

Plasticizers & Coalescents

K-FLEX[®] PG Product Description

Emerald[®] K-FLEX PG (propylene glycol dibenzoate) is a grade of dibenzoate designed primarily for use in PVC compositions. K-FLEX PG is a very high solvator for vinyl so it is particularly useful in blends of plasticizers to allow the tailoring of performance characteristics. K-FLEX PG imparts outstanding stain resistance in vinyl compositions as well as excellent durability properties.

In addition to PVC, K-FLEX PG can be used in the following areas:

- Latex adhesives
- Latex caulks and sealants
- Latex coatings
- Sealants

In adhesives, K-FLEX PG performs well although it is not as efficient as other dibenzoates. This is an attribute that allows for higher plasticizer loading without degrading the desired performance. It is also compatible with coating polymers and is lower in VOC than some traditional phthalate plasticizers. K-FLEX PG is highly polar – this indicates a large potential for use in most polar polymers.

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
Color, APHA.....	140
Boiling point, 5 mmHg, °C.....	157
Density, ASTM D1475, 25°C, g/mL.....	1.14
Density, ASTM D1475, 25°C, lbs/gal.....	9.5
Flash point, ASTM D92, °C.....	193
Glass point, by DSC, °C.....	-50
Moisture content, %.....	0.02
Refractive index, 25°C.....	1.5408
Solidification point, °C.....	-30
Solubility, in water, %.....	0.005
Solubility, water in, %.....	0.80
Solubility parameter, Small's, Hildebrands.....	9.8
Specific gravity, 25/25°C.....	1.14
Surface tension, ASTM D1331, 25°C, dynes/cm.....	43.5
Vapor pressure, 25°C (extrapolated), mmHg.....	3.66 x 10 ⁻⁴
Viscosity, Brookfield RVT, 20 RPMs at 25°C, cps and mPa·s.....	81
Viscosity, kinematic, 25°C, cSt.....	71
VOC, ASTM D2369, %.....	5.8

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 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.

Contact Us: Emerald Kalama Chemical - K-FLEX® Product Line

World Headquarters:

1499 SE Tech Center Pl, Ste 300, Vancouver, WA
800.223.0035 / +1.360.954.7100/ Fax +1.360.954.7201
KFLEX@emeraldmaterials.com

European Offices:

Fascinatio Boulevard 200-232
3065 WB Rotterdam, The Netherlands
+31.88.888.0500
KFLEX.emea@emeraldmaterials.com

Asian Pacific Offices:

Rm 1708 Shui On Centre 6-8 Harbour Rd., Wanchai, Hong Kong
+852 2598-7990 / FAX +852 2512-2241
KFLEX.asia@emeraldmaterials.com

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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