

VII. Recommendations



■ For the Federal Government

- **Flame-retardants should only be used in high fire-risk situations.**

Because exposures to flame-retardants carry their own set of health risks, flame-retardants should only be used in situations where the risk of injury from fire outweighs the risk from flame-retardant exposures. Examples of such high-risk situations include aircraft, marine vessels, cars, exterior building materials for use in fire-prone regions, and specialized clothing designed for those who face special fire risks.

- **Restrict the use of flame-retardants in infant and toddler products.**

Recent toxicological studies show that flame-retardants pose the greatest risk to the normal growth and development of fetuses, infants and children. Infants and small children's body weight is so low that their exposures to flame retardants, in relation to their body weight, is simply too great. The health risks that all infants and children are experiencing, due to the federal law mandating that flame-retardants be in many of their products, far outweigh the risk of fire.

- **Restrict flame-retardant use in low fire-risk situations.**

Most people live their daily lives in circumstances with low risk of fire. Current law allows—and in some circumstances requires—that untested fire-retardant chemicals be used to fireproof most components of our built environments and many consumer goods. For example, there is no need to add flame-retardants to thousands of consumer products, such as plastics used to package foods and

beverages. The distinction between high and low fire risk situations should be carefully defined, and flame-retardants should be banned from all low-risk products.

- **The government should require that flame-retardants be tested for their health effects.**

Most of the 200 flame-retardants in international commerce have not been adequately tested to reach the judgment that they are reasonably certain to be safe. Congress should require that flame-retardants be tested so their health and environmental effects are known. Testing requirements should apply to all flame-retardant chemicals, regardless of whether or not Congress exempted them from regulation under the Toxic Substance Control Act of 1976.

- **Flame-retardant risks should take into account susceptible populations.**

EPA should prepare human exposure risk assessments for flame-retardants. EPA should take into account the vulnerability of susceptible populations, including children, infants, and fetuses; the elderly; and those with illnesses that might be exacerbated by exposures.

- **Testing should include chemical mixtures of flame-retardants.**

Flame-retardants are commonly present as mixtures in our consumer products, and human tissues. Firemaster 550, a commonly used brand of flame-retardant in the United States, is a mixture of four distinct chemicals. Pesticides provide a model for this proposal, since EPA has completed “mixtures risk assessments” for organophosphate and triazine pesticides. Congress should demand toxicity testing of mixtures of compounds, such as the flame-retardant Firemaster 550.



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- **Government should require industry to pay for testing.**

The chemical industry, or product manufacturers who use and benefit from flame-retardants, should provide funding for the chemical testing initiative. Pesticide manufacturers, divisions of the same firms that manufacture flame-retardants, already are required to fund the testing of chemicals proposed for EPA approval, along with the costs imposed on EPA to review these data.

- **Products containing flame-retardants should be labeled as such.**

Any product containing a flame-retardant should be labeled as such. Labels should state which flame retardant has been used.

- **Product certification programs should be established that verify the absence of flame-retardants—just as the Organic Food Program shows the absence of pesticides.**

EPA should create a program that certifies the absence of flame-retardants from consumer products. This program could be similar to the organic food program that certifies that organic foods do not contain pesticides. This flame-retardant certification program could provide consumers with the opportunity to knowingly buy products that do not contain flame-retardants.

- **The federal government should require that corporations disclose their knowledge of significant hazards in their products.**

Producers of flame-retardants should be required to disclose their knowledge of any hazard. Many corporations conduct their own hazard and risk assessments to understand and limit their liability, yet these data are not normally disclosed to the government.



As well, chemical companies should have the legal obligation to inform potential purchasers of flame-retardants that the federal government has found a significant hazard. Similarly, manufacturers should have a legal obligation to inform distributors and retailers about which flame-retardants are in their products.

- **EPA should require manufacturers to demonstrate safety using the “reasonable certainty of no harm” standard.**

To meet this burden, manufacturers should submit testing data that demonstrate a “reasonable certainty of no harm” associated with their products.

- **The federal government should establish a Registry of Flame-Retardants.**

EPA should be required to create and maintain a registry of flame-retardants. The purpose of the Registry would be to provide the public with knowledge about what flame-retardants are now in

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production and what hazards they may pose to human health and the environment. It should also list what flame-retardants have been discontinued but are still in use, and their health effects.

- **The government should explicitly permit EPA to restrict production, use, export, and import of flame-retardant chemicals.**

Government should explicitly permit EPA to restrict production, use, export, and import of flame-retardant chemicals and products that contain them. For example, use of a flame-retardant should be allowed in aircraft interiors, while its use in children's sleepwear should be restricted. If a chemical is banned from production and use, the manufacturer should not be allowed to continue the sale of existing stocks.

- **Products containing flame-retardants should display a scannable barcode.**

Products that do contain flame-retardants should have a scannable barcode clearly visible that can be scanned using conventional cell phone technology. Scanning the code via cell phone would provide the consumer with additional information about the specific flame-retardants that were used, their potential health and environmental effects, and the proper disposal methods.

- **Cradle-to-grave producer responsibility.**

Nearly 10,000 municipal landfills contain a mixture of hazardous chemicals, including flame-retardants that have contaminated underlying soils and water. The chemical manufacturers have simply passed responsibility for these hazards along to local communities. Chemical manufacturers should be required to take financial responsibility for the environmental contamination caused by practices relating to disposal of their products.

■ Recommendations for States

■ States should pass laws that protect their citizens from flame-retardant exposures.

Industry will always work to pre-empt states' legal authority to set safety standards that are more stringent than those adopted by the federal government. States should have the right to protect their citizens when the federal government fails to do so.

