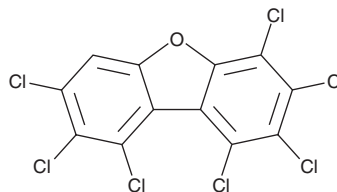


PRODUCT INFORMATION

1,2,3,4,7,8,9-Heptachlorodibenzofuran

Item No. 38618

CAS Registry No.: 55673-89-7
 Synonyms: 1,2,3,4,7,8,9-HpCDF, PCDF 134
 MF: $C_{12}HCl_7O$
 FW: 409.3
 Purity: $\geq 95\%$
 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

1,2,3,4,7,8,9-Heptachlorodibenzofuran is supplied as a solid. A stock solution may be made by dissolving the 1,2,3,4,7,8,9-heptachlorodibenzofuran in the solvent of choice, which should be purged with an inert gas. 1,2,3,4,7,8,9-Heptachlorodibenzofuran is slightly soluble in chloroform.

Description

1,2,3,4,7,8,9-Heptachlorodibenzofuran is a dioxin-like polychlorinated dibenzofuran (PCDF).¹ It induces the expression of the genes encoding the cytochrome P450 (CYP) isoforms CYP1A1 and CYP1B1, as well as the aryl hydrocarbon receptor repressor (AhRR) in primary human peripheral blood lymphocytes and increases ethoxyresorufin-O-deethylase (EROD) activity, a marker of CYP1A1 activity, in isolated human peripheral blood lymphocytes in a concentration-dependent manner. 1,2,3,4,7,8,9-Heptachlorodibenzofuran decreases the number of splenic plaque-forming cells, indicating immunosuppression, and increases hepatic microsomal aryl hydrocarbon hydroxylase (AHH) activity in mice induced with sheep red blood cells ($ED_{50} = 12$ and 700 nmol/kg, respectively).² It has been found in human breastmilk and in the air near municipal waste incinerators.^{3,4}

References

1. van Ede, K.I., Gaisch, K.P.J., van den Berg, M., *et al.* Differential relative effect potencies of some dioxin-like compounds in human peripheral blood lymphocytes and murine splenic cells. *Toxicol. Lett.* **226(1)**, 43-52 (2014).
2. Dickerson, R., Howie, L., Davis, D., *et al.* The structure-dependent effects of heptachlorodibenzofuran isomers in male C57BL/6 mice: Immunotoxicity and monooxygenase enzyme induction. *Fundam. Appl. Toxicol.* **15(2)**, 298-307 (1990).
3. Tawara, K., Nishijo, M., Honda, R., *et al.* Effects of maternal dioxin exposure on newborn size at birth among Japanese mother-infant pairs. *Environ. Health Prev. Med.* **14(2)**, 88-95 (2009).
4. Hu, S.-W., ChangChien, G.-P., and Chan, C.-C. PCDD/Fs levels in indoor environments and blood of workers of three municipal waste incinerators in Taiwan. *Chemosphere* **55(4)**, 611-620 (2004).

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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