

DMPO Inhibitor

Catalog# SIH-324



DATA SHEET

Size: 25/ 125mg

Formula	C ₆ H ₁₁ NO
MW	113.16 CAS Number 3317-61-1
Source/Host	Synthetic
Purity	>98%
Solubility	Soluble to 100mM in ethanol and to 100mM in DMSO.
Appearance	Colorless solid.
Storage and stability	Room Temperature; 1 year+; shipped ambient

3. Khan N., *et al.* (2003) *Free Radic. Biol. Med* 34:1473-1481.
4. Haseloff R.F., *et al.* (1997) *FEBS Lett* 418:73-75.
5. Schaefer C.F., Janzen E.G., West M.S., Poyer J.L., and Kosanke S.D. (1996) *Free Radic. Biol. Med* 21:427-436.
6. Anzai K., *et al.* (2003) *Arch. Biochem. Biophys* 415:251-256.
7. *Free Radic Biol Med.* 2009 April 1; 46(7): 853-865.
doi:10.1016/j.freeradbiomed.2008.12.020.
8. Chatterjee S., Ehrenshaft, M., Bhattacharjee, S., Derterding, L.J., Bonini, M.G., Corbett, J., Kadiiska, M.B., Tomer K.B. and Mason, R.P. 2009 *Free Radic. Med. and Biol.* 46:454-461.

9.

Scientific Background

The formation of free radicals and other highly reactive oxygen species has been implicated in the pathogenesis of many disease states (1). The ability to identify these species is crucial, and spin trapping has accomplished this goal. DMPO (5,5-dimethyl-1-pyrroline N-oxide) is one of the least toxic to cells and animals, and possesses convenient pharmacokinetics (uptake, distribution, metabolism and excretion) in biological systems (2-6).

Recent studies have determined that nitric oxide may substantially affect the quantitative determination of DMPO adducts, and therefore extra caution is required when studying generation of these species in the presence of nitric oxide or its radicals (1). DMPO adducts can be generated with protein and DNA radicals (7).

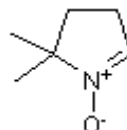


Figure 1: Structure of DMPO

Selected References

1. Reszka K.J., *et al.* (2006) *Nitric Oxide* 15: 133-141.
2. Ramirez D.C., Gomez-Mejiba S.E., and Mason R.P. (2007) *Nat Protoc.* 2(3): 512-522.

Material Safety Data Sheet

This product is for *in vitro* research use only and is not intended for use in humans or animals

The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Regulatory Information

Classification: Harmful. May be harmful if inhaled, swallowed or absorbed through skin.

Safety Phrases: S22 - Do not breathe dust
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection
S24/25- Avoid contact with skin and eyes

Risk Phrases:

Hazard Phrases:

Precautionary Phrases:

Physical Data

This product consists of powder shipped at ambient temperatures. The physical properties of this product have not been investigated thoroughly. CAS number 3316-61-1

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.