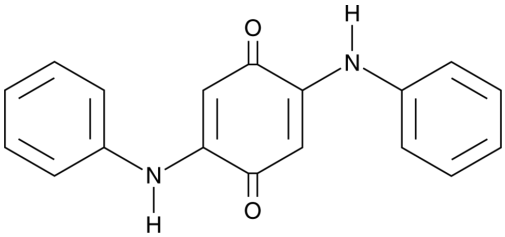
Product Data Sheet

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°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°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 μM.[4] DPPD-Q is less toxic to the aquatic bacterium *V. fischeri* than DPPD (EC_{50} = 1.76 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 productsEnviron. 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].5Environ. 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 plantsEnviron. 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-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).