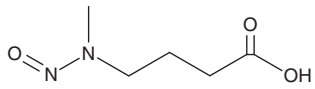
PRODUCT INFORMATION

N-Nitroso-N-methyl-4-Aminobutyric Acid

Item No. 30911

CAS Registry No.: 61445-55-4
Formal Name: 4-(methylnitrosoamino)-butanoic acid
Synonym: NMBA
MF: $C_5H_{10}N_2O_3$
FW: 146.1
Purity: ≥95%
UV/Vis.: λ_{max}: 231 nm
Supplied as: A neat oil
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-Nitroso-N-methyl-4-aminobutyric acid (NMBA) is supplied as a neat oil. A stock solution may be made by dissolving the NMBA in the solvent of choice, which should be purged with an inert gas. NMBA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of NMBA in these solvents is approximately 25, 20, and 30 mg/ml, respectively.

NMBA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NMBA should first be dissolved in DMF and then diluted with the aqueous buffer of choice. NMBA has a solubility of approximately 0.12 mg/ml in a 1:7 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

NMBA is a tobacco-specific nitrosamine carcinogen.[1] It is oxidized to the reactive metabolite methyl-2-oxopropylnitrosamine (MOPN) in isolated rat liver mitochondria.[2] NMBA induces bladder transitional cell carcinomas in rats when administered in the drinking water at a concentration of 300 mg/L per day.[3]

References

1. Djordjevic, M.V., Brunnemann, K.D., and Hoffmann, D. Identification and analysis of a nicotine-derived *N*-nitrosamino acid and other nitrosamino acids in tobacco. *Carcinogenesis* **10(9)**, 1725-1731 (1989).
2. Janzowski, C., Landsiedel, R., Gölzer, P., *et al.* Mitochondrial formation of *β*-oxopropyl metabolites from bladder carcinogenic *ω*-carboxyalkylnitrosamines. *Chem. Biol. Interact.* **90(1)**, 23-33 (1994).
3. Lijinsky, W., Reuber, M.D., Saavedra, J.E., *et al.* Carcinogenesis in F344 rats by *N*-nitrosomethyl-*n*-propylamine derivatives. *J. Natl. Cancer Inst.* **70(5)**, 959-963 (1983).

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