

Product Data Sheet

Product Name: DPPD-Q
Cat. No.: GC91483

Chemical Properties

Cas. No. 3421-08-7

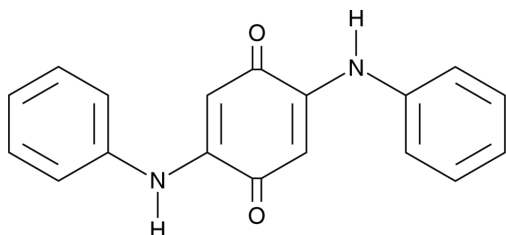
Formula $C_{18}H_{14}N_2O_2$ M.Wt 290.3

Solubility Trifluoroacetic acid: Soluble Storage $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

DPPD-Q is an oxidized derivative of the antioxidant and substituted *p*-phenylenediamine DPPD.^{1,2,3} It inhibits jack bean urease by 91.4% when used at a concentration of $5\text{ }\mu\text{M}$.^[4] DPPD-Q is less toxic to the aquatic bacterium *V. fischeri* than DPPD ($EC_{50} = 1.76\text{ mg/ml}$).^[5] It has been found in tire wear particles and crumb rubber, particulate matter 2.5 ($PM_{2.5}$), and wastewater influent and effluent.^{1,2,3}

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 $PM_{2.5}$. *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-

Caution: Product has not been fully validated for medical applications. For research use only.

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15643(2023).

[4].Nain-Perez, A., Barbosa, L.C.A., Rodríguez-Hernández, D., et al.Antiureolytic activity of substituted 2,5-diaminobenzoquinonesChem. 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 insightsJ. Hazard. Mater.469:133900(2024).

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