

Hexabromocyclododecane (HBCD)

What is HBCD?

Hexabromocyclododecane (HBCD) is a flame retardant added to products to reduce the spread of a fire. As of 2018, U.S. manufacturers have discontinued use of HBCD in products. However, this chemical has been previously used in foam insulation materials for building and construction and the manufacturing of household items, including furniture, mattresses, wall draperies, curtains, and electronics. [Minnesota Statute 325F.071](#) limits the manufacture, sale, and distribution of children's products, upholstered residential furniture, residential textiles, and mattresses that contain HBCD in amounts greater than 1,000 parts per million in any component of those products. HBCD has been associated with potential health risks that are of concern for infants, young children, and pregnant people.

HBCD can be found in household items, most likely in older (made in 2018 or earlier) household items, such as:

- Children's products (older blankets, clothing, 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 these chemicals due to developmental concerns.

How can pregnant people be exposed to HBCD?

- Using older (made in 2018 or earlier) household products (including mattresses, furniture, draperies, and curtains) that were made with HBCD.
- Breathing in household dust contaminated with HBCD. HBCD can leach (escape) out of household products or older foam insulations and settle in household dust.

How can infants and children be exposed to HBCD?

- Breathing in household dust contaminated with HBCD. HBCD can leach (escape) out of household products or older foam insulations and settle in household dust.
- Ingesting (eating) household dust contaminated with HBCD due to increased hand-to-mouth activity.

What can be done to reduce exposure to HBCD?

- Clean air ducts in your home and vacuum your living spaces frequently.
- Frequently wipe down surfaces with a damp cloth.
- If possible, remove and properly dispose of older (made before 2018) household items, such as mattresses, furniture, draperies, and curtains that could contain HBCD.
- 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 HBCD?

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:

- Behavioral health effects.
- Brain development concerns.
- Reproductive harm.
- Thyroid issues.
- Toxic effects on the liver.

Addition resources

[CDC | What employers should know about reproductive health](https://www.cdc.gov/niosh/reproductive-health/about/employers.html)
(<https://www.cdc.gov/niosh/reproductive-health/about/employers.html>)

[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)

[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>)

[EPA | Risk Evaluation for Cyclic Aliphatic Bromide Cluster \(HBCD\)](https://www.epa.gov/sites/default/files/2020-09/documents/1_risk_evaluation_for_cyclic_aliphatic_bromide_cluster_hbcd_casrn25637-99-4_casrn_3194-5_casrn_3194-57-8.pdf)
(https://www.epa.gov/sites/default/files/2020-09/documents/1_risk_evaluation_for_cyclic_aliphatic_bromide_cluster_hbcd_casrn25637-99-4_casrn_3194-5_casrn_3194-57-8.pdf)

[EPA | Nontechnical Summary of the Risk Evaluation for Cyclic Aliphatic Bromide Cluster \(HBCD\) \(PDF\)](https://www.epa.gov/system/files/documents/2022-06/non_tech_summary_HBCD_6_22_22.pdf)
(https://www.epa.gov/system/files/documents/2022-06/non_tech_summary_HBCD_6_22_22.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>)

HEXABROMOCYCLODODECANE (HBCD)

[EPA | Hexabromocyclodecane \(HBCD\) \(PDF\) \(https://www.epa.gov/sites/default/files/2015-09/documents/rin2070-az10_hbcd_action_plan_final_2010-08-09.pdf\)](https://www.epa.gov/sites/default/files/2015-09/documents/rin2070-az10_hbcd_action_plan_final_2010-08-09.pdf)

[EPA | Addition of Hexabromocyclododecane \(HBCD\) Category to TRI List Final Rule \(https://www.epa.gov/toxics-release-inventory-tri-program/addition-hexabromocyclododecane-hbcd-category-tri-list-final\)](https://www.epa.gov/toxics-release-inventory-tri-program/addition-hexabromocyclododecane-hbcd-category-tri-list-final)

Minnesota Department of Health

[Toxic Free Kids Program](#)

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To obtain this information in a different format, call: 651-201-4899.