

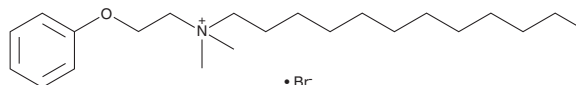
# PRODUCT INFORMATION



## Domiphen (bromide)

Item No. 30276

CAS Registry No.: 538-71-6  
Formal Name: N,N-dimethyl-N-(2-phenoxyethyl)-1-dodecanaminium, monobromide  
Synonym: NSC 39415  
MF:  $C_{22}H_{40}NO \cdot Br$   
FW: 414.5  
Purity:  $\geq 98\%$   
UV/Vis.:  $\lambda_{max}$ : 269 nm  
Supplied as: A crystalline solid  
Storage:  $-20^{\circ}C$   
Stability:  $\geq 4$  years



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

### Laboratory Procedures

Domiphen (bromide) is supplied as a crystalline solid. A stock solution may be made by dissolving the domiphen (bromide) in the solvent of choice, which should be purged with an inert gas. Domiphen (bromide) is soluble in organic solvents such as DMSO and methanol. It is also soluble in water. We do not recommend storing the aqueous solution for more than one day.

### Description

Domiphen is a quaternary ammonium-containing cationic surfactant with antimicrobial activity.<sup>1,2</sup> It is active against *A. viscosus*, *A. naeslundii*, *S. mutans*, *E. coli*, and *L. monocytogenes* bacteria and inhibits *C. neoformans* yeast growth and spore germination.<sup>1-4</sup> It also inhibits the human-ether-a-go-go-related gene (hERG) channel ( $IC_{50} = 1.5 \mu M$  in a whole-cell patch-clamp assay).<sup>5</sup> Formulations containing domiphen have been used as antiseptics, disinfectants, and biocides in industrial, agricultural, veterinary, and clinical applications.

### References

1. Baker, P.J., Coburn, R.A., Genco, R.J., *et al.* The in vitro inhibition of microbial growth and plaque formation by surfactant drugs. *J. Periodontal Res.* **13**(5), 474-485 (1978).
2. Müller, A., Rychli, K., Zaiser, A., *et al.* The *Listeria monocytogenes* transposon *Tn6188* provides increased tolerance to various quaternary ammonium compounds and ethidium bromide. *FEMS Microbiol. Lett.* **361**(2), 166-173 (2014).
3. Holdsworth, S.R. and Law, C.J. The major facilitator superfamily transporter MdtM contributes to the intrinsic resistance of *Escherichia coli* to quaternary ammonium compounds. *J. Antimicrob. Chemother.* **68**(4), 831-839 (2013).
4. Ortiz, S.C., Huang, M., and Hull, C.M. Spore germination as a target for antifungal therapeutics. *Antimicrob. Agents Chemother.* **63**(12), e00994-19 (2019).
5. Xia, M., Shahane, S.A., Huang, R., *et al.* Identification of quaternary ammonium compounds as potent inhibitors of hERG potassium channels. *Toxicol. Appl. Pharmacol.* **252**(3), 250-258 (2011).

#### 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

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