■ States should restrict flame-retardants in infant and toddler products.

Recent toxicological studies show that flame-retardants pose the greatest risk to the normal growth and development of fetuses, infants and children. Infants and small children's body weight is so low that their exposures to flame retardants, in relation to their body weight, is simply too great. The health risks that all infants and children are experiencing, due to the federal law mandating that flame retardants be in many of their products, far outweigh the risk of fire.

■ States should require that products containing flame-retardants be labeled.

Any product containing a flame-retardant should be labeled as such. Labels should include which flame-retardant has been used.

■ States should promote fire-prevention programs.

States should invigorate their fire prevention programs. Promotion of fire prevention is the most effective, least expensive, least environmentally damaging priority our nation could pursue to reduce loss of health, life and property from fires. States should promote low-cost and highly effective early warning technologies. Smoke alarms save lives. They should be available to all, regardless of income status.





- **States should offer opportunities to recycle electronic products.**

Foam that contains flame-retardants remains a problem for landfills. State and local governments have primary responsibility for managing the disposal of solid and hazardous wastes. Most solid wastes in Connecticut are disposed of via incineration, but some are still placed in landfills. The broad failure to effectively recycle electronics, building materials, auto plastics and foam means that most products containing flame-retardants are released to the environment at the end of their life-cycle.

- **Recommendations for Individuals**

- **Choose furnishings carefully.**

New furniture filled with polyurethane foam contains flame retardants, while furniture with polyester, down, wool or cotton fillings is unlikely to contain them. Avoid buying furniture labeled, “Complies with California TB 117” or similar language. Ask the manufacturer if its foam is flame-retardant-free, thereby creating an increased demand for untreated foam furniture.

- **Choose mattresses carefully.**

Major U.S. mattresses manufacturers do not disclose their use of flame-retardants, and a mattress labeled “Organic,” “Eco-friendly,” “Green,” “Natural,” or “Healthy” does not mean it is free of flame-retardants. There are some companies that will manufacture mattresses for you that do not contain flame-retardants; however, they may require a physician's letter.

- **Wash your hands often.**

You touch products with flame-retardant ingredients every day, perhaps dozens of times. The most common consumer products containing them include televisions, cell phones, computers,

remote controls, kitchen appliances, home furnishings, vehicle interiors, paper, and other electronic equipment. Washing hands often, especially before eating, will reduce the amount ingested.

- **Prevent infants from mouthing products that may contain flame-retardants.**

Prevent infants from mouthing plastic items that normally contain flame-retardants, TV remote controls, cell phones, and other plastic items.

- **Vacuum floors and carpeting often.**

Indoor dust is often a source of exposure to flame retardants, and dust is commonly inhaled as fine particles. Infants may easily ingest dust as they crawl on the floor, placing hands and fingers in their mouths. PBDEs and other flame-retardants in carpet padding and furniture are released and bind to household dust. Vacuuming can help prevent this.

- **Prevent fire hazards.**

Prevention is the most effective, least costly, and least contaminating strategy you can follow to avoid loss from fires. Fire-proofing your environment with toxic flame-retardant chemicals might add only 20 seconds to the time you need to escape your home in the event of a fire. Remember that the retardants cause products to smolder, which causes them to release potent toxic gases before bursting into flames.

- Be certain you have working fire alarms in each of your rooms, hallways, basement and attics. Change your alarm batteries each year and test the alarms once a month.
- Keep a working fire extinguisher near the kitchen, basement, and in the master bedroom.
- Do not smoke indoors. Cigarettes continue to be the leading cause of furniture fires.





- If you have children, be exceptionally careful to store lighters and matches in a place inaccessible to them.
- Have a separate escape plan for every member of your family. Practice the escape plan to make children comfortable.
- Have your furnace, water heater, chimneys, and wood stoves inspected annually by professionals to determine proper combustion and ventilation.
- Do not store highly flammable liquids or gases indoors. These include propane tanks and gasoline cans.

Recommendations for Corporations

- **Corporations should disclose to the government any significant hazards from their products.**

Many corporations conduct their own hazard and risk assessments to understand and limit their liability, yet these data are not normally disclosed to the government. Producers of flame-retardants should be required to disclose their knowledge of any hazard.

- **Corporations should demand that their suppliers inform them about which flame-retardants are in their supply chains.**

Manufacturers should require their distributors and retailers to disclose any flame-retardants in their products.

- **Corporations should actively manage what chemicals are in their products.**

Corporations should adopt and publish criteria for acceptable chemical ingredients in their products, and work with their

suppliers to restrict or phase out the use of chemicals that are persistent, that bioaccumulate, or are toxic.

- **Corporations should consider having product lines that are flame-retardant-free—just as organic food lines are pesticide-free.**

Many of the nation's organic food companies are owned by the largest non-organic parent companies. Major producers of building materials, electronics, plastics, textiles and paper products should launch flame-retardant-free lines of their own brands.

The building sector is moving rapidly to develop product lines that contain less-persistent and less-toxic chemicals. The paint industry carries both low-VOC emitting paints and traditional solvent-based paints.

- **Corporations should adopt the principles of Green Chemistry to drive choices about chemical acceptability and substitution.**

It is especially important to avoid replacing one hazardous chemical with another that is poorly tested.

- **Corporations, where appropriate, should be responsible for product disposal.**

Corporations should adopt standards of responsibility for proper disposal of products containing flame-retardants once they reach the end of their useful life-cycle. This may mean working collaboratively with other firms in a product sector to establish recycling centers, or requesting that some especially hazardous products be returned directly to a store. For example, HP pays for the return of printer cartridges to dispose of any remaining inks and recycle plastic materials.

