

Plasticizers & Coalescents

K-FLEX[®] 500P Product Description

Emerald[®] K-FLEX 500P is a blend of diethylene glycol dibenzoate and dipropylene glycol dibenzoate that was created to lower the VOC content of a coating more than other K-FLEX plasticizers. It was specifically designed for the coatings industry where very low VOC content is required or other application areas where low VOC content is critical.

Like other K-FLEX plasticizers, the K-FLEX 500P will offer the paint formulator a viable option to the more volatile coalescents such as 2,2,4-trimethyl-1,3-pentanediol monoisobutyrate or even low VOC types such as triethylene glycol di-2-ethylhexanoate. Depending on the type of coating, dibenzoates can have the following effects:

- Improved scrub
- Higher gloss
- Excellent blocking

In addition to the above effects, K-FLEX 500P can significantly reduce VOC's.

Like other dibenzoates, K-FLEX 500P can be used in adhesives, plastisols and other applications requiring a polar plasticizer with a lower VOC content.

Specifications

Assay, as benzoate ester, minimum, %.....	98.0
Color, maximum, APHA.....	100

Typical Properties

Assay, as benzoate ester, %.....	>98
Acidity, as benzoic acid, %.....	0.3
Boiling point, 5 mmHg, °C.....	236
Boiling point, 750 mm Hg, °C (extrapolated).....	>350
Color, APHA.....	59
Density, ASTM D1475, 25°C, g/mL.....	1.15
Density, ASTM D1475, 25°C, lbs/gal.....	9.6
Flash point, ASTM D92, °C.....	232
Freeze point, °C.....	0
Glass point, by DSC, °C.....	-54
Moisture content, %.....	0.02
Refractive index, 25°C.....	1.5363
Solubility, in water, %.....	0.09
Solubility, water in, %.....	0.61
Solubility parameter, Small's, Hildebrands.....	9.8
Specific gravity, 25/25°C.....	1.15
Surface tension, ASTM D1331, 25°C, dynes/cm.....	44.4
Vapor pressure, 25°C (extrapolated), mmHg.....	1.0 x 10 ⁻⁸
Viscosity, Brookfield RVT, 20 RPMs at 25°C, cps and mPa·s.....	107
Viscosity, kinematic, 25°C, cSt.....	93
VOC, ASTM D2369, %.....	1.2

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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