



**Connecticut  
Public Health  
Association**

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# *Connecticut Public Health Association*

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## **Facts and Recommendations on Chlorinated Tris**

**5218, An Act Concerning Toxic Fire Retardants in Children’s Products. H.B. 5218** would ban the manufacturing, sale or distribution of any children’s products containing Tris flame retardants (TCEP, TDCPP and TCPP) in the State of Connecticut after October 1, 2014. This act would protect the health of children in Connecticut by further reducing their exposure to Tris flame retardants.

### **Background**

Tris flame retardants are a family of chemically similar flame retardants which include TDCPP, commonly known as chlorinated Tris, and similar chemicals known as TCEP, and TCPP. [1]. Tris flame retardants have been found in household dust and air as well as in water supplies [3].

Chlorinated Tris (TDCPP) is the most frequently detected of the Tris flame retardants and is used in many baby products and household furniture [1]. The chemical was banned from use in children’s clothing in 1977 after it was found by the U.S. Consumer Products Safety Commission to be a potential carcinogen in laboratory studies [1]. The chemical is still widely used in many baby products such as changing table pads, sleep positioners, portable mattresses, baby carriers, rocking chairs, high chairs and home furnishings. Due to its chemical makeup, chlorinated Tris escapes from the foam padding in these products and settles in household dust, thus exposing children and adults through inhalation or ingestion [3]. Children are especially prone to exposure through crawling or placing hands in their mouths.

In 2006, the Consumer Product and Safety Commission found that chlorinated Tris (TDCPP) poses a threat to human health, designating the chemical as a probable carcinogen [5]. No human studies have been conducted; however, animal studies have demonstrated multiple health effects such as increased incidence of liver, renal, testicular, and adrenal tumors after exposure to chlorinated Tris (TDCPP) [3]. Chlorinated Tris (TDCPP) has been shown to be a neurotoxin to brain cells in animal studies—animals exposed to chlorinated Tris were noted to have decreased memory, learning deficits, altered motor behavior and hyperactivity [4].

TCEP and TCPP are also Tris chemicals of concern. TCEP is used in foam padding and has been found in household dust and hospital air and has been found widely in surface water and streams [1]. Animal research also suggests that TCEP has the potential to negatively affect hormone levels and semen quality including sperm count, motility and morphology in humans [6]. It is classified as a carcinogen by California and a chemical of “very high concern” by the European Union [1,7,8]. Likewise, the Tris chemical TCPP, which has been used as a replacement for chlorinated Tris since the 1960s, is chemically similar to the other Tris chemicals, yet there is very little research on this chemical, and no research demonstrating its safety in children’s products [1]. TCPP is found widely in indoor dust and in the environment [1].

Each of the Tris flame retardants are used extensively in children’s products and home furniture with 10 to 50 million pounds each of chlorinated Tris and TCPP used in the United States each year [1]. The use of Tris flame retardants is legal and unrestricted in the United States although individual states are beginning to place bans on them. California has recognized chlorinated Tris (TDCPP) as a carcinogen and placed the chemical on its Proposition 65 list in 2011 [1, 8]. TCEP was identified as a substance of very high concern by the European Chemicals Agency in 2009 [7] while Canada has identified Tris flame retardants as a risk to human health in any dose and a ban on several Tris chemicals is currently being considered [11]. Maryland and Washington are also considering bans on the chemical during this legislative session and New York signed a ban into law in 2011.

### **Recommendations**

CPHA supports **H.B. 5218, *An Act Concerning Toxic Fire Retardants in Children’s Products***.

Scientific research shows that Tris flame retardants pose real health risks to humans and animals. Due to the routes of exposure to Tris flame retardants (ingestion, inhalation) children are more vulnerable to the toxic effects of the chemical. Other states and countries have recognized the toxicity of these chemicals and have taken steps to protect their citizens. With an absence of federal action on chemical reform, Connecticut needs to continue to be a leader in chemical reform and ban Tris flame retardants in consumer products.

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**February 29, 2012**

For additional information on CPHA’s position on Tris flame retardants or other public health issues, please contact CPHA Advocacy Chair, Colleen O’Connor, at caoconnor24@hotmail.com or Noele Kidney, Project Coordinator at noelekidney@hotmail.com.

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