

# Stick with **the safe choice.**

*Eastman non-phthalate  
plasticizers for adhesives,  
sealants, and caulks*



# Flexible solutions for strong brands

Creating much-needed elasticity, plasticizers improve the performance of adhesives, sealants, and caulks—optimizing viscosity, low-temperature efficacy, set-time functionality, impact resistance, and even tack. Changing regulations and consumer preferences have caused a technology shift towards non-phthalate plasticizers in the marketplace.

For more than 50 years, Eastman has produced innovative plasticizers that are used in a variety of applications. Our versatile line of plasticizers includes many non-phthalate solutions to address the market's emerging regulatory needs and perceptions. Today, we're the global leader in non-phthalate plasticizers with the broadest product line in the industry.

## Which Eastman non-phthalate plasticizer is right for you?

End use for North American markets		Benzoflex 50	Benzoflex LC-531	Benzoflex 2088	Benzoflex LA-705	Benzoflex 9-88	Benzoflex 9-88 SG	Benzoflex 352	Benzoflex PS-507	Benzoflex 1046	Eastman 168	Eastman 168 Renew 20	Eastman TXIB	Eastman Triacetin	Eastman Triacetin Renew 59	Eastman Effusion	Eastman Versafix
Adhesives	Cyanoacrylate adhesives					●											
	Polyurethane adhesives						●						○				
	Hot-melt adhesives							●									
	Latex construction adhesives	●		○									○				
	Latex packaging adhesives—polyvinyl acetate			○	●								○	○	○	○	●
	Latex packaging adhesives—vinyl acetate ethylene copolymer			○	●								○	○	○	○	●
	Latex packaging adhesives—vinyl acetate acrylic copolymer			○	●								○	○	○	○	○
Sealants	Latex pressure-sensitive adhesives (PSA)			●							●	●		○	○		
	Polyurethane sealants					○	●										
	Latex sealants		●	●							○	○	○			○	
	PVC plastisol sealants			●						●	●	●	●			●	
	Polysulfide sealants					●			●								

● Recommended      ○ Suitable in some formulations

For technical data, sales specifications, and SDS, visit [EastmanPlasticizers.com](http://EastmanPlasticizers.com).

## Drop in to greater sustainability. Right now.

Consumers and big brands are driving a change toward more sustainable solutions. You can achieve sustainability in your formulations with Eastman Renew plasticizers, which represent ISCC-certified recycled content\* powered by molecular recycling. Moreover, they can be used as drop-in replacements without compromising performance. Learn more at [Eastman.com/RenewPlasticizers](http://Eastman.com/RenewPlasticizers).

\*Certified recycled content is achieved using mass balance allocation.

# Eastman non-phthalate plasticizers for adhesives, sealants, and caulks

## Eastman Versafix™ plasticizer

Ideal for water-based adhesives, Eastman Versafix™ plasticizer offers the optimal balance of functionality and value. It allows manufacturers of waterborne adhesives to maintain the same excellent levels of performance as traditional plasticizers while reducing formulation costs.

## Benzoflex™ LA-705 plasticizer

Benzoflex LA-705 offers a global solution for waterborne adhesives, including those based on polyvinyl acetate homopolymers and copolymers. It offers advantages such as excellent  $T_g$  suppression, appropriate open and set times, and maximized viscosity control.

## Eastman Effusion™ plasticizer

Eastman Effusion is a non-phthalate plasticizer for waterborne adhesives that lowers a system's glass transition temperature ( $T_g$ ) and provides comparable viscosity response to currently used plasticizers. It demonstrates very low water solubility. Eastman Effusion can also be used as an effective fast fuser in PVC plastisols.

## Eastman 168™ non-phthalate plasticizer

Eastman 168 is an excellent non-phthalate plasticizer for latex sealants and adhesives with performance comparable to the general-purpose *ortho*-phthalate plasticizers. It offers good performance properties, low-temperature flexibility, resistance to extraction by soapy water, and excellent migration resistance. When compared to *ortho*-phthalate plasticizers such as diisononyl phthalate (DINP), Eastman 168 is an ideal choice for a non-phthalate replacement in acrylic sealants.

