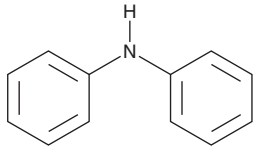
PRODUCT INFORMATION

Diphenylamine

Item No. 24250

CAS Registry No.:	122-39-4
Formal Name:	N-phenyl-benzenamine
Synonym:	NSC 215210
MF:	$C_{12}H_{11}N$
FW:	169.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 284 nm
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

Diphenylamine is supplied as a solid. A stock solution may be made by dissolving the diphenylamine in the solvent of choice, which should be purged with an inert gas. Diphenylamine is slightly soluble in chloroform and methanol.

Description

Diphenylamine is an antioxidant and a pesticide.[1] It inhibits the oxidation of α-farnesene in solution as well as in the coating of Granny Smith apples postharvest. Diphenylamine (1,000 ppm) prevents superficial scald in several varieties of apples when applied by dipping or wrapping postharvest.[2] It is active against various benomyl-resistant or -sensitive isolates of the plant pathogenic fungus *P. expansum* (EC_{50}s = <2-12.8 and 22.9-78.5 µg/ml, respectively).[3] Diphenylamine (0.25%) induces mortality in sheep keds (*M. ovinus*).[4] It has been found as a contaminant in various jellies and jams and seawater.[5,6] Formulations containing diphenylamine have been used in the control of fungi and insects in agriculture and in the preservation of postharvest apples from scald.

References

1. Huelin, F.E. and Coggiola, I.M. Superficial scald, a functional disorder of stored apples. V.—Oxidation of α-farnesene and its inhibition by diphenylamine. *J. Sci. Food Agric.* **21**, 44-48 (1970).
2. Padfield, C.A.S. The use of diphenylamine and other chemicals to control superficial scald of apples. *N.Z. J. Agr. Res.* **2(5)**, 953-970 (1959).
3. Rosenberger, D.A. and Meyer, F.W. Negatively Correlated Cross-Resistance to Diphenylamine in Benomyl-Resistant *Penicillium expansum*. *Phytopathology* **75(1)**, 74-79 (1985).
4. Webb, J.E. and Green, R.A. On the penetration of insecticides through the insect cuticle. *J. Exp. Biol.* **22**, 8-20 (1945).
5. Makni, Y., Diallo, T., Areskoug, F., *et al.* Optimisation and implementation of QuEChERS-based sample preparation for identification and semi-quantification of 694 targeted contaminants in honey, jam, jelly, and syrup by UHPLC-Q/ToF high-resolution mass spectrometry. *Food Chem.* **425**, 136448 (2023).
6. Wang, S., Wu, L., Wang, Z., *et al.* Occurrence, vertical distribution and transport of organic amine pesticides in the seawater from the east china sea and the south china sea. *Sci. Total Environ.* **860**, 160487 (2023).

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