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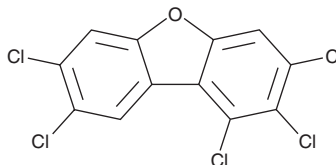
PRODUCT INFORMATION



1,2,3,7,8-Pentachlorodibenzofuran

Item No. 38625

CAS Registry No.: 57117-41-6
Synonyms: PCDF 94, 1,2,3,7,8-PeCDF
MF: $C_{12}H_3Cl_5O$
FW: 340.4
Purity: $\geq 98\%$
Supplied as: A solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1,2,3,7,8-Pentachlorodibenzofuran is supplied as a solid. A stock solution may be made by dissolving the 1,2,3,7,8-pentachlorodibenzofuran in the solvent of choice, which should be purged with an inert gas. 1,2,3,7,8-Pentachlorodibenzofuran is slightly soluble in chloroform and very slightly soluble in ethyl acetate.

Description

1,2,3,7,8-Pentachlorodibenzofuran is a dioxin-like polychlorinated dibenzofuran (PCDF). It induces expression of the genes encoding aryl hydrocarbon hydroxylase (AHH) and ethoxyresorufin-O-deethylase (EROD) in H-4-II-E rat hepatoma cells ($EC_{50}s = 2.54$ and 3.06 nM, respectively).¹ 1,2,3,7,8-Pentachlorodibenzofuran has been found in the soil near municipal waste incinerators and in freshwater fish.^{2,3} It accumulates in the liver, fat, and skin in mice when administered at a dose of 30 ng/kg per day.⁴ 1,2,3,7,8-Pentachlorodibenzofuran (100, 150, and 200 $\mu g/kg$) decreases maternal weight and increases the percentage of mouse fetuses with cleft palates or hydronephrosis in pregnant dams.⁵

References

1. Bandiera, S., Sawyer, T., Romkes, M., *et al.* Polychlorinated dibenzofurans (PCDFs): Effects of structure on binding to the 2,3,7,8-TCDD cytosolic receptor protein, AHH induction and toxicity. *Toxicology* **32(2)**, 131-144 (1984).
2. Harnly, M., Stephens, R., McLaughlin, C., *et al.* Polychlorinated dibenzo-*p*-dioxin and dibenzofuran contamination at metal recovery facilities, open burn sites, and a railroad car incineration facility. *Environ. Sci. Technol.* **29(3)**, 667-684 (1995).
3. Zacharewski, T., Safe, L., Safe, S., *et al.* Comparative analysis of polychlorinated dibenzo-*p*-dioxin and dibenzofuran congeners in Great Lakes fish extracts by gas chromatography-mass spectrometry and in-vitro enzyme induction activities. *Environ. Sci. Technol.* **23**, 730-735 (1989).
4. DeVito, M.J., Ross, D.G., Dupuy, A.E., Jr., *et al.* Dose-response relationships for disposition and hepatic sequestration of polyhalogenated dibenzo-*p*-dioxins, dibenzofurans, and biphenyls following subchronic treatment in mice. *Toxicol. Sci.* **46(2)**, 223-234 (1998).
5. Birnbaum, L.S., Harris, M.W., Barnhart, E.R., *et al.* Teratogenicity of three polychlorinated dibenzofurans in C57BL/6N mice. *Toxicol. Appl. Pharmacol.* **90(2)**, 206-216 (1987).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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