

Decabromodiphenyl ether (decaBDE)

What is decaBDE?

Decabromodiphenyl ether (decaBDE) is a flame retardant that is used to reduce the spread of a fire. DecaBDE can be used in plastics, textiles, and adhesives to reduce the chance of these items catching on fire. This chemical can also be found in electronics and household furniture. Since 2013 U.S. commercial producers and suppliers of decaBDE have discontinued its use.

[Minnesota statute 325F.071](#) also limits the manufacture, sale, and distribution of items that contain decaBDE in amounts greater than 1,000 parts per million in any component of a product. Older products still in use could, however, be a potential pathway of exposure to this chemical and could pose health risks for infants, children, and pregnant people.

DecaBDE can be found in household items and products such as:

- Children's products (older car seats and toys).
- Upholstered residential furniture.
- Residential textiles.
- Mattresses containing flame retardants.

Who is most at risk of exposure and health risks?

- Infants and young children are most at risk, because they are closer to the ground and are more likely to breathe in and inadvertently eat dust. Children's smaller body size and developing organs can place them at higher risk of having negative health consequences.
- Pregnant people and unborn children are at risk because they are more sensitive to chemical exposures due to developmental concerns.

How can pregnant people be exposed to decaBDE?

- Using older (made in 2013 or earlier) household products (including furniture, electronics, mattresses, and carpets) that were made with decaBDE.
- Breathing in household dust contaminated with decaBDE. decaBDE can leach (escape) out of household products and settle in household dust.

How can infants and children be exposed to decaBDE?

- Breathing in household dust contaminated with decaBDE. decaBDE can leach (escape) out of household products and settle in household dust.
- Consuming contaminated breast/chest milk. decaBDE has been found in breast/chest milk and can be transferred to infants and young children during breast/chest feeding. However, breast/chest feeding has nutrients that are needed for infant development and MDH

continues to recommend breast/chest feeding as the healthiest option for feeding infants. The numerous health benefits of breast/chest feeding appear to outweigh potential harm from exposure to environmental chemicals in breast/chest milk (See [Breastfeeding, Environmental Exposures/Toxicants, CDC \(https://www.cdc.gov/breastfeeding-special-circumstances/hcp/exposures/?CDC_AAref_Val\)](https://www.cdc.gov/breastfeeding-special-circumstances/hcp/exposures/?CDC_AAref_Val)). If you are concerned, talk with your health care provider.

- Ingesting (eating) household dust contaminated with decaBDE due to increased hand-to-mouth activity.

What can be done to reduce exposure to decaBDE?

- Clean air ducts in your home and vacuum your living spaces frequently.
- Frequently wipe down surfaces with a damp cloth.
- If possible, remove and dispose of older (made in 2013 or earlier) household products, such as furniture, electronics, mattresses, and carpets that could contain decaBDE.
- Consider purchasing flame-retardant-free furniture.
- Wash hands before preparing and eating food and after children's play time.

What are the health concerns of decaBDE?

Studies in lab animals have shown negative health effects from exposure to this chemical. These effects pose a concern for human health and are important to consider, especially for children. Children are more vulnerable than adults, and their exposure may be higher because of frequent hand-to-mouth activity. Some of the negative health effects seen in lab animals include:

- Brain development issues.
- Poor fetal and infant development.
- Liver concerns.
- Thyroid issues.
- Reproductive toxicity (low sperm count and pregnancy loss).

Addition resources

[EPA | Reducing Your Child's Exposure to Flame Retardant Chemicals \(PDF\)](https://www.epa.gov/sites/default/files/2016-05/documents/flame_retardant_fact_sheet_3-22-16.pdf)
(https://www.epa.gov/sites/default/files/2016-05/documents/flame_retardant_fact_sheet_3-22-16.pdf)

[EPA | Reducing Decabromodiphenyl Oxide Waste Management \(PDF\)](https://www.epa.gov/sites/default/files/2016-04/documents/p2_spotlight_decabde_final.pdf)
(https://www.epa.gov/sites/default/files/2016-04/documents/p2_spotlight_decabde_final.pdf)

DECABROMODIPHENYL ETHER (DECABDE)

[Connecticut Department of Public Health | Flame Retardants in Children's Products \(PDF\)](https://portal.ct.gov/-/media/dcp/migrated-docs/flameretardantfactsheetpdf.pdf)
(<https://portal.ct.gov/-/media/dcp/migrated-docs/flameretardantfactsheetpdf.pdf>)

[Department of Ecology State of Washington | Flame Retardants in General Consumer and Children's Products \(PDF\)](https://apps.ecology.wa.gov/publications/documents/1404021.pdf) (<https://apps.ecology.wa.gov/publications/documents/1404021.pdf>)

[NIH | Flame Retardants and Your Health \(PDF\)](https://www.niehs.nih.gov/health/materials/flame_retardants_508.pdf)
(https://www.niehs.nih.gov/health/materials/flame_retardants_508.pdf)

[CDC | Polybrominated Diphenyl Ethers \(PBDEs\) Public Health Statement \(PDF\)](https://www.atsdr.cdc.gov/ToxProfiles/tp207-c1-b.pdf)
(<https://www.atsdr.cdc.gov/ToxProfiles/tp207-c1-b.pdf>)

[Office of the Revisor of Statutes | 325F.071 FLAME-RETARDANT CHEMICALS; PROHIBITION](https://www.revisor.mn.gov/statutes/cite/325F.071)
(<https://www.revisor.mn.gov/statutes/cite/325F.071>)

[MDH | Decabromodiphenyl Ether Screening Profile \(PDF\)](https://www.health.state.mn.us/communities/environment/risk/docs/guidance/dwec/screening/decabde.pdf)
(<https://www.health.state.mn.us/communities/environment/risk/docs/guidance/dwec/screening/decabde.pdf>)

Minnesota Department of Health

[Toxic Free Kids Program](#)

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