

1,4-Dioxane

Why am I being warned about potential exposure to 1,4-dioxane?



- 1,4-Dioxane is on the [Proposition 65](#) list for cancer.
- California's Proposition 65 requires [businesses](#) to warn people before exposing them to a significant amount of a [chemical](#) listed under Proposition 65 for cancer or [reproductive toxicity](#).

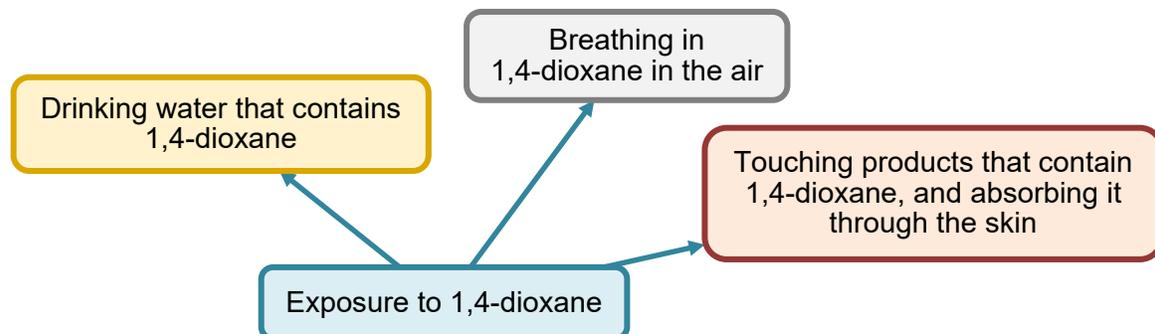
What is 1,4-dioxane?

- 1,4-Dioxane is a chemical used to make some paints, varnishes, and adhesives, and is in some household cleaning and personal care products, in the form of a manufacturing byproduct.

Where can 1,4-dioxane be found?

- 1,4-Dioxane is a contaminant in some household cleaning and personal care products such as dish soap, dishwasher and laundry detergent, shampoo, and body wash.
 - ▶ 1,4-Dioxane is not intentionally added to these products but is formed during the manufacture of ethoxylated surfactants (chemicals commonly found in household cleaning and personal care products).
 - ▶ 1,4-Dioxane has been found in some drinking water. California monitors the amount of 1,4-dioxane in publicly supplied drinking water.

Some ways you can be exposed to 1,4-dioxane:



- During pregnancy, 1,4-dioxane can pass from mother to baby.

How can I reduce my exposure to 1,4-dioxane?

- ✓ Before buying household cleaning and personal care products, check product labels for ingredients whose names contain or end with the following: polyethylene, polyethylene glycol, PEG, polyethoxyethylene, -eth, or -oxynol. Products with these ingredients may contain 1,4-dioxane as a byproduct.
- ✓ Contact your water supplier if you have questions or concerns about the possible presence of 1,4-dioxane in your drinking water.

For more information:

General Fact Sheets and Resources

- California Environmental Protection Agency (CalEPA)
Department of Toxic Substances Control (DTSC)
 - ▶ 1,4-Dioxane in Personal Care and Cleaning Products
<https://dtsc.ca.gov/scp/1-4-dioxane/>
- US Food and Drug Administration (FDA)
 - ▶ 1,4-Dioxane in Cosmetics: A Manufacturing Byproduct
<https://www.fda.gov/cosmetics/potential-contaminants-cosmetics/14-dioxane-cosmetics-manufacturing-byproduct>

Scientific Information on 1,4-Dioxane

- California Environmental Protection Agency (CalEPA)
State Water Resources Control Board (SWRCB)
 - ▶ 1,4-Dioxane
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/14-Dioxane.html
- US Department of Health and Human Services (HHS)
National Toxicology Program (NTP)
 - ▶ Report on Carcinogens. 1,4-Dioxane
<https://ntp.niehs.nih.gov/ntp/roc/content/profiles/dioxane.pdf>
- US Environmental Protection Agency (US EPA)
 - ▶ Technical Fact Sheet – 1,4-Dioxane
https://19january2021snapshot.epa.gov/sites/static/files/documents/technical_fact_sheet_14-dioxane_2013.pdf
 - ▶ Risk Evaluation for 1,4-Dioxane
<https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-evaluation-14-dioxane>
- World Health Organization (WHO)
International Agency for Research on Cancer (IARC)
 - ▶ “Mineral Oils, Untreated or Mildly Treated” section in Re-evaluation of Some Organic Chemicals, Hydrazine and Hydrogen Peroxide (Part 1, Part 2, Part 3) (1999), vol. 71F, pages 589-602.
<https://publications.iarc.fr/89>

Proposition 65

- California Environmental Protection Agency (CalEPA)
Office of Environmental Health Hazard Assessment (OEHHA)
 - ▶ Proposition 65: Background
<https://www.p65warnings.ca.gov/faq>
 - ▶ Proposition 65: The List of Chemicals
<https://www.p65warnings.ca.gov/chemicals>
 - ▶ Proposition 65: Fact Sheets
<https://www.p65warnings.ca.gov/fact-sheets>