

DBDPE Screening Profile

Decabromodiphenyl ethane (DBDPE) is a contaminant that has not been detected in potential drinking water sources in Minnesota. The information in this profile was collected for the screening process of the Minnesota Department of Health's Contaminants of Emerging Concern (CEC) program in January 2017. The chemicals nominated to the CEC program are screened and ranked based on their toxicity and presence in Minnesota waters. Based on these rankings, some chemicals are selected for a full review. DBDPE has not yet been selected for a full review.

DBDPE Uses

DBDPE is a chemical used as a flame retardant in products like consumer electronics, wire and cable coatings, and insulation foams. DBDPE has been used since the mid-1980s.

DBDPE in the Environment

DBDPE has been detected in air, household dust, sediment, sludge, soil, human blood, and biota around the world. DBDPE enters the environment mainly through disposal of industrial waste, discharge from wastewater plants, and application of wastewater sludge to land. DBDPE does not easily break down in the environment or in water. DBDPE has a high potential to build up in tissues of fish and other wildlife.¹ DBDPE is not currently being monitored for in Minnesota waters.

Exposure to DBDPE

Because DBDPE accumulates in living organisms and is sometimes present in sludge applied to land, people may be exposed to DBDPE through their diet. Contact with house dust, including inhalation and ingestion, is another possible route of exposure.²



Potential Health Effects

Based on what is known about a similar chemical called decabromodiphenyl ether (decaBDE), it is predicted DBDPE may cause liver or thyroid cancer and neurodevelopmental problems.³ Animal studies suggest that very high exposure to DBDPE can also cause non-cancer effects in the liver and may affect thyroid hormones; EPA ranks these effects as low hazard.³

Based on the screening assessment, a full review of DBDPE may be possible. However, it is likely to rank lower than other nominated CEC chemicals at this time.

References

1. ICL Industrial Products. 2013. [Health, Environmental and Regulatory Profile: FRI-1410: Decabromodiphenyl ethane \(CAS No. 84852-53-9\) \(http://icl-ip.com/wp-content/uploads/2013/02/FACT-SHEET-FR-1410.pdf\)](http://icl-ip.com/wp-content/uploads/2013/02/FACT-SHEET-FR-1410.pdf).
2. Stapleton, H. M., et al. (2008). Alternate and new brominated flame retardants detected in US house dust. *Environmental Science & Technology*, 42(18), 6910-6916.
3. U.S. Environmental Protection Agency. 2014. [An Alternatives Assessment for the Flame Retardant Decabromodiphenyl Ether \(DecaBDE\) \(https://www.epa.gov/sites/production/files/2014-05/documents/decabde_final.pdf\)](https://www.epa.gov/sites/production/files/2014-05/documents/decabde_final.pdf).

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