CAS 50-00-0
Formaldehyde
CH$_2$O

VERMONT
DEPARTMENT OF HEALTH

$$O=CH2$$

Summary of Health Effects

Formaldehyde can irritate the eyes, nose and throat and has been linked to some types of cancers in humans.

How is formaldehyde used?

Formaldehyde is most extensively used in the production of resins, which may be used in furniture and wood products, as well as in the textile, leather, rubber and cement industries.[1]

Formaldehyde is also used as an antimicrobial agent in cosmetics such as shampoos, hair grooming aids, and nail hardeners.[2]

Toxicity: What are its health effects?

Formaldehyde is a known carcinogen.[1,3] Formaldehyde is included on California's Proposition 65 list as a carcinogen.[3]

Inhalation of formaldehyde may cause eye, nose and throat irritation.[4] Occupational exposure studies have found significant associations between formaldehyde exposure and lung and nasopharyngeal cancer.[1]

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

A person can come in contact with formaldehyde by breathing it in or from skin contact.

Formaldehyde has been detected in both indoor air and outdoor air.[3] Higher levels of formaldehyde have been detected in indoor air due to its release from consumer products and home furnishings.[4]

Formaldehyde may be released into outdoor air from car exhaust, cigarettes and burning treated wood.[5]

Exposure to formaldehyde may occur when handling consumer products that use formaldehyde as an antimicrobial agent.[6]

Formaldehyde has been identified in the Environmental Protection Agency Urban Air Toxics Strategy as one of 33 hazardous air pollutants that present the greatest threat to public health in urban areas.[7]

The 2014 National Health and Nutrition Examination Survey (NHANES) report did not include data for formaldehyde.

References

1. World Health Organization, International Agency for Research on Cancer (2006). *IARC Monograph on the evaluation of carcinogenic risks to humans, volume 8: Formaldehyde, 2-butoxyethanol and 1-tert-butoxypropan-2-ol.* Retrieved from monographs.iarc.fr/wp-content/uploads/2018/06/mono88.pdf

2. Boyer, I.J., Heldreth, B., Bergfeld, W.F., Belsito, D.V., Hill, R.A., Klaassen, C.D., Liebler, D.C. Andersen, F.A. (2013). Amended safety assessment of formaldehyde and methylene glycol as used in cosmetics. *International Journal of Toxicology*, 32(4), 55-325. Retrieved from www.ncbi.nlm.nih.gov/pubmed/24335968

3. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment. *List of chemicals known to the state to cause cancer or reproductive toxicity*. Retrieved May 25, 2018, from oehha.ca.gov/proposition-65/proposition-65-list

4. U.S. Environmental Protection Agency, Technology Transfer Network (2000). *Hazard summary for formaldehyde*. Retrieved from www.epa.gov/sites/production/files/2016-09/documents/formaldehyde.pdf

5. U.S. Consumer Product Safety Commission (2013). *An update on formaldehyde*. Retrieved from www.cpsc.gov/PageFiles/121919/AN%20UPDATE%20ON%20FORMALDEHYDE%20final%200113.pdf

6. U.S. Department of Health and Human Services, National Toxicology Program (2014). *Report on carcinogens, thirteenth edition*. Retrieved from ntp.niehs.nih.gov/ntp/roc/content/profiles/formaldehyde.pdf

7. U.S. Environmental Protection Agency (1999). *Integrated Risk Information System (IRIS) on formaldehyde*. National Center for Environmental Protection Assessment, Office of Research and Development, Washington DC. Retrieved from cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance_nmbr=419

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