The toxic chemicals IN YOUR COUCH

In January, Alaska Community Action on Toxics tested the polyurethane foam of three couches in legislative offices for the presence of harmful flame retardants. High levels of halogenated flame retardants were found in all three of them. These chemicals are used despite not having proven fire safety benefits, and they are not bonded to the foam, allowing them to escape into the environment. Here are the results and brief description of some of the health effects related to these flame retardants.

**Couch 1**

Contains TCPP, as well as a relatively new compound called V6, which includes the cancer-causing flame retardant TCEP (tris (2-chloroethyl) phosphate) [1,2].

Adverse health effects of TCPP:
- Possible carcinogen, disrupts red blood cells, and irritates the skin [3]

Adverse health effects of V6:
- The TCEP found in V6 is a known carcinogen [4,5,6] and has been shown in laboratory studies to harm reproduction and cause severe neurological damage [7,8]
- V6 meets the EU criteria to be designated as persistent or very persistent in the environment [9].
- The Washington State Department of Ecology recommended a ban on the use of V6 in polyurethane foam for children's products and furniture [10].

**Couch 2+3**

Contain primarily TPP (triphenyl phosphate) mixed with a variety of brominated flame retardants (tetrabrominated benzoates, or TBB etc.) that are found in Firemaster 550 and other similar formulations. Couch 3 also contains Penta-BDE.

Adverse health effects of TPP:
- Is linked to decreased semen quality in men [11]
- Studies show evidence of endocrine disruption in humans [11, 12, 13]

Adverse health effects of TBB:
- Has been found to damage DNA in fish [14]
- Is persistent and bio-accumulative [15]
- Affects sex hormone production and activity, and laboratory animals exposed to Firemaster 550 experienced early puberty [16, 17].
- The Washington State Department of Ecology recommended a ban on its use in polyurethane foam for children's products and furniture [18].

Adverse health effects of PentaBDE:
- Listed as a persistent organic pollutant under the Stockholm Convention in 2009 because of its persistence, toxicity, and bio-accumulation [19].
- Lowers IQ and physical development in children [20]
- Adverse birth outcomes (stillbirth, low birth weight, premature delivery) [21]
- Endocrine disruption [22]
References


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