For applications where consumers are demanding sustainable choices, Eastman 168 Renew 20 contains 20% certified recycled content\* and is identical in chemical makeup, performance, and regulatory certifications to Eastman 168

## Eastman TXIB™ formulation additive

In water-based adhesives based on vinyl acetate ethylene (VAE), Eastman TXIB often yields a slightly higher viscosity response than many general-purpose plasticizers and yields lower glass transition temperature ( $T_g$ ) for better low-temperature properties. TXIB has no labeling requirements.

## Eastman Triacetin plasticizer

Eastman Triacetin demonstrates excellent  $T_g$  suppression in vinyl acetate homopolymer and copolymer emulsions, offers a reliable supply with no adverse labeling requirements, and shows good compatibility with cellulosic materials, such as cellulose acetate.

Eastman Triacetin is made to the appropriate current good manufacturing practices (CGMP) for use as a plasticizer in vinyl acetate-based food-packaging adhesives.

For applications where consumers are demanding sustainable choices, Eastman Triacetin Renew 59 contains 59% certified recycled content\* and 41% glycerin derived from biobased resources. With 100% sustainable content, it is identical in chemical makeup, performance, and regulatory certifications to Eastman Triacetin.

## Benzoflex™ 2088 plasticizer

Benzoflex 2088 is a high-solvating plasticizer primarily known for its exceptional performance in polyvinyl acetate and water-based adhesive systems. In adhesives, it displays excellent wet tack, set times, and open times and also improves adhesion in acrylic latex caulks.

## Benzoflex™ 50 plasticizer

A versatile plasticizer, Benzoflex 50 is compatible with polyvinyl acetate (PVAc) homopolymer and copolymer emulsions. It is suitable for most water-based adhesive systems, providing improved wet tack, set times, and open times. It is also an efficient plasticizer in acrylic latex caulk formulations.

\*Certified recycled content is achieved using mass balance allocation.



## Benzoflex™ LC-531 plasticizer

Benzoflex LC-531 is formulated specifically for latex caulks and to pass the stringent performance requirements outlined in ASTM C-920 and ASTM C-834 standard specifications, as well as nonspecification caulks.

## Benzoflex™ 9-88 plasticizer

A high-solvating plasticizer used in a wide variety of applications, Benzoflex 9-88 can be recommended in such polymer systems as cyanoacrylate adhesives, polyurethane dispersions, and polyurethane and polysulfide sealants.

## Benzoflex™ 9-88 SG plasticizer

Benzoflex 9-88 SG is very compatible and efficient for 2K polyurethane systems—recommended for cast urethane applications that require minimum cure interference and maximum compatibility.

Adaptable to both metering and hand-batch urethane mix systems, Benzoflex 9-88 SG enables high filler loading and contributes improved tear strength, better rebound, and reduced swell with certain solvents.

## Benzoflex™ 352 plasticizer

Benzoflex 352 is a white flake solid with a melt point of 118°C, which can offer significant performance advantages in a variety of hot-melt adhesive applications. It also modifies melt flow characteristics with improved resistance to yellowing in powder coatings.

## Benzoflex™ PS-507 plasticizer

Designed for use in 1K and 2K polysulfide sealants, Benzoflex PS-507 is an efficient plasticizer that decreases viscosity and improves flow, leveling, and workability. It is a cost-efficient solution in the A side of a 2K sealant.

## Benzoflex™ 1046 plasticizer

Used in PVC plastisol sealants, Benzoflex 1046 offers excellent rheological properties and high resin solvation at elevated temperatures. It imparts excellent stain resistance and has a high tolerance for fillers. Its low hydroxyl number, moisture content, acid value, and color make it an excellent choice for many PVC plastisol applications.

**Eastman was among the first to develop non-phthalate plasticizers. In fact, Eastman 168™ non-phthalate plasticizer has been safely used for more than 45 years, with proven performance in a wide variety of applications. Benzoflex™ non-phthalate high-solvating plasticizers have a 35-year track record of successful and safe use in adhesives, caulks, and sealants.**

To find out more about the Eastman advantage and our complete line of non-phthalate plasticizer solutions, visit us at [EastmanPlasticizers.com](http://EastmanPlasticizers.com).

**EASTMAN**

The results of insight™

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