

K-FLEX® Dibenzoate Plasticizers for Caulks & Sealants

K-FLEX® dibenzoates are high performing plasticizers for latex caulk and elastomeric sealant applications, allowing formulators to avoid the health and regulatory concerns of materials such as butyl benzyl phthalate and diisodecyl phthalate while achieving a **superior balance of performance and value to other alternative chemistries**.

Adhesion-in-Peel



K-FLEX® 975P provided excellent adhesion-in-peel when tested in an ASTM C920 latex caulk over aluminum, glass, and mortar substrates.

Next Generation Products

The principal reason that dibenzoates have long been established as general purpose plasticizers for latex caulk and elastomeric sealant applications is due to their polar nature, resulting in **excellent compatibility with the commonly used polymers in the caulk and sealants industry**, such as polyvinyl acetate homopolymers and copolymers, acrylic homopolymers and copolymers, and silyl-terminated polyurethane and silicone chemistries. Good compatibility is critical to provide key performance characteristics.

Demand for greener, safer materials is a major driver impacting the caulks and sealants industry today, but it is still essential that the materials used function as needed while providing value. In response to continued needs in this industry, Emerald developed K-FLEX® 975P, a blend of dibenzoates **tailored to provide an optimal balance of handling, performance, and cost-effectiveness** in this competitive market.

K-FLEX® dibenzoate plasticizers offer **benefits in manufacturing**. Due to their high compatibility with a wide range of polymers and systems, they can provide **excellent viscosity response and elastomeric and adhesion characteristics**, desirable properties in formulating a latex caulk or elastomeric sealant to pass ASTM C834 or ASTM C920 specifications testing.

In addition to contributing excellent performance characteristics, benzoate chemistries have **favorable regulatory and environmentally-friendly profiles**—non-phthalate, low-VOC, non-SVHC, global registrations, REACH compliant.



Emerald Performance Materials®
Kalama Chemical

Emerald's R&D team uses a wide variety of analytical instruments to evaluate plasticizer performance in applications such as caulks and sealants, including a tensile tester (top) and a cyclic movement tester (bottom).

Recommended Products for Caulks and Sealants:

K-FLEX® 975P

Economical to use and created to offer a broad range of compatibility with polar polymers, with improved handling due to its lower freeze point.

K-FLEX® 850P

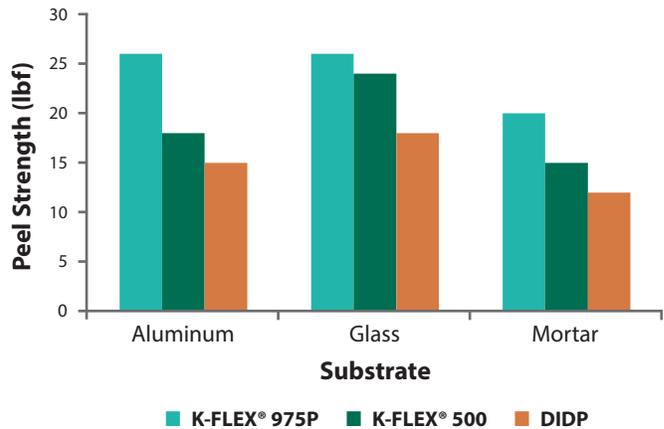
A blend of dibenzoate plasticizers similar in composition to K-FLEX® 850S (DEGDB rich) that is designed for both vinyl and waterborne latex applications.

K-FLEX® 500

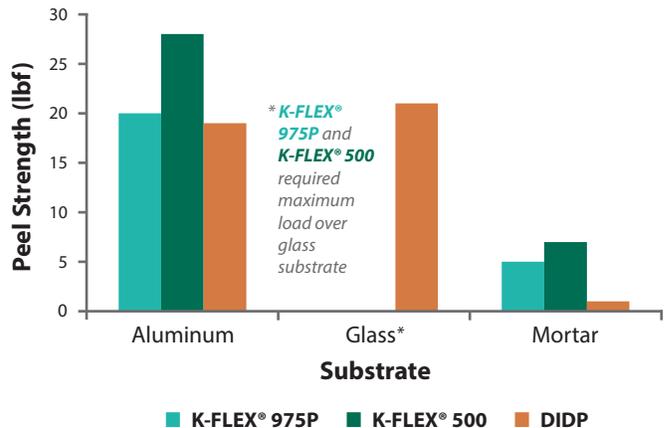
A classic blend of traditional dibenzoate plasticizers which provides an excellent choice for use in waterborne adhesives, hot melt adhesives, and latex caulks.

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 over 500 million pounds annually to approximately 75 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. With manufacturing in Kalama, WA (US), Rotterdam, Netherlands, and Widnes, UK, we serve customers globally.

Dry Adhesion-in-Peel



Wet Adhesion-in-Peel



K-FLEX® 975P and K-FLEX® 500 demonstrated excellent adhesion-in-peel performance in a silyl terminated polyether sealant formulation in contrast to DIDP, a commercial phthalate.

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