

SUSTAINABILITY

From energy-efficient roofing, to flexible adhesives and sealants, to durable interior finishes, phthalates are used in building and construction products to make materials and surfaces last longer and to make them easier to maintain. Flexible vinyl products made with phthalates can reduce the environmental footprint of a building.

Because flexible vinyl made with phthalates lasts longer than vinyl alternatives, less energy and other resources are needed to manufacture and install it. In fact, flexible vinyl takes less energy to produce than many competing products.

The European Union Risk Assessment Report on both DIDP and DINP concluded that current uses in applications such as PVC and polymers are not expected to pose a risk to human health or the environment.

Additionally, DPHP was part of the Organization for Economic Cooperation and Development (OECD) High Production Volume (HPV) Chemicals Program review of the High Molecular Weight Phthalate Esters (HMWPE) category in 2004. The review found that toxicity studies indicate that HMWPEs do not present health or environmental hazards. The review concluded that DPHP, as an HMWPE, is "currently of low priority for further work because of [its] low hazard profile."



High Phthalates Panel

PHTHALATES: DIDP, DINP AND DPHP

MEETING CUSTOMER SATISFACTION AND PRODUCT PERFORMANCE BENEFITS



High Phthalates Panel

For information, please contact:

Eileen Conneely
700 2nd Street, NE
Washington, DC 20002
(202) 249-6711

Eileen_Conneely@americanchemistry.com

For more information,
contact
Eileen Conneely
Eileen_Conneely@americanchemistry.com
202-249-6711

SAFETY

There is no reliable evidence that any phthalate has ever caused human health problems from its intended use. Phthalates have developed a very strong safety profile during the 50 years in which they have been in general use.

Despite this history of safe use, some issues have been raised about possible human health effects. These are based on results of studies that showed some adverse health effects in rodents, at much higher exposures than normally would be encountered by people. In actuality, phthalates are tightly held in the fabricated PVC product, are not easily released from products and do not build up in the body. Phthalates begin to break down within minutes and are eliminated from the body within hours.

Based on U.S. Centers for Disease Control and Prevention (CDC) studies, average phthalate exposures are far below the levels set by U.S. federal agencies to be protective of human health.

GOVERNMENT APPROVAL

Government regulatory bodies in the United States and Europe have thoroughly reviewed DINP, DPHP and DIDP and concluded that they are safe for their intended use in consumer products. (There are some limited restrictions on some phthalates in toys that can be placed in the mouth of a child. See below.)

Government agency reviews in the United States and Europe include those by:

- National Toxicology Program's Center for the Evaluation of Risks to Human Reproduction (NTP-CERHR)
- European Chemicals Bureau

In 2008, through the Consumer Product Safety Improvement Act, Congress placed a temporary restriction on the sale of "any children's toy that can be placed in a child's mouth or child care article that contains concentrations of more than 0.1 percent" of DINP, DIDP or DnOP. These restrictions are in place despite the fact that governmental health and scientific bodies have not found actual harm from exposure to DINP or DIDP.

PERFORMANCE & BENEFITS

The unique properties of phthalate plasticizers make them common components in many manufacturing applications. A very important property of phthalates is versatility. Manufacturers can select precisely the degree of flexibility needed to meet a range of mechanical requirements, whether it's wiring for a vehicle or hoses for a household appliance.

Benefits include:

- Durability— extends a product's lifetime wear
- Flexibility— allows vinyl to bend and twist without cracking, an essential safety feature in products such as electrical and automotive cables
- Low volatility— using phthalates in applications where products are exposed to high temperatures enables products to be more resistant to degradation
- Weather resistance— makes products especially suitable for many outdoor applications

While they can be employed in a variety of applications, phthalates are not necessarily interchangeable. The characteristics of an individual phthalate often make it well suited to a particular product, allowing manufacturers to meet unique requirements for its use (function and safety specifications), appearance (texture, color, size and shape), durability and wear. For this reason, substitutions could sacrifice the functionality, quality, longevity, cost or performance of a product.

