

K-FLEX[®] DP Product Description

Emerald[®] K-FLEX DP is dipropylene glycol dibenzoate, which is one of the oldest members of the benzoate plasticizer family and one of the most versatile polar, high solvating plasticizers still commercially available. K-FLEX DP is compatible with a wide range of polar polymers and rubbers and is often blended with other plasticizers such as K-FLEX DE (diethylene glycol dibenzoate).

K-FLEX DP is useful in a wide variety of applications including:

- Latex adhesives
- Latex caulks and sealants
- Sealants
- Coatings
- Plastisols
- Melt compounded flexible vinyl compositions

K-FLEX DP is an excellent choice for applications requiring a high solvating plasticizer.

Specifications

Acidity, as benzoic acid, maximum, %.....	0.1
Assay, as benzoate ester, minimum, %.....	98.0
Color, maximum, APHA.....	100

Typical Properties

Assay, as benzoate ester, %.....	>98
Boiling point, 5 mmHg, °C.....	195
Boiling point, 750 mmHg (extrapolated), °C.....	>350
Color, APHA.....	50
Density, ASTM D1475, 25°C, g/mL.....	1.11
Density, ASTM D1475, 25°C, lbs/gal.....	9.3
Flash point, ASTM D92, °C.....	204
Glass point, by DSC, °C.....	-51
Moisture content, %.....	0.02
Refractive index, 25°C.....	1.5238
Solidification point, °C.....	-31
Solubility, in water, %.....	0.20
Solubility, water in, %.....	0.40
Solubility parameter, Small's, Hildebrands.....	9.5
Specific gravity, 25/25°C.....	1.11
Surface tension, ASTM D1331, 25°C, dynes/cm.....	42.8
Vapor pressure, 25°C (extrapolated), mmHg.....	2.57×10^{-6}
Viscosity, Brookfield RVT, 20 RPMs at 25°C, cps and mPa·s.....	99
Viscosity, kinematic, 25°C, cSt.....	89
VOC, ASTM D2369, %.....	3.2

Regulatory Information

FDA CFR Listings:

- 21 CFR 175.105 – Adhesives (PART 175 -- INDIRECT FOOD ADDITIVES: ADHESIVES AND COMPONENTS OF COATINGS, Subpart B -- Substances for Use Only as Components of Adhesives)
- 21 CFR 176.170 – Components of paper and paperboard in contact with aqueous and fatty foods
- 21 CFR 176.180 – Components of paper and paperboard in contact with dry food

Emerald Performance Materials does not warrant that these product(s) are suitable under applicable food additive / food contact regulations of any potential use. The responsibility for determining the overall compliance with applicable food additive / food contact laws and regulations is with the company manufacturing the final consumer product and/or the person placing the products described herein in contact with food. This information is provided in good faith and is believed accurate as of the date of this letter. No warranty is subsequently expressed or implied. Liability is expressly disclaimed.

Global Inventories:

K-FLEX® coalescents and plasticizers are included on or exempted from many global inventories. Please reference the product safety data sheet (SDS) for current global inventory status and other regulatory information. Current SDS's can be found on our website at www.emeraldkalama.com or can be requested from product.compliance@emeraldmaterials.com.

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Emerald Kalama Chemical is a world-scale producer of a variety of toluene oxidation products, with production facilities in the US and Europe. Products include benzoic acid, various benzoate and dibenzoate ester, alcohol and aldehyde derivatives for food preservatives, flavor and fragrance ingredients, plasticizers and industrial applications. Emerald Kalama Chemical is a division of Emerald Performance Materials, a manufacturer of additives and polymers which make your products last longer, look, taste, smell, or perform better. The company has three business units, six operations and approximately 700 employees. For more information, please contact us.

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