

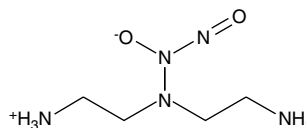
Product Information



DETA NONOate

Item No. 82120

CAS Registry No.: 146724-94-9
Formal Name: (Z)-1-[N-(2-aminoethyl)-N-(2-ammonioethyl)amino]diazene-1-ium-1,2-diolate
Synonyms: Diethylenetriamine NONOate, NOC-18
MF: C₄H₁₃N₅O₂
FW: 163.2
Purity: ≥98%
Stability: ≥1 year at -80°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 252 nm



Laboratory Procedures

For long term storage, keep DETA 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.

DETA 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. DETA 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 DETA NONOate to excess buffer of pH 7.0-7.4. The half-life of DETA NONOate is 20 hours and 56 hours at 37°C and 22-25°C, respectively, in 0.1 M phosphate buffer (pH 7.4). DETA NONOate liberates 2 moles of NO per mole of parent compound.^{1,2} The decomposition of NONOates is nearly instantaneous at pH 5.¹

DETA NONOate is a nitric oxide (NO) donor. The intact DETA NONOate has a characteristic UV absorbance at 252 nm ($\epsilon = 7,640 \text{ M}^{-1}\text{cm}^{-1}$), permitting quantitation in aqueous solutions.¹ The concentration of the basic stock solution of DETA NONOate can be measured by UV if there is any uncertainty about the condition under which it was prepared or stored.

References

- Hrabie, J.A., Klose, J.R., Wink, D.A., *et al.* New nitric oxide-releasing zwitterions derived from polyamines. *J. Org. Chem.* **58**, 1472-1476 (1993).
- Keefer, L.K., Nims, R.W., Davies, K.M., *et al.* "NONOates" (1-substituted diazen-1-ium-1,2-diolates) as nitric oxide donors: Convenient nitric oxide dosage forms. *Methods Enzymol.* **268**, 281-293 (1996).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/82120

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

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 Safety Data Sheet, which has been sent via email to your institution.

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