

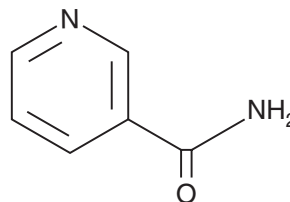
PRODUCT INFORMATION



Nicotinamide

Item No. 11127

CAS Registry No.: 98-92-0
Formal Name: 3-pyridinecarboxamide
Synonyms: Niacinamide, Nicotinic Acid Amide, NSC 13128, NSC 27452, Vitamin B₃ Amide
MF: C₆H₆N₂O
FW: 122.1
Purity: ≥98%
UV/Vis.: λ_{max}: 214, 262 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years
Item Origin: Synthetic



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

Laboratory Procedures

Nicotinamide is supplied as a crystalline solid. A stock solution may be made by dissolving the nicotinamide in the solvent of choice, which should be purged with an inert gas. Nicotinamide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of nicotinamide in ethanol is approximately 2.5 mg/ml and approximately 15 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of nicotinamide can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of nicotinamide in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Nicotinamide is an amide form of niacin, which is also known as vitamin B₃, that can be biosynthesized *in vivo* or obtained through the diet.¹ It is a precursor in the synthesis of the metabolic cofactor NAD⁺ and an inhibitor of sirtuin 1 (SIRT1; IC₅₀ = <50 μM).² Nicotinamide (10 μM) increases the activity of serine palmitoyltransferase (SPT) and the biosynthesis of ceramide, glucosylceramide, sphingomyelin, free fatty acids, and cholesterol in primary human keratinocytes.³ Nicotinamide (40 μM) induces apoptosis in SNU-398, SNU-739, and HepG2 hepatocellular carcinoma (HCC) cells, and it prevents the formation of neoplastic lesions in a diethylnitrosamine-induced mouse model of HCC.⁴ Unlike niacin, nicotinamide does not reduce plasma lipid levels or induce flushing.⁵⁻⁷

References

1. Li, F., Chong, Z.Z., and Maiese, K. *Curr. Med. Chem.* **13**(8), 883-895 (2006).
2. Bitterman, K.J., Anderson, R.M., Cohen, H.Y., et al. *J. Biol. Chem.* **277**(47), 45099-45107 (2002).
3. Tanno, O., Ota, Y., Kitamura, N., et al. *Br. J. Dermatol.* **143**(3), 524-531 (2000).
4. Park, S.Y., Lee, K.B., Lee, M.-J., et al. *J. Cell. Physiol.* **227**(3), 899-908 (2012).
5. Lukasova, M., Hanson, J., Tunaru, S., et al. *Trends Pharmacol. Sci.* **32**(12), 700-707 (2011).
6. Bodor, E.T. and Offermanns, S. *Br. J. Pharmacol.* **153**(Suppl 1), S68-S75 (2008).
7. Haining, C.G. *Br. J. Pharmacol. Chemother.* **21**(1), 104-112 (1963).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 06/15/2021

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