



## K-Flex® Dibenzoate Plasticizers for Latex Caulk and Elastomeric Sealants

Plasticizers are a key raw material and component in latex caulk as well as elastomeric sealant formulations. Benzoates offer a valuable alternative to phthalates such as butyl benzyl phthalate and diisodecyl phthalate, which are becoming scrutinized for health and safety concerns. Benzoates offer **a balance of performance and value to other alternative chemistries in latex caulks and elastomeric sealants.**

K-FLEX® dibenzoate chemistry can offer an excellent non-phthalate solution for formulators looking to satisfy both legislative requirements and consumer demand. In addition to excellent performance, benzoate chemistries have favorable regulatory and environmentally-friendly profiles:

- **Non-phthalate, low-VOC, non-SVHC**
- **Some of the K-Flex plasticizers are approved for use in direct food contact applications**
- **Global registrations**
- **REACH compliant**

### Next Generation Products

The principal reason benzoates have long been established as plasticizers for latex caulk as well as elastomeric sealant applications, particularly in latex compositions, is their polar nature. The polarity of benzoate plasticizers allows their **compatibility with commonly used polymers in the caulk and sealants industry** such as polyvinyl acetate homopolymers and copolymers, and acrylic homopolymers and copolymers, in addition to silyl-terminated polyurethane and silicone chemistries. Good compatibility is critical to provide good key performance characteristics.

The caulks and sealants industry as with many industries today is trying to identify ways to become greener and more committed to using safe materials, the overriding fact remains that the materials we use must function as required while providing value. In response to continued needs in this industry, Emerald Kalama Chemical has developed K-FLEX® 975P, a tertiary blend of dibenzoates that has been **tailored to provide an optimal balance of handling, performance, and cost-effectiveness in this competitive market.**

### Adhesion-in-Peel



K-FLEX® 975P tested in an ASTM C920 latex caulk over aluminum, glass, and mortar substrate.

As plasticizers with high compatibility in a wide range of polymers and formulation systems, K-FLEX® 975P and other K-FLEX® dibenzoate products offer benefits in manufacturing, such as **excellent viscosity response, and elastomeric and adhesion properties that are desirable performance properties in formulating a latex caulk or elastomeric sealant to pass ASTM C834 or ASTM C920 specifications testing.**

### Evaluation Methodology



Emerald Kalama Chemical uses analytical instruments such as those depicted above to evaluate performance of plasticizers in a variety of applications, including latex caulk and elastomeric sealants.

## Recommended Products for Latex Caulks and Sealants

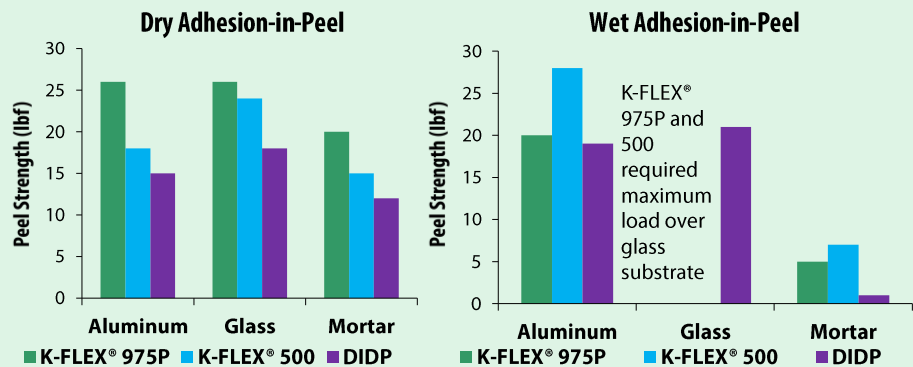
**K-FLEX® 975P** – Blend of diethylene glycol dibenzoate (DEGDB), dipropylene glycol dibenzoate (DPGDB) and propylene glycol dibenzoate (PGDB)

**K-FLEX® 850P** – A blend of dibenzoate plasticizers similar in composition to K-FLEX 850S (DEGDB rich) that is designed for both vinyl and waterborne latex applications.

**K-FLEX® 500** – A classic blend of traditional dibenzoate plasticizers. Excellent choice for use in latex adhesives/caulks, hot melts, coatings and PVC formulations.

### SEALANTS PERFORMANCE

Our research & development team found that **K-FLEX® 975P** and **K-FLEX® 500** provided excellent adhesion-in-peel performance in a silyl terminated polyether sealant when compared to a commercial phthalate, DIDP.



**Emerald Kalama Chemical** is a business group of Emerald Performance Materials, a manufacturer of additives and polymers that make your products last longer, look, taste, smell, or perform better. We are a world-scale producer of toluene oxidation products, shipping 425 million pounds annually to nearly 70 countries across the globe. Products include benzoic acid and various benzoate and dibenzoate ester, alcohol and aldehyde derivatives for food preservatives, flavor and fragrance ingredients, plasticizers and industrial applications. Manufacturing in Kalama, WA (USA) and Rotterdam, The Netherlands – service to our customers globally.

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