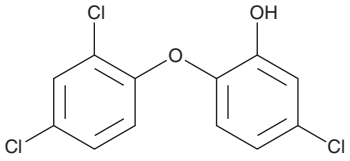
PRODUCT INFORMATION

Triclosan

Item No. 20342

CAS Registry No.:	3380-34-5
Formal Name:	5-chloro-2-(2,4-dichlorophenoxy)-phenol
MF:	$C_{12}H_7Cl_3O_2$
FW:	289.5
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	Room temperature
Stability:	≥4 years



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

Laboratory Procedures

Triclosan is supplied as a crystalline solid. A stock solution may be made by dissolving the triclosan in the solvent of choice, which should be purged with an inert gas. Triclosan is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of triclosan in these solvents is approximately 30 mg/ml.

Triclosan is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, triclosan should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Triclosan has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Triclosan is an antibiotic and antifungal.[1,2] It is an inhibitor of *E. coli* enoyl-acyl carrier protein reductase (FabI) and FabI containing a glycine-to-valine substitution at position 93 ($FabI^{G93V}$; IC_{50}s = 2 and 10 µM, respectively).[1] Triclosan is active against the bacteria *M. epidermidis*, *M. lysodeikticus*, *S. aureus*, *S. lactis*, and *S. haemolyticus* (MICs = 0.03, 0.01, 3, 3, and 1 µg/ml, respectively) and the fungi *A. fumigatus*, *C. albicans*, and *C. tropicalis* (MICs = 10 µg/ml for all).[2] It also decreases reattachment to dentin chips by, reduces the viability of, and increases lactate dehydrogenase (LDH) secretion from, human SG gingival epithelial cells when used at concentrations of 30, 100, and 500 µM, respectively.[3]

References

1. Heath, R.J., Rubin, J.R., Holland, D.R., *et al.* Mechanism of triclosan inhibition of bacterial fatty acid synthesis. *J. Biol. Chem.* **274(16)**, 11110-11114 (1999).
2. Regös, J., Zak, O., Solf, R., *et al.* Antimicrobial spectrum of triclosan, a broad-spectrum antimicrobial agent for topical application. II. Comparison with some other antimicrobial agents. *Dermatologica* **158(1),** 72-79 (1979).
3. Zuckerbraun, H.L., Babich, H., May, R., *et al.* Triclosan: Cytotoxicity, mode of action, and induction of apoptosis in human gingival cells *in vitro*. *Eur. J. Oral Sci.* **106(2 Pt 1),** 628-636 (1998).

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