



VELSICOL
CHEMICAL LLC

Velsiflex® in Caulks

IS IT A HIGH PERFORMANCE ELASTIC AQUEOUS SEALANT SYSTEM? OR IS IT CAULK?

Sometimes the two – sealant and caulk – can be hard to tell apart, especially in well-formulated latex products. Most agree that the difference is in the amount of shrinkage in curing, and the joint movement capability of the materials. Sealants are intended for joints that move as much as 25%, even up to 100% of their original dimensions. Caulks are sealants that have more limited movement capability, to about 10% of original dimensions. All caulks are sealants, not all sealants are caulks.

PROFILE

Velsicol Chemical LLC is a specialty and commodity chemical company that manufactures, distributes and sells a diverse range of performance chemicals. Velsicol is the world market leader in cyclopentadiene chemistry, including Hexachlorocyclopentadiene and Chlorendic Anhydride. We are also a leading producer and marketer of benzoate plasticizers for various polymer additive applications with our Velsiflex® branded product line. This product portfolio serves a wide range of customers and end-use applications in the unsaturated polyester resin market as well as the flame retardant, epoxy resin, adhesive, caulk, paint and coating, PVC and plastisol markets. Velsicol recently re-entered the benzoic acid market and is a testament to its commitment to upstream integration.

Velsicol has been in business since 1931, and through the years, we have shown that we will not compromise on our core values of **SERVICE, QUALITY AND PRODUCT STEWARDSHIP**. Together, these values define our day-to-day approach of working with our customers on a solutions-focused and value-added basis of doing business. We are a company that has a long history of partnering with our customers with many long-standing relationships that have lasted multiple decades.

Velsicol's global corporate headquarters is in suburban Chicago near O'Hare International Airport. We also have strategic manufacturing, distribution, and sales and marketing offices located all over the world in support of a global and multinational customer base.

HISTORY

Velsicol is a company rich in history, dating back to its formation in 1931. Initially, the company was involved in selling petroleum-derived chemicals. Over the years, the company was also heavily involved in various agricultural-related businesses, providing a wide range of pesticides and insecticides. In the 1980s, Velsicol was taken private when the company became more focused on benzoic acid and derivatives and more specifically, plasticizers.

In 2005, the company was purchased by Arsenal Capital, a private equity firm. At that time, the focus of the company continued to be investing in high-performance and specialty chemicals. In 2010, a sister company of Velsicol's, Genovique Specialties, was sold. In 2011, Velsicol formed Resnovae Technologies, a business that sells a wide range of brominated and halogen-free flame retardants. In 2012 Velsicol was sold to its current management team whose members have all been with the company for many years. Today the business is run as a privately owned company by this management team.

Throughout its long and storied history, Velsicol has grown to become a global business that continues to focus on the basics of building a strong foundation that is anchored with a solid set of values. Forging partnerships with its customers, suppliers and communities commands its attention, as does maintaining a commitment to the specialty chemicals market.

With more than 80 years' experience under its belt, Velsicol is a company that is fully focused on sustainable growth, both organically and inorganically. The Velsicol of today and tomorrow will carry on the tradition and commitment to its core values of **SERVICE, QUALITY AND PRODUCT STEWARDSHIP**.

HISTORY - TIMELINE



VELSIFLEX® PRODUCT PORTFOLIO

Velsiflex plasticizers are an environmentally friendly option for formulators looking for an alternative to commodity and specialty phthalate esters. Velsiflex products are based on benzoic acid as a building block and are used in a number of applications, including adhesives, sealants, caulk, coatings and inks, plastisol and various flexible PVC uses. Velsiflex plasticizers are recognized as high-solvating, polar, monomeric plasticizers. In most cases, they provide superior performance compared to other plasticizers in the area of compatibility with the polymer, efficiency or desired softness and the overall permanence of the ester staying in the polymer. Velsiflex plasticizers are performance-adding low- to medium-viscosity fluid esters in a wide range of plastic additive end uses.

VELSIFLEX 320

Velsiflex 320 is a proprietary blend of benzoate esters. This blend is typical of dibenzoate plasticizers and is formulated for waterborne latex applications to optimize efficiency and cost effectiveness. Like all Velsiflex products, it has full FDA approvals for adhesives.

VELSIFLEX 328

Velsiflex 328 is a blend of dipropylene glycol and diethylene glycol dibenzoate in an approximately equal ratio. Velsiflex 328 is primarily known for its exceptional performance in polyvinyl acetate adhesives. It displays excellent wet tack, set times and open time performance. It also improves adhesion to acrylic latex caulks and is a high-solvating PVC plasticizer.

VELSIFLEX 342

Velsiflex 342 is one of the most popular liquid plasticizers. It is a high-solvating plasticizer containing mostly dipropylene glycol dibenzoate. It is used in a wide variety of applications, including caulk, adhesives, resilient flooring, PVC-coated fabrics and artificial-leather cloth. In PVC, it acts as a medium-viscosity high solvator that saves energy and improves processability. Vinyl applications using Velsiflex 342 have excellent resistance to extraction from solvents and oils. It also works with vinyl to make it UV – light-degradation resistant and stain resistant.

VELSIFLEX 342 S

Velsiflex 342 S is mostly dipropylene glycol dibenzoate. It is a lower moisture/lower hydroxyl plasticizer. It has been widely used in 2K polyurethane systems to reduce cure interface, which also provides better rebound, improved tear strength and reduced swell with solvents. It is also used in many polysulfide sealant applications and has proven to be a very efficient ester from a softening agent perspective.



DO YOU HAVE ANY QUESTIONS? NEED MORE INFORMATION?

Call us now at 1 877-847-8351 or email us customerservice@velsicol.com

DO IT YOURSELF MARKET (DIY)

Residential DIY “caulk” applications generally have lower joint movement requirements than commercial “sealant” jobs. In both cases, low temperature flexibility and appropriate tensile modulus are mandatory. Velsiflex plasticizers reduce modulus and Tg, and can provide the kind of service needed in the coldest climates. In some cases, the choice of Velsiflex plasticizer can allow for the use of lower-priced latex polymer while still providing necessary low temperature resistance.

Because latex sealing products are frequently used indoors in occupied/residential areas, they often have special requirements that go beyond those of “sealants”:

CAN I USE IT AT HOME? LATEX PRODUCTS ARE A NATURAL FOR HOME, WITH THEIR LOW ODOR AND WATER CLEAN-UP.

But virtually all water-based products require some external coalescence, the transition from individual particles to a continuous, water-resistant film. Historically, this was achieved by addition of VOC solvents. Today, the high solvency of Velsiflex allows for the elimination of VOCs, their odor and the potential for VOC related health hazards in one step. Velsiflex dibenzoates are not VOC's but they are very effective coalescents for all major categories of caulk polymers, providing performance in more sustainable formulations.

WILL IT WORK?

Velsiflex plasticizers have very good solvency for the organic polymers used in formulating so that compatibility of multi-polymer systems is assured. High solvency can actually reduce surface tack, dirt pick-up, and the growth of mold and mildew that can occur on a tacky or dirty surface. Exceptional solvency can also improve water resistance and adhesion, and reduce migration into adjoining surfaces.

I DON'T DO THIS FOR A LIVING! HOW WILL IT LOOK?

DIY users are frequently intimidated by jobs they haven't done before; caulking can be one of them, and the caulk has to help make the job easy! Velsiflex plasticizers provide a “creaminess” in the latex caulk that enhances appearance and makes tooling/finishing the caulk much easier. And DIYers, and professionals, who have a positive experience with your product will be back again.



GLOBAL CORPORATE HEADQUARTERS

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