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TOP 10 THINGS YOU NEED TO KNOW ABOUT FLAME RETARDANTS

Flame retardants (FRs) are a group of additives that include toxic chemicals shown to be harmful to human and environmental health in many ways. With the enactment of California's TB117-2013 for furniture fire safety and *The Chicago Tribune's* scathing **investigative report** about FR manufacturers' misleading marketing efforts, we learned that toxic chemicals are not the only way to support fire safety in buildings. Perkins+Will's white paper **Strategies for Avoiding Flame Retardants in the Built Environment** dives into the particulars of these chemicals. Here are the Top 10 things* you need to know about FRs:

1 **They don't protect your health.** Some flame retardants are persistent, bioaccumulative, and toxic. Aside from their documented physical effects, FRs have a financial impact: It is estimated that they have cost the U.S. more than $340 billion dollars by causing diabetes, neurobehavioral and developmental disorders, cancer, reproductive health problems, and alterations in thyroid function. Exposure to FRs also has been shown to decrease IQ points.

2 **They're not necessary.** As indicated by the major overhaul of California's updated **Technical Bulletin** 117-2013, fire safety for upholstered furniture can be achieved without toxic chemicals. While codes and regulations largely drive the use of these chemicals, the **white paper** discusses opportunities to avoid them.

3 **They harm the environment.** According to the U.S. EPA and the European Chemicals Agency, many flame-retardant chemicals contaminate air, water, soil, and interior environments through factory emissions, drains, and landfill and product leachate.

4 **They contribute to dioxin formation.** FRs, intended to slow the spread of fire, create highly potent carcinogens in the form of dioxins. Dioxins contribute to the high rates of cancers and other diseases in first responders.

5 **Many of them are avoidable.** Regulation drives the addition of FRs into building products. By carefully checking requirements, one can meet many regulations without FRs through material selection and the use of sprinkler systems. See the **white paper** for more on regulatory drivers and ways to address these concerns.

6 **Not all of them are equal.** Halogenated flame retardants are of highest concern, with the organophosphate version (also the basis for many types of pesticides) close behind. Mineral-type FRs are of somewhat less concern, but some contain health hazards. Many specific FRs lack basic health safety data, which also can be a point of confusion.

7 **They're ubiquitous in household dust.** To minimize exposure to FRs, wash your hands frequently, especially before eating, and damp dust or mop surfaces often.

8 **They aren't in all furniture—but you have to request proof.** To ensure upholstered furniture is delivered FR-free, insist when purchasing or specifying that each piece meets TB117-2013 *without added flame retardants*; also require that the manufacturer *provide a verification tag* per California's Business and Professions (B&P) Code section 19094.

9 **Their "safer alternatives" may not be safer after all.** Organophosphate flame retardants are sometimes touted as the safer alternative to halogenated flame retardants. But since there is very little health data on the former, there's no guarantee. Be wary of substitutions.

10 **They're not the end-all, be-all.** Alternatives abound! Numerous resources are available to help designers find alternatives to products containing FRs. Asking manufacturers for products without these chemicals will further drive the market to provide less-toxic options.

**The information presented in this Top 10 summary has been adapted from content published in Healthy Environments: Strategies for Avoiding Flame Retardants in the Built Environment, a Perkins+Will's white paper. For brevity and simplicity, this summary language has been modified from the original. Please refer to the full white paper for official language as well as a complete list of supporting documentation.*