

**TSCA**  
Reform  
Needed  
Now

# Congress Must Act to Remove Toxic Substances from Products Our Families Use Everyday: **Flame Retardants TDCP and TCEP**



Children are estimated to ingest up to 10 times greater amounts of toxics, such as flame retardants, than adults. Children are also more susceptible to the toxic effects because their bodies are rapidly growing and developing. Visit [www.takeouttoxics.org](http://www.takeouttoxics.org).

When the Toxic Substances Control Act (TSCA) was enacted in 1976, it was intended to ensure that chemicals are safe throughout their lifecycle, from manufacture to use and disposal.

But weaknesses in the law have left the Environmental Protection Agency (EPA) unable to act on known health dangers. Other laws, such as those setting air, water, and workplace safety standards, do not adequately regulate exposure to most chemicals, nor do they address the hazards a chemical may pose over its entire lifecycle.

New legislation is needed to rapidly reduce exposure to toxic chemicals, such as the flame retardants TDCP\* and TCEP\*\*, which are found in a wide variety of household products—including strollers, nursing pillows, and couches and chairs—and are suspected to cause cancer, and neurological and reproductive harm. NRDC urges Congress to update TSCA to protect people and the environment from toxic chemicals.

For more information, please contact:

**Sarah Janssen, M.D.,  
Ph.D., MPH**  
sjanssen@nrdc.org  
(415) 875-6100

## **TDCP and TCEP Threaten Health, Especially in Children**

TDCP and TCEP are two chemicals added to a wide range of commonly used consumer products to inhibit the ignition or spread of fire (see back for more information). Unfortunately, both toxic chemicals have potential unwanted health effects that outweigh their utility as flame retardants. Not only have these toxic substances been detected in scientific studies surveying contamination of indoor house dust and drinking water sources, but they have also been shown in laboratory animal studies to cause tumors. Despite widespread exposure and probable cancer-causing effects of TDCP and TCEP, existing TSCA rules severely limit the EPA's authority to regulate exposure to these harmful flame retardants.

## **Safer Alternatives for Flame Retardants are Available**

Fire prevention is the first step in avoiding the unnecessary and excessive use of harmful flame retardant chemicals. Fire-safe cigarettes, sprinklers, and smoke detectors, along with the enforcement of improved building codes, are all proven to be effective in reducing fire-related deaths. Good product design can also reduce and eliminate the need for chemical flame retardants by using less flammable materials or by placing a physical barrier between the flammable component and outside materials. Finally, safer alternatives to chlorinated and brominated flame retardants that still meet applicable flammability standards have been identified. The EPA recently acknowledged that there is no evidence to substantiate claims that the use of certain flame retardants has resulted in a reduced incidence of fires.



[www.nrdc.org](http://www.nrdc.org)

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\* TDCP is Tris (1,3-dichloro-2-propyl) phosphate (also abbreviated TDCPP) CAS Registry Number 13674-87-8.

\*\* TCEP is Tris (2-chloroethyl) phosphate CAS Registry Number 115-96-8.



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## TDCP

### Products Where TDCP is Found

TDCP has been the main fire retardant used in automotive foam cushioning for many years and is frequently used in upholstered furniture foam. Although banned from children's pajamas in 1977, TDCP continues to be in widespread use in baby nursery items, strollers, nursing pillows, and other children's products at concentrations of up to 5 percent (by weight), as well as other foam-padded furniture, such as couches, chairs, and sofa beds. Between 10 and 50 million pounds of TDCP were imported or produced in the United States in 2006 and demand is anticipated to increase.

### Exposure and Health Risks

TDCP has been detected in more than 96 percent of house dust samples collected in the Boston area. Dust is known to be a major source of exposure to many flame retardants and young children have been found to be among the most highly exposed. Traces of TDCP have been detected in sewage effluent, river water, seawater, drinking water, sediment, and in fish throughout the world. In laboratory animal studies, TDCP has been associated with cancer of the liver, kidney, brain and testis. It has also been found to cause other harmful effects in the liver, kidney, bone marrow, and testis.

### How TDCP is Designated and Regulated Now



TDCP, also known as "chlorinated tris," was used in the 1970's in children's sleepwear but was banned after it was determined by the U.S. Consumer Product Safety Commission (CPSC) to be a probable human carcinogen, or cancer causing agent. It is still legal to use TDCP in any other consumer product in the United States, including other children's products. TDCP is structurally similar to TCEP, which is listed as a cancer-causing agent under the California EPA's Proposition 65 list based on studies done by the National Institutes of Health's National Toxicology Program.

## TCEP

### Products Where TCEP is Found

More than 500,000 pounds of TCEP are imported or produced in the United States per year for use in furniture foam, vinyl (PVC), electronics, such as televisions and computers, adhesives, non-apparel textiles, upholstery, the back-coating of carpets, rubber, plastics, paints, and varnishes.

### Exposure and Health Risks

TCEP was one of the most commonly detected organic environmental contaminants in a 2002 study of water samples from 139 streams across the United States. TCEP has also been detected in indoor air samples and dust. Dust is known to be a major source of exposure to many flame retardants and young children have been found to be among the most highly exposed. TCEP has been shown in laboratory animal studies to cause tumors in the kidney and thyroid glands. In other laboratory animal studies, TCEP has been shown to cause reductions in fertility and poor sperm quality and interferes with brain signaling, causing hyperactivity.

### How TCEP is Designated and Regulated Now



TCEP is no longer produced in Europe, yet its production and use in the United States remains legal and unrestricted.



TCEP has been identified by Canada as posing a risk to human health and is under consideration for a ban in all products and materials.



California's EPA's Proposition 65 lists TCEP as a cancer-causing agent, based on studies done by the National Institutes of Health's National Toxicology Program.



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