



Geon™ Non-Phthalate and CPSIA-Compliant Plastisols

Challenge

Phthalate plasticizers are under attack over concerns regarding their perceived potential for long-term health impacts, with certain phthalate plasticizers being regulated by the federal government. In response to these concerns, brand owners are being pressured to offer solutions that are compliant with these regulations or eliminate altogether the use of phthalate plasticizers in the manufacture of their products. Manufacturers need a reliable source of viable alternatives to service their customers.

Situation

Plasticizers are used in vinyl to soften the final product, increasing its flexibility without sacrificing durability characteristics. Of the many types of plasticizers that exist, use of phthalate ester plasticizers has grown extensively since the 1950's as the use of flexible vinyl escalated in consumer products. The use of these plasticizers has recently been challenged by concerns over the potential long-term health impact of these materials. While there is ongoing debate as to whether or not there is sufficient scientific evidence supporting the restriction of their use, the government has taken the precautionary stance to limit their use in certain applications.

The Consumer Product Safety Improvement Act (CPSIA) effective February 10, 2009, bans the use of six specific phthalate ester plasticizers in the manufacture of toys or child care articles for sale to children under twelve. The specific materials impacted by this legislation are listed below.

Phthalate ester plasticizers permanently banned*:

- di-(2-ethylhexyl) phthalate (DEHP)
- dibutyl phthalate (DBP)
- benzyl butyl phthalate (BBP)

Phthalate ester plasticizers temporarily banned*:

- di-isononyl phthalate (DINP)
- di-isodecyl phthalate (DIDP)
- di-n-octyl phthalate (DnOP)

*Use levels of each regulated plasticizer are limited to less than 0.1% in the finished article.

After a scientific advisory panel review is completed, the temporary ban could be made permanent or lifted.



Geon™ Non-phthalate plastisol compounds are formulated without the use of phthalate-based plasticizers. Geon™ CPSIA-compliant plastisol compounds meet the requirements of the U.S. Consumer Products Safety Improvement Act (CPSIA). Both are classified as a PolyOne Sustainable Solution®. To learn more, go to www.polyone.com/sustain

*The PolyOne Sustainable Solution certification is awarded to those products or services that meet defined criteria for sustainability in areas such as renew-ability, recycle-ability, reusability, eco-friendly composition, or resource efficiency.

Solution

There are a number of alternative plasticizers available today to respond to this challenge. In all cases, the decision as to what the alternative plasticizer should be in a children's toy or child care article requires careful consideration to the specific article, its requirements and intended use.

As the market leading manufacturer of plastisols, PolyOne has years of experience in the use of alternative plasticizers. PolyOne has the expertise and knowledge to formulate and manufacture customized plastisol solutions that enable customers to respond to these changing market dynamics while continuing to meet their products' performance requirements.

Value

The use of Geon plastisols can provide several benefits to manufacturers impacted by the CPSIA or other market demands. Among these are:

- Allows manufacturers to leverage PolyOne's expertise to quickly and confidently respond to these growing concerns, thereby protecting the value of their brand
- PolyOne's **No Surprises PledgeSM** reassures the manufacturer that they will consistently receive materials that meet and perform to their specifications

Implementation

Geon non-phthalate or regulatory compliant plastisols are available for all conventional plastisol applications. PolyOne's extensive technical expertise in the formulation of specialty compounds and their applications can prove invaluable as companies work to determine how to address these issues.

Please contact your nearest sales office for assistance in choosing the right solution for your needs.

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The logo for PolyOne, featuring the word "PolyOne" in a stylized, red, italicized font with a red underline.

*Beyond Polymers.
Better Business Solutions.SM*

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