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Produktinformation



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Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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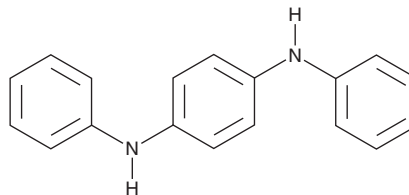
PRODUCT INFORMATION



N,N'-Diphenyl-1,4-phenylenediamine

Item No. 40727

CAS Registry No.: 74-31-7
Formal Name: N¹,N⁴-diphenyl-1,4-benzenediamine
Synonyms: N,N'-Diphenyl-*p*-phenylenediamine, DPPD, NSC 5761
MF: C₁₈H₁₆N₂
FW: 260.3
Purity: ≥98%
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

N,N'-Diphenyl-1,4-phenylenediamine (DPPD) is supplied as a solid. A stock solution may be made by dissolving the DPPD in the solvent of choice, which should be purged with an inert gas. DPPD is soluble (≥10 mg/ml) in DMSO and sparingly soluble (1-10 mg/ml) in ethanol.

Description

DPPD is a *p*-phenylenediamine and non-oxidized version of DPPD-Q (Item No. 40826). It is toxic to the aquatic bacterium *V. fischeri* (EC₅₀ = 0.02 mg/L).¹ DPPD (10 µg/L) reduces the viability of HepG2 hepatocellular carcinoma cells.² It decreases urinary protein levels and serum levels of bilirubin in male rats when administered at a dose of 100 mg/kg per day.³ DPPD (50 and 300 mg/kg per day) increases the time in gestation for female rats when administered to pregnant dams. It has been found in water treatment plant influent, biosolids, and landfill leachates, indoor dust, and in fine particulate matter 2.5 (PM_{2.5}) samples collected in cities and by roadsides.⁴⁻⁶

References

1. 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).
2. Guo, Z., Cheng, Z., Zhang, S., *et al.* Unexpected exposure risks to emerging aromatic amine antioxidants and *p*-phenylenediamine quinones to residents: Evidence from external and internal exposure as well as hepatotoxicity evaluation. *Environ. Health* (2024).
3. Matsumoto, M., Yamaguchi, M., Yoshida, Y., *et al.* An antioxidant, N,N'-diphenyl-*p*-phenylenediamine (DPPD), affects labor and delivery in rats: A 28-day repeated dose test and reproduction/developmental toxicity test. *Food Chem. Toxicol.* **56**, 290-296 (2013).
4. Zhang, Z.-F., Zhang, X., Zhang, X., *et al.* Diphenylamine antioxidants in wastewater influent, effluent, biosolids and landfill leachate: Contribution to environmental releases. *Water Res.* **189**, 116602 (2021).
5. Kopin, A.S., Wheeler, M.B., and Leiter, A.B. Secretin: Structure of the precursor and tissue distribution of the mRNA. *Proc. Natl. Acad. Sci. USA* **87**(6), 2299-2303 (1990).
6. 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).

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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