# PRODUCT INFORMATION

## Sertaconazole (nitrate)

*Item No. 22232*

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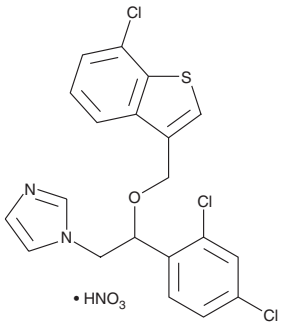
| **CAS Registry No.:** | 99592-39-9 |
| **Formal Name:** | 1-[2-[(7-chlorobenzo[b]thien-3-yl) methoxy]-2-(2,4-dichlorophenyl) ethyl]-1H-imidazole, mononitrate |
| **Synonym:** | FI-7045 |
| **MF:** | $C_{20}H_{15}Cl_3N_2OS \bullet HNO_3$ |
| **FW:** | 500.8 |
| **Purity:** | ≥98% |
| **UV/Vis.:** | $\lambda_{max}$: 225 nm |
| **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

Sertaconazole (nitrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the sertaconazole (nitrate) in the solvent of choice. Sertaconazole (nitrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of sertaconazole (nitrate) in ethanol is approximately 0.1 mg/ml and approximately 25 mg/ml in DMSO and DMF.

Sertaconazole (nitrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sertaconazole (nitrate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Sertaconazole (nitrate) has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Sertaconazole is an imidazole antifungal agent.[1] It is active against various yeasts, including *C. albicans* and *C. tropicalis*, and dermatophytes, including *Microsporum*, *Trichophyton*, and *Epidermophyton* (MICs = 0.35-5.04 and 0.24-2 µg/ml, respectively). Sertaconazole inhibits ergosterol (Item No. 19850) biosynthesis ($IC_{50}$ = 115 nM) and decreases intracellular ATP levels in a concentration-dependent manner in *C. albicans*.[2,3] Topical application of sertaconazole (1%) reduces ear edema induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014), resiniferatoxin, or oxazolone in mouse models of irritant dermatitis, neurogenic dermatitis, and allergic contact hypersensitivity, respectively.[4] Sertaconazole also selectively inhibits long-chain acyl-CoA synthetase 4 (ACSL4; $IC_{50}$ = 0.28 µM) over ACSL3 at 50 µM.[5] It inhibits lipid peroxidation and ferroptosis induced by (1S,3R)-RSL3 (Item No. 19288) in LUHMES cells when used at a concentration of 5 µM. Formulations containing sertaconazole have been used in the treatment of interdigital tinea pedis.

### References


1. Palacin, C., Sacristán, A., and Ortiz, J.A. *Arzneimittelforschung* **42(5A)**, 699-705 (1992).
2. Agut, J., Palacin, C., Salgado, J., *et al. Arzneimittelforschung* **42(5A)**, 721-724 (1992).
3. Agut, J., Palacin, C., Sacristán, A., *et al. Arzneimittelforschung* **42(5A)**, 718-720 (1992).
4. Liebel, F., Lyte, P., Garay, M., *et al. Arch. Dermatol. Res.* **298(4)**, 191-199 (2006).
5. Marteau, R., Ravez, S., Mazhari Dorooee, D., *et al. Biochem. Pharmacol.* **204**, 115239 (2022).





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