



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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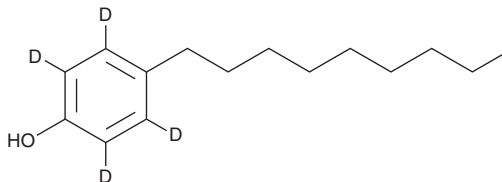
# PRODUCT INFORMATION



## 4-Nonylphenol-2,3,5,6-d<sub>4</sub>

Item No. 39497

**CAS Registry No.:** 1173019-62-9  
**Formal Name:** 4-nonyl-phen-2,3,4,5-d<sub>4</sub>-ol  
**Synonyms:** 4-NP-2,3,5,6-d<sub>4</sub>, NPH-2,3,5,6-d<sub>4</sub>  
**MF:** C<sub>15</sub>H<sub>20</sub>D<sub>4</sub>O  
**FW:** 224.4  
**Chemical Purity:** ≥95% (4-nonylphenol)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A low melting 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

4-Nonylphenol-2,3,5,6-d<sub>4</sub> is intended for use as an internal standard for the quantification of 4-nonylphenol by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

4-Nonylphenol-2,3,5,6-d<sub>4</sub> is supplied as a low melting solid. A stock solution may be made by dissolving the 4-nonylphenol-2,3,5,6-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. 4-Nonylphenol-2,3,5,6-d<sub>4</sub> is slightly soluble in chloroform and methanol.

### Description

4-Nonylphenol is a degradation product of the nonionic surfactant nonylphenol ethoxylate and an endocrine disruptor.<sup>1</sup> It induces estrogen receptor  $\alpha$  (ER $\alpha$ ) reporter gene expression in MCF-7 cells expressing the human receptor when used at a concentration of 100 nM.<sup>2</sup> 4-Nonylphenol (20  $\mu$ M) decreases triglyceride accumulation and reduces expression of the adipogenesis marker genes *Ppar $\gamma$ 1*, *Ppar $\gamma$ 2*, *Cebpa*, *Cebp $\beta$* , and *Fabp4* in differentiated 3T3-L1 adipocytes but promotes triglyceride accumulation and adipogenesis in C3H/10T1/2 mesenchymal stem cells (MSCs).<sup>3</sup> It has been found as a contaminant in food and rivers.<sup>1,3</sup>

### References

1. Dornelles, H.S., Motteran, F., Sakamoto, I.K., *et al.* 4-Nonylphenol degradation changes microbial community of scale-up Anaerobic Fluidized Bed Reactor. *J. Environ. Manage.* **267**, 110575 (2020).
2. Vivacqua, A., Recchia, A.G., Fasanella, G., *et al.* The food contaminants bisphenol A and 4-nonylphenol act as agonists for estrogen receptor alpha in MCF7 breast cancer cells. *Endocrine* **22(3)**, 275-284 (2003).
3. Zhang, Q., Wu, S., Xiao, Q., *et al.* Effects of 4-nonylphenol on adipogenesis in 3T3-L1 preadipocytes and C3H/10T1/2 mesenchymal stem cells. *J. Appl. Toxicol.* **42(4)**, 588-599 (2022).

#### 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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