



# SZABO SCANDIC

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## Produktinformation



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- Expressversand

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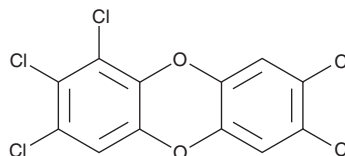
# PRODUCT INFORMATION



## 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:** C<sub>12</sub>H<sub>3</sub>Cl<sub>5</sub>O<sub>2</sub>  
**FW:** 356.4  
**Purity:** ≥98%  
**Supplied as:** A solution in n-nonane  
**Storage:** -20°C  
**Stability:** ≥2 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).<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. 1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin is toxic to female Han/Wistar rats with an LD<sub>50</sub> value between 20 and 60 µg/kg, but is not toxic to female Long-Evans rats (LD<sub>50</sub> = >1,620 µg/kg).<sup>2</sup> 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.<sup>3-6</sup>

### 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. Pohjanvirta, R., Unkila, M., and Tuomisto, J. Comparative acute lethality of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD), 1,2,3,7,8-pentachlorodibenzo-*p*-dioxin and 1,2,3,4,7,8-hexachlorodibenzo-*p*-dioxin in the most TCDD-susceptible and the most TCDD-resistant rat strain. *Pharmacol. Toxicol.* **73(1)**, 52-56 (1993).
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(6)**, 730-735 (1989).
4. Pajurek, M., Warenik-Bany, M., and Mikolajczyk, 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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