



## Titanium Dioxide (Airborne, Unbound Particles of Respirable Size)

**Why am I being warned about potential exposure to titanium dioxide (airborne, unbound particles of respirable size)?**



- The International Agency for Research on Cancer found titanium dioxide is “possibly carcinogenic to humans” based on evidence of carcinogenicity in studies in animals inhaling respirable titanium dioxide.
- 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 titanium dioxide?**

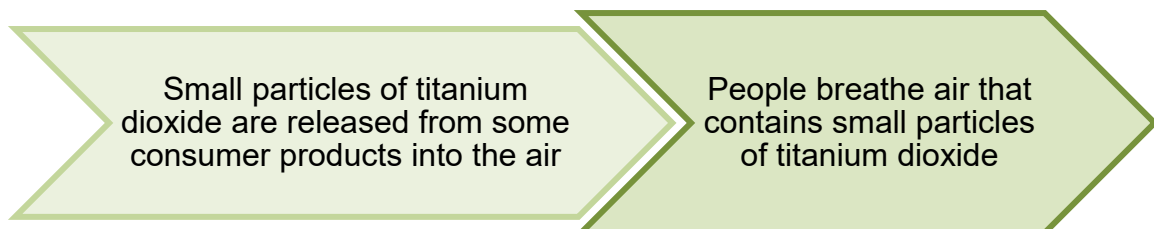
Titanium dioxide is a chemical used as a pigment to make products appear white or non-transparent. These include some sunscreens, cosmetics, and art products.

### **What form of titanium dioxide am I being warned about?**

- Not all forms of titanium dioxide are on the Proposition 65 list.
- The only form of titanium dioxide on the Proposition 65 list consists of airborne particles measuring 10 micrometers or less (about one-seventh the thickness of a human hair), which can be inhaled. These microscopic particles may be present in certain products such as:
  - ▶ Some spray-on (aerosolized) sunscreens, hair color sprays, and cosmetic powders.
  - ▶ Powdered titanium dioxide, used to make materials for arts and crafts.

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### **How does exposure to this form of titanium dioxide occur?**



**How can I reduce my exposure to this form of titanium dioxide?**

- ✓ Use sunscreen to protect your skin from damaging sunlight, but avoid spray-on sunscreens that contain titanium dioxide.
- ✓ Avoid or minimize the use of hair color sprays containing titanium dioxide.
  - ▶ If you choose to use spray-on sunscreens or hair color sprays with titanium dioxide, try to apply them outside, rather than in an enclosed space.
  - ▶ Supervise children's use of these products to prevent excessive or playful spraying of the products.
- ✓ Choose cosmetic powders that are free of titanium dioxide. If you use powdered products with titanium dioxide, apply the products carefully to minimize the amount that gets into the air. For example, avoid dusting vigorously with a makeup brush. Supervise any use of these products by children.
- ✓ When using art materials containing titanium dioxide, avoid actions that can unnecessarily release the materials into the air, especially indoors. For example, if it is necessary to shake out a table covering or garment after using these art materials, do so outdoors.

**For more information:****General Fact Sheets and Resources**

- California Department of Public Health (CDPH)
  - ▶ California Safe Cosmetics Program Product Database  
<https://cscsearch.cdph.ca.gov/search/publicsearch>
  - ▶ Hazardous Ingredients in Personal Care Products – Data Reported to the California Safe Cosmetics Program 2009-2022  
<https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/CSCP/CDPH%20Document%20Library/DataReport2023.pdf>

**Scientific Information on Titanium Dioxide**

- World Health Organization (WHO)  
International Agency for Research on Cancer (IARC)
  - ▶ “Titanium Dioxide” in Carbon Black, Titanium Dioxide, and Talc (2010), vol. 93, pages 193-276.  
<https://publications.iarc.fr/111>

**Proposition 65**

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