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# Key Science On Toxic Flame Retardants

## TDCPP, or chlorinated Tris, is a flame retardant for polyurethane foam commonly found in furniture.

- Chlorinated Tris has been used as a flame retardant for decades, but concentrations have increased since 2005 when another flame retardant, Penta-Brominated diphenyl ether (PentaBDE) was phased out.[i]
- Other PBDEs were phased out due to their persistence in the environment and tendency to bioaccumulate in wildlife and humans.[ii]
- Vermont passed legislation in 2009 banning PBDEs from certain consumer products, including furniture and electronics.
- Chlorinated Tris is one of a number of replacements, which also include a product sold as Firemaster 550.

## TDCPP and other flame retardants are very widely used.

- A 2011 peer-reviewed study in which Duke University tested children's products for flame retardants found TDCPP in 33% of the items submitted from homes.[iii]
- A 2012 study found the chemical in 80% of newly purchased children's products, and toxic flame retardants in 85% of the products.[iv]
- Chlorinated Tris and other flame retardants are widely used in furniture, with one U.S. study finding that 85% of couches contained a chemical flame retardant; more than half of couches purchased in 2005 or later contained TDCPP.[v]

## TDCPP and other flame retardants are building up in homes, leading to exposure from house dust, a major source of exposure from consumer products.

- A 2009 study that tested the house dust from 50 homes found TDCPP in 96% of homes tested.[vi]
- Levels were in the same range as those of the persistent, widespread flame retardants PBDEs.
- The chemicals that make up Firemaster 550 have also been detected in house dust, as has the flame retardant HBCD.[vii]

## Brominated and chlorinated flame retardants pose a threat to health and the environment.

- TDCPP causes cancer, has caused mutations in several studies, and has been linked to hormone disruption and nervous system harm.[viii]
- The components of Firemaster 550 have recently been shown to have hormone disrupting effects, with a laboratory study showing early puberty and obesity in exposed animals.[ix]
- TDCPP has been detected in surface water, wastewater treatment plant effluent, fish, bird eggs, food, drinking water, and urine.[x]

## Governments are taking action to protect their citizens from toxic flame retardants.

- TDCPP has been designated as a carcinogen by the State of California.[xi]
- The Washington State Department of Ecology has agreed to place TDCPP on its list of Chemicals of High Concern for Children and will start rulemaking this year.
- The Consumer Product and Safety Commission has concluded that the levels of chlorinated Tris found in house dust are a concern for cancer as well as non-cancer health effects.[xii]

## Fires can be prevented using safer methods.

- The Consumer Product Safety Commission (CPSC) has determined that using flame retardants in foam is not the best way to prevent furniture fires and is updating its flammability standards. The CPSC's draft standard, due to be finalized in 2013, would require companies to prevent fires using smolder-resistant fabrics or barriers [15].[xiii]

## For More Information Contact:


- Lauren Hierl, Vermont Public Interest Research Group, (802) 223-5221 ext. 25, lauren@vpirg.org


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