

## PRODUCT AND SAFETY DATA SHEET

**PRODUCT NAME:** Nitric Oxide Generation Kit

**CATALOG #:** 00239

**MOLECULAR INFORMATION:** See information for individual components on the following pages.

**PROPERTIES:**

**Color & Form** See Individual Components  
**Purity** See Individual Components  
**Solubility** See Individual Components

**STORAGE AND HANDLING:** See Individual Components

**APPLICATION:** This kit contains 10 mg each of the following nitric oxide donors: SIN-1 (**00221**), SNAP (**00222**), S-nitrosoglutathione (**00223**), spermine NONOate (**00224**), and DEA-NONOate (**00225**).

**TOXICITY:** Unknown

<b>FIRST AID:</b>	Potentially harmful; avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.
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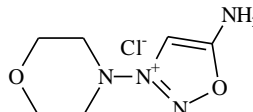
<b>Disclaimer:</b> <i>Materials from Biotium are sold for research use only, and are not intended for food, drug, household, or cosmetic use. Biotium is not liable for any damage resulting from handling or contact with this product.</i>
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## PRODUCT AND SAFETY DATA SHEET

**PRODUCT NAME:** SIN-1 (morpholinosydnonimine, hydrochloride)

**CATALOG #:** 00221 (00221-1)

**MOLECULAR INFORMATION:** C<sub>6</sub>H<sub>10</sub>N<sub>4</sub>O<sub>2</sub>.  
Mwt: 206.7.  
[16142-27-1].



### PROPERTIES:

**Color & Form** White solid  
**Purity** ≥ 95% by TLC  
**Solubility** Soluble in water, methanol or DMSO.

**STORAGE AND HANDLING:** Store desiccated at -20 °C.

**APPLICATION:** SIN-1 releases nitric oxide and forms superoxide spontaneously under physiological conditions and stimulates cyclic GMP production. It has been shown to be a potent vasodilator *in vivo* and *in vitro* and to inhibit smooth muscle cell mitogenesis and proliferation.

The relationship between NO generated from SIN-1 and intracellular calcium has been studied using fluorescent calcium indicators, which are also available from Biotium.

Also see **SNAP (00222)**.

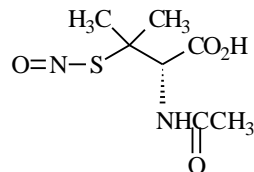
Ref: 1) *Nature* **364**, 626(1993); 2) *J. Pharmacol. Exp. Ther.* **248**, 762(1989); 3) *Am J Physiol*, L9 (1994); 4) *Life Sci* **54**, 1449 (1994); 5) *Neuron* **12**, 1235 (1994).

**TOXICITY:** Unknown.

<b>FIRST AID:</b>	Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.
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## PRODUCT AND SAFETY DATA SHEET

**PRODUCT NAME:** SNAP (*S*-nitroso-*N*-acetylpenicillamine)**CATALOG NO.** 00222**MOLECULAR INFORMATION:** C<sub>7</sub>H<sub>12</sub>N<sub>2</sub>O<sub>4</sub>S  
Mwt: 220  
[79032-48-7]**PROPERTIES:**

**Color & Form** Light green solid  
**Purity** ≥ 98% by TLC  
**Solubility** Soluble in water and DMSO

**STORAGE AND HANDLING:** Store desiccated at -20 °C.**APPLICATION:** SNAP releases nitric oxide and forms superoxide spontaneously under physiological conditions and stimulates cyclic GMP production. It has been shown to be a potent vasodilator *in vivo* and *in vitro* and to inhibit smooth muscle cell mitogenesis and proliferation.

The relationship between NO generated from SNAP and intracellular calcium has been studied using fluorescent calcium indicators, which are also available from Biotium. The NO released from SNAP has also been reported to stimulate calcium-independent synaptic vesicle release, which can be detected with FM1-43 (also available from Biotium)

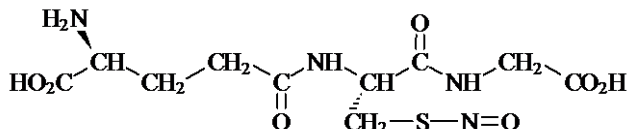
Also see **SIN-1 (00221)**

Ref: 1) Nishio, et al. *Biochem. Biophys. Res. Comm.* **221**(1), 163(1996); 2) Gross, et al. *Neuropharmacology* **33**(7), 915(1994). 3) *Am J Physiol*, L9 (1994); 4) *Life Sci* 54, 1449 (1994); 5) *Neuron* 12, 1235 (1994).

**TOXICITY:** Unknown.

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**PRODUCT AND SAFETY DATA SHEET****PRODUCT NAME:** **S-Nitrosogluthathione** (N-(N-L-γ-glutamyl-S-nitroso- L-cysteinyl)-glycine )**CATALOG #:** **00223****MOLECULAR INFORMATION:** C<sub>10</sub>H<sub>16</sub>N<sub>4</sub>O<sub>7</sub>S  
Mwt: 336  
[57564-91-7]**PROPERTIES:**

<b>Color &amp; Form</b>	Hygroscopic pink solid
<b>Purity</b>	≥ 98% by TLC
<b>Solubility</b>	Soluble in water or DMSO
<b>Absorption</b>	336nm
<b>Extinction Coefficient</b>	900

**STORAGE AND HANDLING:** Spontaneously decomposes in solution. Store desiccated at -20 °C.**APPLICATION:** Similar to SNAP, S-nitrosogluthathione releases nitric oxide spontaneously under physiological conditions. Also see **SNAP (00222)**Ref: *Biochemistry* **34**, 7177(1995); *Br. J. Pharmacol.* **107**, 745(1992)**TOXICITY:** Unknown.

<b>FIRST AID:</b>	Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.
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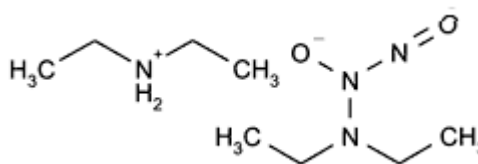


## PRODUCT AND SAFETY DATA SHEET

**PRODUCT NAME:** **DEA-NONOate** (2-(*N,N*-diethylamino)-diazonolate-2-oxide, diethylammonium salt)

**CATALOG #:** **00225**

**MOLECULAR INFORMATION:** C<sub>4</sub>H<sub>10</sub>N<sub>3</sub>O<sub>2</sub> · C<sub>4</sub>H<sub>12</sub>N  
Mwt: 206.3  
[56329-27-2]



**PROPERTIES:**

**Color & Form** Off-white solid  
**Purity** ≥ 98% by HPLC  
**Solubility** Soluble in DMSO (2mg/mL); 100% EtOH (25mg/mL); water; PBS pH 7.2 (2mg/mL)

**STORAGE AND HANDLING:** Store desiccated under nitrogen at -20 °C.

**APPLICATION:** Releases nitric oxide spontaneously under physiological conditions. Useful for reliable NO generation in solution.

Ref: Keefer, et al. *Methods in Enzymology* **268**, 281(1996); Maragos, et al. *J. Med. Chem.* **34**(11), 3242(1991).

**TOXICITY:** Unknown

<b>FIRST AID:</b>	Potentially harmful; avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.
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