

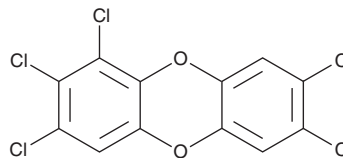
PRODUCT INFORMATION



1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin

Item No. 38599

CAS Registry No.: 40321-76-4
Formal Name: 1,2,3,7,8-pentachloro-dibenzo[b,e][1,4]dioxin
Synonyms: PCDD 54, 1,2,3,7,8-PeCDD
MF: C₁₂H₃Cl₅O₂
FW: 356.4
Purity: ≥98%
Supplied as: A solution in n-nonane
Storage: Room temperature
Stability: ≥4 years



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

Description

1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin is a polychlorinated dibenzodioxin (PCDD).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 ethoxresorufin-O-deethylase (EROD) activity, a marker of CYP1A1 activity, in isolated human peripheral blood lymphocytes in a concentration-dependent manner. 1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin is toxic to female Han/Wistar rats with an LD₅₀ value between 20 and 60 µg/kg, but is not toxic to female Long-Evans rats (LD₅₀ = >1,620 µg/kg).² It has been found in freshwater fish and animal feed, as well as in the air near municipal waste incinerators and in blood from individuals that lived near or in herbicide-sprayed regions.³⁻⁶

References

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4. Pajurek, M., Warenik-Bany, M., and Mikołajczyk, S. Feed as a source of dioxins and PCBs. *Chemosphere* **308**(Pt 1), 136243 (2022).
5. 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).
6. Vu, T.S., Nishijo, M., Nishino, Y., *et al.* Polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans in blood samples from historically herbicide-sprayed areas and rural and industrialized unsprayed areas in Vietnam. *Chemosphere* **326**, 138331 (2023).

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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