

# PRODUCT INFORMATION



## MTSET (chloride)

Item No. 21069

**Formal Name:** N,N,N-trimethyl-2-[(methylsulfonyl)thio]-ethanaminium, monochloride

**MF:** C<sub>6</sub>H<sub>16</sub>NO<sub>2</sub>S<sub>2</sub> • Cl

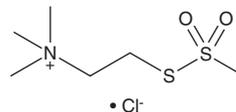
**FW:** 233.8

**Purity:** ≥95%

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥4 years



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

### Laboratory Procedures

MTSET (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the MTSET (chloride) in the solvent of choice. MTSET (chloride) is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 2 mg/ml.

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 MTSET (chloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of MTSET (chloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

MTSET (chloride) is a methanethiosulfonate (MTS), a sulfhydryl-reactive compound that forms mixed disulfide linkages. It is a positively charged sulfhydryl-specific reagent that reacts with substituted cysteines. It can provide functional information about relative positions of amino acids within a protein and can be used to probe binding site electrostatic interactions.<sup>1-3</sup>

### References

1. O'Reilly, J.P. and Shockett, P.E. Time- and state-dependent effects of methanethiosulfonate ethylammonium (MTSEA) exposure differ between heart and skeletal muscle voltage-gated Na<sup>+</sup> channels. *Biochem. Biophys. Acta.* **1818**(3), 443-447 (2012).
2. Li, R.A., Tsushima, R.G., Kallen, R.G., et al. Pore residues critical for μ-CTX binding to rat skeletal muscle Na<sup>+</sup> channels revealed by cysteine mutagenesis. *Biophys. J.* **73**(4), 1874-1884 (1997).
3. Lang, R.J., Harvey, J.R., and Mulholland, E.L. Sodium (2-sulfonatoethyl) methanethiosulfonate prevents S-nitroso-L-cysteine activation of Ca<sup>2+</sup>-activated K<sup>+</sup> (BK<sub>Ca</sub>) channels in myocytes of the guinea-pig taenia caeca. *Br. J. Pharmacol.* **139**(6), 1153-1163 (2003).

#### 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, 11/14/2022

#### 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