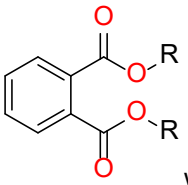
Palatinol® 111P-I

(Stabilized with 0.1 % 1,1,3-Tris(2-methyl-4-hydroxy-5-tert-butylphenyl)butane antioxidant)

Palatinol® 111P-I is a primary plasticizer developed for wire and cable insulation compounds. It is also recommended for vinyl compounds used in automotive applications requiring low fog performance and low temperature flexibility.

Chemical Name	Diundecyl phthalate
BASF Registered Name	Palatinol® 111P-I
CAS No.	3648-20-2
Molecular Weight	474
Formula	$C_{30}H_{50}O_4$

Molecular Structure



where R = $C_{11}H_{23}$

Product Specifications

	Value	Test Method
Specific gravity @ 25°/25 °C	0.949 - 0.955	ASTM D-4052
Ester content, % by weight (minimum)	99.6	ASTM D-3465
Acid Number, mg KOH/g (maximum)	0.07	ASTM D-1045
Water, % by weight (maximum)	0.1	ASTM E-1064
Color, Pt-Co Units (APHA, maximum)	50	ASTM D-5386
Suspended Matter	COLSFFM*	visual

*Clear Oily Liquid Substantially Free of Foreign Material

Typical Physical Properties

The following data were measured in the BASF Corp. laboratory. They do not represent any legally binding guarantee of properties for our sales product.

	Value
Pour point, °C	0
Flash point (COC), °C	254
Odor	mild characteristic
Surface Tension, mN/m	31.6
Solution Temperature, °C	150
Plastisol Gelation Temperature, °C	149
Vapor Pressure @ 20 °C, mbar	< 0.01
Storage Temperature, minimum, °C	20
Solubility @ 25 °C in water, mg/L	<0.1
Refractive Index $^{\eta}D20$	1.481

Viscosity & Density Data

Temperature (°C)	Dynamic viscosity (cP)	Density (g/cm³)
0	220	0.966
10	114	0.959
20	64.2	0.952
40	25.3	0.935
60	12.3	0.924
80	7.05	0.910

Description

Palatinol® 111P-I, diundecyl phthalate (DUP), is a primary plasticizer developed for wire and cable insulation compounds. Palatinol® 111P-I has a higher degree of linearity than many competitive DUPs and thus shows superior performance in efficiency, aging and low temperature flexibility.

Palatinol® 111P-I is stabilized with 0.1% 1,1,3-Tris(2-methyl-4-hydroxy-5-tert-butylphenyl)butane antioxidant.

Applications

Formulations made from Palatinol® 111P-I have low volatility and excellent oxidation resistance at high temperatures, and therefore, better retention of properties after oven aging. It can be blended with other linear phthalates or DPHP to improve performance, or with trimellitates for formulating lower cost 75 °C, 90 °C and 105 °C wire insulation compounds.

Palatinol® 111P-I is also recommended for vinyl compounds used in automotive applications requiring low fog performance and low temperature flexibility.

The low viscosity of Palatinol® 111P-I provides the plastisol formulator with an option to improve part performance and maintain low plastisol viscosity. The lower pour point of Palatinol® 111P-I requires inside storage or heated tanks if ambient temperatures fall below 50 °F (10 °C) for extended periods.

Safety

Palatinol® 111P-I does not require special handling. Handle in accordance with good industrial hygiene and safety practices. Avoid eye contact by wearing personal protective equipment. If eye contact occurs, wash with flowing water and contact physician.

Avoid repeated or prolonged skin contact. Avoid breathing vapors by providing adequate ventilation.

Always refer to the Safety Data Sheet (SDS) for detailed information on safety.

Storage and Handling

Palatinol® 111P-I can be stored for one year at temperatures below 40°C, if moisture is excluded. Palatinol® 111P-I requires inside storage or heated tanks if ambient temperatures fall below 50 °F (10 °C) for extended periods.

Packaging

Palatinol® 111P-I is available in bulk, tank trucks or rail cars.

Contact Information

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