

Dibenzofuran

DIBENZOFURAN

132-64-9

Hazard Summary

Exposure to dibenzofuran may occur from inhalation of contaminated air, or ingesting contaminated drinking water or food. No information is available on the acute (short-term), chronic (long-term), reproductive, developmental, and carcinogenic effects of dibenzofuran in humans or animals. Health effects information is available on the polychlorinated dibenzofurans; however, the U.S. Environmental Protection Agency (EPA) has noted that the biological activity of various chlorinated dibenzofurans varies greatly, thus, risk assessment by analogy to any of these more widely studied compounds would not be recommended. EPA has classified dibenzofuran as a Group D, not classifiable as to human carcinogenicity.

Please Note: The main sources of information for this fact sheet are EPA's Health Assessment Document for Dibenzofuran (2) and the Hazardous Substances Data Bank (HSDB), a database of summaries of peer-reviewed literature. (1)

Uses

- No information was located regarding the uses of dibenzofuran.

Sources and Potential Exposure

- Occupational exposure may occur through inhalation and dermal contact, particularly at sites engaged in combustion/carbonization processes, such as coal tar and coal gasification operations. (1)
- Dibenzofuran is released to the ambient air from combustion sources. It may be found in coke dust, grate ash, fly ash, and flame soot. The general public may be exposed to dibenzofuran through the inhalation of contaminated air or through the consumption of contaminated drinking water or food. (1,2)
- Dibenzofuran has been identified in tobacco smoke. (1)
- Dibenzofuran has been listed as a pollutant of concern to EPA's Great Waters Program due to its persistence in the environment, potential to bioaccumulate, and toxicity to humans and the environment. (3)

Assessing Personal Exposure

- No information was located regarding the measurement of personal exposure to dibenzofuran.

Health Hazard Information

Acute Effects:

- No information is available on the acute effects of dibenzofuran in humans or animals.

Chronic Effects (Noncancer):

- No information is available on the chronic effects of dibenzofuran in humans or animals.
- EPA has not established a Reference Concentration (RfC) or a Reference Dose (RfD) for dibenzofuran. (4)

Reproductive/Developmental Effects:

- No information is available on the reproductive or developmental effects of dibenzofuran in humans or animals.

Cancer Risk:

- No information is available on the carcinogenic effects of dibenzofuran in humans or animals.
- EPA has classified dibenzofuran as a Group D, not classifiable as to human carcinogenicity. (2,4)

Physical Properties

- Dibenzofuran is a polynuclear aromatic compound with a molecular weight of 168.20 g/mol. (2)
- Dibenzofuran occurs as white crystals or crystalline solid that has a solubility in water of about 3 mg/L at 25 °C. (1,2)
- The odor threshold for dibenzofuran is about 1 milligram per cubic meter (mg/m^3). (1)
- The vapor pressure for dibenzofuran is 0.0175 mm Hg at 25 °C, and its log octanol/water partition coefficient ($\log K_{ow}$) varies between 3.18 and 4.12. (2)

Note: There are very few health numbers or regulatory/advisory numbers for dibenzofuran; thus, a graph has not been prepared for this compound. The information cited in this fact sheet was obtained in December 1999.

Conversion Factors:

To convert concentrations in air (at 25 °C) from ppm to mg/m^3 : $\text{mg}/\text{m}^3 = (\text{ppm}) \times (\text{molecular weight of the compound}) / (24.45)$. For dibenzofuran: 1 ppm = 6.88 mg/m^3 .

References

Summary created in April 1992, updated January 2000

1. U.S. Department of Health and Human Services. Hazardous Substances Data Bank (HSDB, online database). National Toxicology Information Program, National Library of Medicine, Bethesda, MD. 1993.
2. U.S. Environmental Protection Agency. Health Effects Assessment for Dibenzofuran. EPA/600/8-88/026. Environmental Criteria and Assessment Office, Office of Health and Environmental Assessment, Office of Research and Development, Cincinnati, OH. 1988.
3. U.S. Environmental Protection Agency. Deposition of Air Pollutants to the Great Waters. First Report to Congress. EPA-453/R-93-055. Office of Air Quality Planning and Standards, Research Triangle Park, NC. 1994.
4. U.S. Environmental Protection Agency. [Integrated Risk Information System \(IRIS\) on Dibenzofuran](#). National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999.