

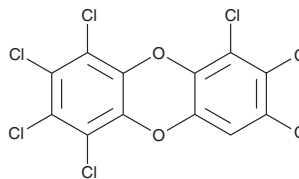
# PRODUCT INFORMATION



## 1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin

Item No. 38597

**CAS Registry No.:** 35822-46-9  
**Formal Name:** 1,2,3,4,6,7,8-heptachloro-dibenzo[b,e][1,4]dioxin  
**Synonyms:** 1,2,3,4,6,7,8-HpCDD, PCDD 73, Polychlorinated Dibenzodioxin 73  
**MF:** C<sub>12</sub>HCl<sub>7</sub>O<sub>2</sub>  
**FW:** 425.3  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (1,2,3,4,6,7,8-HpCDD) is supplied as a solid. A stock solution may be made by dissolving the 1,2,3,4,6,7,8-HpCDD in the solvent of choice, which should be purged with an inert gas. 1,2,3,4,6,7,8-HpCDD is slightly soluble in dimethyl formamide (warmed).

### Description

1,2,3,4,6,7,8-HpCDD is a polychlorinated dibenzodioxin (PCDD).<sup>1</sup> 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. 1,2,3,4,6,7,8-HpCDD (100 µg/kg) decreases the production of antibodies against sheep red blood cells in mice.<sup>2</sup> Chronic administration of 1,2,3,4,6,7,8-HpCDD decreases the time to death and increases lung and liver tumorigenesis in rats.<sup>3</sup> 1,2,3,4,6,7,8-HpCDD has been found in freshwater fish, human breastmilk, and in the air near municipal waste incinerators.<sup>4-6</sup>

### References

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3. Rozman, K.K., Lebofsky, M., and Pinson, D.M. Chronic toxicity and carcinogenicity of 1,2,3,4,6,7,8-heptachlorodibenzo-*p*-dioxin displays a distinct dose/time toxicity threshold ( $c \times t = k$ ) and a life-prolonging subthreshold effect. *Food Chem. Toxicol.* **43(5)**, 729-740 (2005).
4. 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(6)**, 730-735 (1989).
5. Takekuma, M., Saito, K., Ogawa, M., *et al.* Levels of PCDDs, PCDFs and Co-PCBs in human milk in Saitama, Japan, and epidemiological research. *Chemosphere* **54(1)**, 127-135 (2004).
6. 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.

#### WARRANTY AND LIMITATION OF REMEDY

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