

Plasticizers & Coalescents

K-FLEX[®] 975P Product Description

Emerald[®] K-FLEX 975P is a blend of diethylene glycol dibenzoate, dipropylene glycol dibenzoate and propylene glycol dibenzoate. K-FLEX 975P was created to offer a broad range of compatibility with polar polymers.

K-FLEX 975P has been found to perform well in the following applications:

- Plastics
- Melt compound flexible vinyl applications
- Architectural latex coatings as a low VOC coalescent/plasticizer
- Other coatings, including graphic arts applications, waterborne overprint varnish and waterborne flexographic ink
- Latex adhesives

Due to its lower freeze point, K-FLEX 975P also has better handling properties than other modern binary dibenzoate blends. For this new product additional applications are being considered such as in latex caulks and sealants. Another benefit provided by K-FLEX 975P is that it is considered a low vapor pressure-volatile organic compound (LVP-VOC) by Rule 310 of CARB, meaning that K-FLEX 975P is not considered a VOC in California for applications such as latex caulk.

Specifications

Acidity, as benzoic acid, maximum, %.....	0.3
Assay, as benzoate ester, minimum, %.....	98.0
Color, maximum, APHA.....	150

Typical Properties

Assay, as benzoate ester, %.....	>98
Boiling point, 5 mmHg, °C.....	215
Boiling point, 750 mmHg (extrapolated), °C.....	>350
Color, APHA.....	80
Density, ASTM D1475, 25°C, g/mL.....	1.15
Density, ASTM D1475, 25°C, lbs/gal.....	9.6
Flash point, ASTM D92, °C.....	202
Freeze point, °C.....	4
Glass point, by DSC, °C.....	-54
Moisture content, %.....	0.02
Refractive index, 25°C.....	1.5375
Solubility, in water, %.....	0.006
Solubility, water in, %.....	1.31
Solubility parameter, Small's, Hildebrands.....	9.9
Specific gravity, 25/25°C.....	1.15
Surface tension, ASTM D1331, 25°C, dynes/cm.....	44.8
Vapor pressure, 25°C (extrapolated), mmHg.....	3.59 x 10 ⁻⁶
Viscosity, Brookfield RVT, 20 RPMs at 25°C, cps and mPa·s.....	73
Viscosity, kinematic, 25°C, cSt.....	63
VOC, ASTM D2369, %.....	2.0

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)
- Emerald K-FLEX® 975P may be used as a plasticizer at a level not to exceed 20% in an adhesive under 21 CFR 176.170 and 21 CFR 176.180 provided the adhesive is separated from the food by a functional barrier.

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.

Global service through our Regional Distribution Partners
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The information contained herein is believed to be reliable; however it is based upon laboratory work with small scale equipment and does not necessarily indicate end-product performance. Because of variations in methods, conditions and equipment used commercially in processing these materials, Emerald makes no representations, warranties or guarantees, express or implied, as to the suitability of the products for particular applications, including those disclosed, or the results to be obtained. Full-scale testing and end-product performance are the responsibility of the user. Emerald Performance Materials shall not be liable for and the customer assumes all risk and liability for use and handling of any materials beyond Emerald's direct control. Nothing contained herein is to be considered as permission, recommendation nor as inducement to practice any patented invention without permission of the patent owner.