

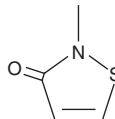
PRODUCT INFORMATION



Methylisothiazolinone

Item No. 28136

CAS Registry No.: 2682-20-4
Formal Name: 2-methyl-3(2H)-isothiazolone
Synonyms: MI, MIT
MF: C₄H₅NOS
FW: 115.2
Purity: ≥98%
Supplied as: A 50% (w/v) aqueous solution
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Methylisothiazolinone (MI) is supplied as a 50% (w/v) aqueous solution. To change the solvent, simply evaporate the aqueous solution under a gentle stream of nitrogen and immediately add the solvent of choice. A stock solution may be made by dissolving the MI in the solvent of choice. MI is soluble in water.

Description

MI is an isothiazolinone-derived biocide.^{1,2} It is active against Gram-positive and Gram-negative bacteria, as well as fungi, when used in combination with methylchloroisothiazolinone (MCI) with MIC values of 0.0002, 0.0002, 0.00005, and 0.00005% (w/w) for *S. aureus*, *P. aeruginosa*, *A. niger*, and *C. albicans*, respectively.² Methylisothiazolinone (50 μM) also inhibits c-Src autophosphorylation in a cell-free assay.³ It reduces cell viability percentage in isolated embryonic rat cortical neurons when used at a concentration of 3 μM and decreases neurite length at 1 μM. MI, alone and as a mixture with MCI, can elicit contact sensitization.⁴ Formulations containing methylisothiazolinone have been used in the control of bacteria, fungi, and algae in residential use and industry, as well as a preservative in personal care products.

References

1. Frenzel, E., Schmidt, S., Niederweis, M., *et al.* Importance of porins for biocide efficacy against *Mycobacterium smegmatis*. *Appl. Environ. Microbiol.* **77(9)**, 3068-3073 (2011).
2. Lundov, M.D., Johansen, J.D., Zachariae, C., *et al.* Low-level efficacy of cosmetic preservatives. *Int. J. Cosmet. Sci.* **33(2)**, 190-196 (2011).
3. He, K., Huang, J., Lagenaur, C.F., *et al.* Methylisothiazolinone, a neurotoxic biocide, disrupts the association of SRC family tyrosine kinases with focal adhesion kinase in developing cortical neurons. *J. Pharmacol. Exp. Ther.* **317(3)**, 1320-1329 (2006).
4. Scherrer, M.A.R. and Rocha, V.B. Increasing trend of sensitization to methylchloroisothiazolinone/methylisothiazolinone (MCI/MI). *An. Bras. Dermatol.* **89(3)**, 527-528 (2014).

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.

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