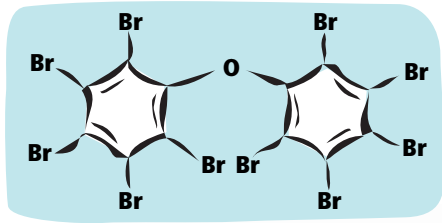


WHAT YOU NEED TO KNOW ABOUT PBDEs

Used as a chemical flame retardant, PBDEs can be found in almost anything that carries an electrical current or is highly flammable. They come in different forms depending on the number and location of bromine atoms. Two forms – penta and octa – are no longer made due in part to safety concerns. Washington lawmakers are considering banning some uses of the deca variety.

Molecular structure of deca



PBDEs suppress the spread of fires by releasing bromine atoms (Br) when heated, creating a very thin layer of bromine gas on the surface of the TV or mattress that keeps oxygen away.

THE TROUBLE WITH PBDEs

For most people, the level of PBDE contamination is low – around 30 to 70 parts per billion. But others have concentrations approaching 10,000 ppb. That brings them dangerously close to exposure levels that can harm animals in experiments.

- ▶ In mouse experiments, deca can cause thyroid changes, developmental problems in motor skills and learning, and cancer.
- ▶ PBDE levels in people have doubled approximately every 3 to 5 years over the past three decades and continue to rise; the levels in Americans are the highest found.

- ▶ Potentially the greatest threat from PBDEs is to the developing fetus and children, but there is almost no data on levels in kids.
- ▶ Deca can degrade into more harmful chemicals in the environment and organisms, but that process is not well understood.
- ▶ Burning PBDEs can create potentially toxic and cancer-causing chemicals.



PBDEs ARE EVERYWHERE

Items in your home and office that may contain deca:

- | | | | |
|---------------------------|--------------------|------------------|--------------------|
| Televisions | Remote controls | Mattress | Washing machines |
| Cell phones | Lamp sockets | Curtains | Clothes dryer |
| Fax machines | Hairdryers | Drapes | Microwaves |
| Audio and video equipment | Fans | Carpet padding | Toasters |
| Computers | Upholstered sofas | Ovens and stoves | Coffee makers |
| Printers | Upholstered chairs | Stove hoods | Water heaters |
| Scanners | Polyurethane foam | Refrigerators | Wires and cables |
| Photocopiers | | Dishwashers | Circuit breakers |
| | | | Electrical outlets |

PRODUCTS WITHOUT PDBEs

In some cases, older items from these brands will still contain the chemicals.

- | | |
|---|--|
| ▶ IKEA | ▶ Hewlett Packard |
| ▶ Washington-made mattresses since mid-2005 | ▶ Matsushita Kotobuki Electronics Industries/Panasonic |
| ▶ Canon | ▶ NEC |
| ▶ Dell Computers | ▶ Sony |
| ▶ Ericsson | ▶ Xerox |

Deca in your vehicle

- Instrument panel
- Battery case and tray
- Electrical connectors
- Engine control
- Computer system
- Stereo
- GPS system
- Upholstery
- Sun visor
- Head rest



TIPS FOR AVOIDING PDBEs

- ▶ Use a vacuum with a HEPA filter and change filter regularly.
- ▶ Use air conditioner with HEPA filter and change filter regularly.
- ▶ Cover tears in upholstery that expose polyurethane foam, particularly if foam is crumbling.
- ▶ Cover mattress with tightly woven allergen barrier to reduce dust that could carry PBDEs. Do not remove mattress label, it will tell if polyurethane foam was used.
- ▶ PDBEs collect in fat, eat less animal fat.