

Technical Information

TI/N-CPN/IP Palamoll® 654
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Page 1 of 4

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Petrochemicals Plasticizers



Palamoll® 654

Medium viscosity polymeric plasticizer for PVC that has a good resistance to oils, fats and water. Good compatibility and thermal stability. It has only a slight tendency to migrate into plastics and adhesives.

Product Number	50000029 bulk 51279130 drums
BASF Registered Name	Palamoll® 654
CAS No.	208945-12-4
Average Molecular Weight	5200

Product Specifications

	Value	Test Method
Specific Gravity @ 25°/25 °C	1.069 - 1.089	ASTM D-4052
Viscosity @ 25 °C, cP	2,900 - 3,900	ASTM D-445
Acid Number, mg KOH/g (maximum)	1.5	ASTM D-1045
Water, by weight (% maximum)	0.1	ASTM E-203
Color, Pt-Co Units (APHA, maximum)	150	ASTM D-5386
Refractive Index n ²⁵ _D	1.466 - 1.468	ASTM D-1045
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	
Vapor Pressure @ 20 °C, mbar	< 0.1	
Storage Temperature, minimum, °C	> 30	
Pour point, °C	-18	
Solubility @ 25 °C in water, mg/L	< 0.1	
	Dynamic viscosity [cP]	Density [g/cm ³]
@ -5 °C	42,650	1.103
@ 0 °C	26,700	1.099
@ 5 °C	17,030	1.095
@ 10 °C	10,900	1.091
@ 20 °C	4,910	1.083
@ 40 °C	1,340	1.068
@ 60 °C	496	1.053
@ 80 °C	228	1.039
Ignition Temperature, °C	400	
Flash point (COC), °C	288	
Odor	mild characteristic	
Surface Tension, mN/m,	36.5	
Solution Temperature, °C,	156	
Plastisol Gelation Temperature, °C	136	

Description

Palamoll® 654 is a medium viscosity polymeric plasticizer that is compatible with PVC. It is based on adipic acid and polyhydric alcohols. It is resistant to oils, fats, aliphatic hydrocarbons and bitumen. It is soluble in organic esters, ketones, ethers, aromatic and chlorinated hydrocarbons.

Applications

Palamoll® 654 has little tendency to migrate into other plastics and adhesives. It is used in hoses, wire and cable jacketing and protective clothing where extraction resistance to oils, mineral spirits, water and aqueous media is important. Palamoll® 654 is used to plasticize FPVC roofing systems where bitumen, water and sunlight resistance properties are necessary. It is used in FPVC films that will be coated with a dispersion adhesive as well as electrical tape, decorative film and decals. Palamoll® 654 should be pre-heated to 80 °C before addition to the dry blend. The mixing cycle should continue until a temperature of 150 °C - 170 °C is reached, depending on the amount of plasticizer. It has a higher molecular weight than monomeric plasticizers and must be processed at a higher fusion temperature.

Safety

Based on toxicity studies, Palamoll® 654 has a low order of toxicity and 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

Palamoll® 654 can be stored for one year at temperatures below 40°C, if moisture is excluded.

If Palamoll® 654 is stored below 20 °C or for a long time at room temperature, it can become wax-like, cloudy and even solidify. This does not affect the properties of the ester. Upon reheating to 30 °C, Palamoll® 654 returns to a liquid state and conforms to its product specifications

Packaging

Palamoll® 654 is available in bulk tank trucks or drums.

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Note

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