

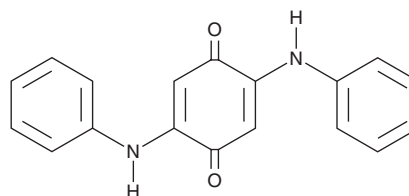
# PRODUCT INFORMATION



## DPPD-Q

Item No. 40826

**CAS Registry No.:** 3421-08-7  
**Formal Name:** 2,5-bis(phenylamino)-2,5-cyclohexadiene-1,4-dione  
**Synonyms:** C.I. 56000, 2,5-Dianilino-1,4-benzoquinone,  
2,5-Dianilino-*p*-benzoquinone,  
2,5-Dianilino-*para*-benzoquinone,  
N,N'-Diphenyl-1,4-phenylenediamine quinone,  
N,N'-Diphenyl-*p*-phenylenediamine quinone,  
N,N'-Diphenyl-*para*-phenylenediamine quinone,  
NSC 11397, NSC 46456



**MF:** C<sub>18</sub>H<sub>14</sub>N<sub>2</sub>O<sub>2</sub>  
**FW:** 290.3  
**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

DPPD-Q is supplied as a solid. A stock solution may be made by dissolving the DPPD-Q in the solvent of choice, which should be purged with an inert gas. DPPD-Q is soluble in trifluoroacetic acid.

### Description

DPPD-Q is an oxidized derivative of the antioxidant and substituted *p*-phenylenediamine DPPD.<sup>1-3</sup> It inhibits jack bean urease by 91.4% when used at a concentration of 5 μM.<sup>4</sup> DPPD-Q is less toxic to the aquatic bacterium *V. fischeri* than DPPD (EC<sub>50</sub> = 1.76 mg/ml).<sup>5</sup> It has been found in tire wear particles and crumb rubber, particulate matter 2.5 (PM<sub>2.5</sub>), and wastewater influent and effluent.<sup>1-3</sup>

### References

1. Zhao, H.N., Hu, X., Gonzalez, M., *et al.* Screening *p*-phenylenediamine antioxidants, their transformation products, and industrial chemical additives in crumb rubber and elastomeric consumer products. *Environ. Sci. Technol.* **57**(7), 2779-2791 (2023).
2. Wang, W., Cao, G., Zhang, J., *et al.* Beyond substituted *p*-phenylenediamine antioxidants: Prevalence of their quinone derivatives in PM<sub>2.5</sub>. *Environ. Sci. Technol.* **56**(15), 10629-10637 (2022).
3. Cao, G., Wang, W., Zhang, J., *et al.* Occurrence and fate of substituted *p*-phenylenediamine-derived quinones in Hong Kong wastewater treatment plants. *Environ. Sci. Technol.* **57**(41), 15635-15643 (2023).
4. Nain-Perez, A., Barbosa, L.C.A., Rodríguez-Hernández, D., *et al.* Antiureolytic activity of substituted 2,5-diaminobenzoquinones. *Chem. Biodivers.* **16**(12), e1900503 (2019).
5. Wang, W., Chen, Y., Fang, J., *et al.* Toxicity of substituted *p*-phenylenediamine antioxidants and their derived novel quinones on aquatic bacterium: Acute effects and mechanistic insights. *J. Hazard. Mater.* **469**:133900, (2024).

#### 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](http://WWW.CAYMANCHEM.COM)