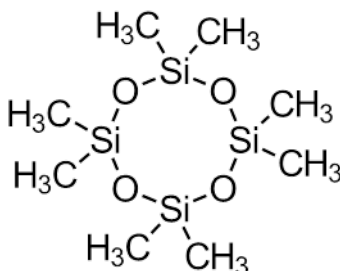


Octamethylcyclotetrasiloxane (D4)

$C_8H_{24}O_4Si_4$



Summary of Health Effects

Octamethylcyclotetrasiloxane (D4) can interfere with the body's hormones. In animals, it can affect the reproductive system.

How is D4 used?

D4 is a high production volume chemical¹ and is often used in personal care products and sunscreens.²

Toxicity: What are its health effects?

D4 is classified as a category 1 endocrine disruptor by the European Commission.^{3,4} A 2018 study commissioned by the Danish EPA identified D4 as an endocrine disruptor.⁵ The Global Harmonized System Label Requirements classified D4 as suspected to produce reproductive toxicity.⁶ D4 was added to the Toxic Substances Control Act work plan due to reproductive toxicity, moderate environmental persistence, and high bioaccumulation potential.⁷

Adverse reproductive effects including estrogenic effects have been observed in rodents.⁸⁻¹⁴ The European Chemicals Agency characterized D4 as a persistent, bioaccumulative, and toxic chemical, and designated D4 as a Substance of Very High Concern.¹⁵

Exposure: How can a person come in contact with it?

A person can come in contact with D4 from skin contact with consumer products, eating contaminated food, drinking contaminated water, or by breathing it in.¹⁶

The Danish Environmental Protection Agency detected D4 in perfume, toys, and children's cosmetics and articles.² D4 has been detected in fish, sediment, indoor dust and air, outdoor air, and drinking and surface water.¹⁶ Biomonitoring studies have also detected D4 in the blood of Norwegian and German adults.^{17,18}

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