

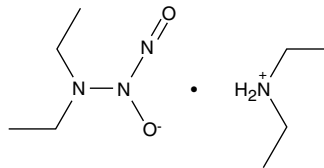
Product Information



DEA NONOate

Item No. 82100

CAS Registry No.: 372965-00-9
Formal Name: Diethylammonium (Z)-1-(N,N-diethylamino)diazen-1-ium-1,2-diolate
Synonyms: DEA/NO, Diethylamine NONOate
MF: C₄H₁₀N₃O₂ • C₄H₁₂N
FW: 206.3
Purity: ≥98%
Stability: ≥1 year at -80°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 250 nm



Laboratory Procedures

For long term storage, keep DEA NONOate sealed under nitrogen at -80°C. It should be stable for at least one year. The crystals are sensitive to moisture and become discolored on exposure to air. Keep the vial sealed until use unless your laboratory is equipped with a glove box with an inert atmosphere for the handling of air sensitive compounds.

DEA NONOate is supplied as a crystalline solid. A stock solution may be made by dissolving the DEA NONOate in an organic solvent purged with an inert gas. DEA NONOate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of DEA NONOate is approximately 25 mg/ml in ethanol and 2 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 DEA NONOate can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of DEA NONOate in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

DEA NONOate dissociates to the free amine and NO in a pH-dependent manner following first order kinetics. Alkaline solutions of NONOates (in 0.01 M NaOH) are very stable and can be stored at 0°C for 24 hours. DEA NONOate is highly soluble in water and relatively concentrated solutions can be prepared for further dilution. To initiate the release of NO, add a portion of the stock alkaline solution of DEA NONOate to excess buffer of pH 7.0-7.4. The half-life of DEA NONOate is 2 minutes and 16 minutes at 37°C and 22-25°C, respectively, in 0.1 M phosphate buffer (pH 7.4). DEA NONOate liberates 1.5 moles of NO per mole of parent compound.^{1,2} The decomposition of NONOates is nearly instantaneous at pH 5.¹

DEA NONOate is a nitric oxide (NO) donor. The intact DEA NONOate has a characteristic UV absorbance at 250 nm ($\epsilon = 6,500 \text{ M}^{-1}\text{cm}^{-1}$), permitting quantitation in aqueous solutions.¹ The concentration of the basic stock solution of DEA NONOate can be measured by UV if there is any uncertainty about the condition under which it was prepared or stored.

The concentration of DEA NONOate required to produce 50% relaxation in a norepinephrine-constricted strip of isolated rabbit aorta is 0.19 μM .¹ The IC₅₀ for the inhibition of DNA synthesis in A375-C6 human melanoma cells and for inhibition of O⁶-methylguanine-DNA-methyltransferase activity by DEA NONOate is 128 μM and 80 μM , respectively.^{3,4}

References

1. Maragos, C.M., Morley, D., Wink, D.A., *et al. J. Med. Chem.* **34**, 3242-3247 (1991).
2. Keefer, L.K., Nims, R.W., Davies, K.M., *et al. Methods Enzymol.* **268**, 281-293 (1996).
3. Maragos, C.M., Wang, J.M., Hrabie, J.A., *et al. Cancer Res.* **53**, 564-568 (1993).
4. Laval, F. and Wink, D.A. *Carcinogenesis* **5**, 443-447 (1994).

Related Products

DPTA NONOate - Item No. 82110 • DETA NONOate - Item No. 82120 • MAHMA NONOate - Item No. 82130 • PAPA NONOate - Item No. 82140

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 05/17/2011

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com