



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

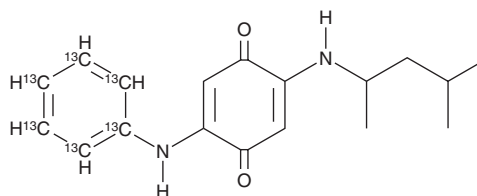
# PRODUCT INFORMATION



## $^{13}\text{C}_6$ -6-PPD-quinone

Item No. 40606

**Formal Name:** 2-[(1,3-dimethylbutyl)amino]-5-(phenyl- $^{13}\text{C}_6$ -amino)-2,5-cyclohexadiene-1,4-dione  
**Synonym:**  $^{13}\text{C}_6$ -6-PPDQ  
**FW:** 304.3  
**Purity:**  $\geq 98\%$   
**Supplied as:** A solid  
**Storage:**  $-20^\circ\text{C}$   
**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

$^{13}\text{C}_6$ -6-PPD-quinone is intended for use as an internal standard for the quantification of 6-PPD-quinone (Item No. 38247) by GC- or LC-MS.  $^{13}\text{C}_6$ -6-PPD-quinone is supplied as a solid. A stock solution may be made by dissolving the  $^{13}\text{C}_6$ -6-PPD-quinone in the solvent of choice, which should be purged with an inert gas.  $^{13}\text{C}_6$ -6-PPD-quinone is soluble ( $\geq 10$  mg/ml) in DMSO

### Description

6-PPD-quinone is an oxidized derivative of the tire antiozonant and substituted *p*-phenylenediamine 6-PPD (Item No. 38246).<sup>1</sup> It is toxic to rainbow trout (*O. mykiss*) and brook trout (*S. fontinalis*;  $\text{LC}_{50}\text{s} = 0.59$  and  $1.96$   $\mu\text{g}/\text{L}$ , respectively) but not to arctic char (*S. alpinus*) and white sturgeon (*A. transmontanus*;  $\text{LC}_{50}\text{s} = >12.7$   $\mu\text{g}/\text{L}$  for both). 6-PPD-quinone ( $10$   $\mu\text{g}/\text{L}$ ) induces cell death and germline DNA damage, as well as decreases the number of mitotic cells, in *C. elegans* gonads.<sup>2</sup> Urine levels of 6-PPD-quinone are increased in pregnant women compared to non-pregnant adults and children.<sup>3</sup>

### References

1. Brinkmann, M., Montgomery, D., Selinger, S., *et al.* Acute toxicity of the tire rubber-derived chemical 6PPD-quinone to four fishes of commercial, cultural, and ecological importance. *Environ. Sci. Tech. Lett.* **9**, 333-338 (2022).
2. Hua, X., Feng, X., Liang, G., *et al.* Long-term exposure to 6-PPD quinone reduces reproductive capacity by enhancing germline apoptosis associated with activation of both DNA damage and cell corpse engulfment in *Caenorhabditis elegans*. *J. Hazard. Mater.* **454**, 131495 (2023).
3. Du, B., Liang, B., Li, Y., *et al.* First report on the occurrence of N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine (6PPD) and 6PPD-quinone as pervasive pollutants in human urine from south China. *Environ. Sci. Tech. Lett.* **9**, 1056-1062 (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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM