

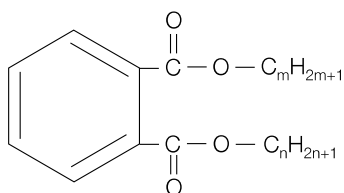
Technical Data Sheet

January 2001

Palatinol® 711P

Phthalate Plasticizer

Formula: $C_{26}H_{42}O_4$
 Molecular Weight: 418
 Product Numbers:
 Palatinol 711P 526255
 CAS Registry Numbers: 85507-79-5
 68515-44-6
 68515-45-7
 111381-89-6
 111381-90-9
 111381-91-0



Where m and n = 7,9 or 11

Product Specifications	Value	Test Method
Specific gravity @ 25°/25°C	0.965 – 0.973	ASTM D-4052
Ester content, by weight (% minimum)	99.6	ASTM D-3465
Acid number, mg KOH/gm (maximum)	0.07	ASTM D-1045
Water, by weight (% maximum)	0.05	ASTM E-203
Color, APHA (maximum)	25	ASTM D-5386
Suspended matter	COLSFFM*	visual

*Clear oily liquid substantially free of foreign material.

Physical Properties	
Apparent specific gravity @ 25°/25°C	0.969
Coefficient of expansion, per °C	0.00078
Pour point, °C	- 50
Solubility @ 25°C	
in water, % by weight	< 0.01
water in, % by weight	0.2
Absolute viscosity	
@ 0°C, cps	180
@ 20°C, cps	51
@ 40°C, cps	20
Refractive index n_D^{20}	1.482
Flash point (COC), °C	227
Boiling point @ 6 mbar, °C	238
Odor	mild, characteristic

Description

Palatinol® 711P is a predominantly linear phthalate plasticizer based upon C₇, C₉ and C₁₁ alcohols. It is compatible with both homopolymer and copolymer vinyl resins, chlorinated rubber, SBR, neoprene and nitrile rubber as well as cellulose. Palatinol 711P is used primarily to plasticize vinyl resin where good processing characteristics are needed and the finished product requires improved low temperature flexibility, low volatility or good outdoor weatherability.

Safety

Palatinol® 711P 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 Material Safety Data Sheet (MSDS) for detailed information on safety.

Applications

Palatinol 711P is an excellent general purpose phthalate plasticizer. With its efficiency, low-volatility, superior low-temperature flexibility and good weatherability, it is designed to offer the best balance of properties for both the vinyl processor and the consumer.

The processor can expect:

- rapid dry blending and fusion
- improved thermal stability
- higher output (line speed)
- better efficiency

The consumer can expect:

- high gloss finish
- outdoor weatherability
- thermal stability
- low temperature flexibility
- good hand, feel and drape

Typical end uses are:

- swimming pool and pond liners
- roofing membranes
- coated fabrics
- tarpaulins
- high-end luggage
- exterior automotive trim
- building and communication wire

Packaging

Palatinol 711P is available in bulk tank trucks or bulk rail cars.

Storage & Handling

Palatinol 711P has an almost unlimited shelf life when properly stored in closed containers.

Always refer to the Material Safety Data Sheet (MSDS) for detailed information on handling and disposal.

(continued next page)

Performance characteristics of Palatinol 711P in vinyl film (c)

Property	Plasticizer concentration, phr*			ASTM Method
	40	50	70	
Durometer Shore A hardness (15 seconds)	88	80	68	D-2240
Brittleness temperature, T _b , °C	-27	-37	-47	D-746
Torsional stiffness, T _f , °C (a)	-14	-27	-41	D-1043
Tensile strength, psi	2650	2325	1825	D-638
Ultimate elongation, %	285	320	360	D-638
100% modulus, psi	1895	1440	875	D-638
Loss from 20 mil film				
Volatility				
24 hours @ 70°C, % weight	0.3	0.4	0.5	D-1203
Water extraction				
24 hours @ 70°C, % weight	< 1	< 1	< 1	SPI-VD-T 12
Oil extraction 50°C, K (b)	2.7	5.3	13.6	SPI-VD-T 13
* Formulation:	ASTM D-1755 classification solid lead stabilizer — Halstab solid lead stabilizer — Halstab			
GP-4 Resin 100 phr				
DS-207 1 phr				
Dyphos 2 phr				
Plasticizer as shown				

NOTES

(a) T_f is the temperature at which compound attains a torsional stiffness of 45,000 psi

(b) $K_{Diffusion} = \frac{wt. \text{ loss in grams/square meter}}{\sqrt{\text{time (hours)}}}$

(c) 70 mil film unless noted

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