copolymers, elastomers, adhesives, PVC and polyurethanes. Typical use levels range from 0.1 to 0.5%.

$$(CH_3)_3C \qquad O \\ || \\ HO \longrightarrow CH_2CH_2COC_{18}H_{37} \\ (CH_3)_3C$$

Octadecyl 3,5-di-t-butyl-4-hydroxyhydrocinnamate CAS Registry Number 2082-79-3

TYPICAL PROPERTIES

Property	Typical Result
Physical Form	White Crystalline Powder
Molecular Weight	531
Melting Point, °C	49-54
Solubility (gm/100 ml @ 20°C):	
Acetone	19.0
Hexane	32.0
Methanol	0.6<
Water	0.01
Ethyl Acetate	38.0

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FDA Status of Dovernox 76

Dovernox 76 is sanctioned by the FDA for use in food packaging applications in accordance with regulations as printed in Title 21, Section 178.2010 of the U.S. Code of Federal Regulations.

21 CFR 178.2010 Antioxidant for polymers

• Stearyl-3-(3,5-di-t-butyl-4-hydroxyphenyl) propionate

177.1010 Semi-rigid and rigid acrylic and modified acrylic plastics

- maximum concentrate 0.01% for food contact plastics only with no restrictions on thickness, type of food, or temperatures
- maximum concentration 0.2% for food containing no more than 15% alcohol with no restrictions on thickness or temperatures

175.105	Adhesives
175.105	Adilesives

177.1520(c) Olefin copolymers, excluding primarily non-crystalline copolymers described in items 3.4 & 3.5.

• maximum 0.25% concentration

177.1520(c) Olefin polymers, item 3.4 177.1520(c) Olefin polymers, item 3.5

177.1640 Polystyrene and rubber-modified polystyrene

- maximum concentration 0.25%
- · no restrictions on type of food except fatty foods
- for fatty foods, the finished rubber modified polystyrene products shall contain not less than 85 weight percent of total polymer units derived from styrene monomer
- 174.178 & 179.45 Acrylonitrile-butadiene-styrene copolymers; ABS is not approved under one section as are most polymers

maximum 0.5% concentration

178.3790 Semi-rigid and rigid vinyl chloride plastics modified with methacrylate butadiene-styrene

copolymers

• maximum 0.5% concentration

Rigid polyvinyl chloride

• maximum 0.2% concentration

177.1580 Polycarbonate resins

maximum 0.3%

177.1350 Ethylene-vinyl acetate copolymers

maximum 0.1% concentration

177.1480 Nitrile rubber-modified acrylonitrile methyl acrylate copolymers

maximum concentration 0.2%

• 150°F maximum temperature permitted

177.1810 Styrene block copolymers

• maximum concentration 0.3%

no restrictions on thickness, type of food, and 150°F maximum temperature

177.1420(a)(3) Chlorinated isobutylene-isoprene

• maximum 0.025% concentration

• no restrictions on thickness, type of food, and temperature

In parts 175, 176, 177, and 181 Vinylidene chloride homopolymers and/or vinylidene chloride copolymers. The copolymer shall contain no less than 50% of total polymer units derived from vinylidene chloride.

- maximum concentration 0.2%
- no restrictions on thickness, type of food, or temperature

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