

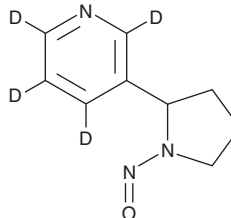
PRODUCT INFORMATION



N'-Nitrosonornicotine-d₄

Item No. 35604

CAS Registry No.: 66148-19-4
Formal Name: 5-(1-nitroso-2-pyrrolidinyl)-pyridine-2,3,4,6-d₄
Synonym: NNN-d₄
MF: C₉H₇D₄N₃O
FW: 181.2
Chemical Purity: ≥98% (N'-Nitrosonornicotine)
Deuterium
Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

N'-Nitrosonornicotine-d₄ is intended for use as an internal standard for the quantification of N'-nitrosonornicotine (Item No. 34120) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

N'-Nitrosonornicotine-d₄ is supplied as a solid. A stock solution may be made by dissolving the N'-nitrosonornicotine-d₄ in the solvent of choice, which should be purged with an inert gas. N'-Nitrosonornicotine-d₄ is slightly soluble in chloroform and methanol.

Description

N'-Nitrosonornicotine is a tobacco-specific N-nitrosamine and carcinogen that has been found in unburned tobacco and cigarette smoke.¹ It induces the formation of DNA adducts in isolated rat nasal mucosa and esophagus. N'-Nitrosonornicotine induces tumor formation in rat esophagus and nasal cavity, mouse lung, forestomach, and trachea, and hamster trachea and forebrain. Urinary levels of N'-nitrosonornicotine are positively correlated with the risk of esophageal cancer in smokers.²

References

1. Hecht, S.S. Biochemistry, biology, and carcinogenicity of tobacco-specific N-nitrosamines. *Chem. Res. Toxicol.* **11**(6), 559-603 (1998).
2. Yuan, J.-M., Knezevich, A.D., Wang, R., *et al.* Urinary levels of the tobacco-specific carcinogen N'-nitrosonornicotine and its glucuronide are strongly associated with esophageal cancer risk in smokers. *Carcinogenesis* **32**(9), 1366-1371 (2011).

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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