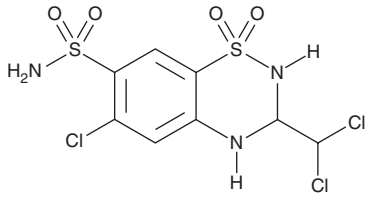
PRODUCT INFORMATION

Trichlormethiazide

Item No. 29331

CAS Registry No.:	133-67-5
Formal Name:	6-chloro-3-(dichloromethyl)-3,4-dihydro-2H-1,2,4-benzothiadiazine-7-sulfonamide, 1,1-dioxide
MF:	$C_8H_8Cl_3N_3O_4S_2$
FW:	380.7
Purity:	≥98%
UV/Vis.:	λ_{max}: 225, 267, 313 nm
Supplied as:	A 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

Trichlormethiazide is supplied as a solid. A stock solution may be made by dissolving the trichlormethiazide in the solvent of choice, which should be purged with an inert gas. Trichlormethiazide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of trichlormethiazide in these solvents is approximately 20 and 5 mg/ml, respectively.

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

Description

Trichlormethiazide is a thiazide diuretic.[1] It inhibits sodium and chloride ion flux in the connecting tubule, but not the cortical collecting duct or the distal convoluted tubule, in isolated rabbit kidney tubules when used at a concentration of 1 mM. Trichlormethiazide increases relaxation induced by acetylcholine (Item No. 23829) in norepinephrine-precontracted mesenteric arterial rings isolated from spontaneously hypertensive rats (EC_{50} = 33 nM).[2] It increases urine output and urinary excretion of sodium, potassium, and chloride ions in dogs in a dose-dependent manner.[3] It reduces systolic blood pressure in spontaneously hypertensive, but not normotensive, rats when administered at doses of 10 and 30 mg/kg.[4] Formulations containing trichlormethiazide have been used in the treatment of edema and hypertension.

References

1. Shimizu, T., Yoshitomi, K., Nakamura, M., *et al*. Site and mechanism of action of trichlormethiazide in rabbit distal nephron segments perfused in vitro. *J. Clin. Invest*. **82(2)**, 721-730 (1988).
2. Kähönen, M., Mäkynen, H., Arvola, P., *et al*. Arterial function after trichlormethiazide therapy in spontaneously hypertensive rats. *J. Pharmacol. Exp. Ther*. **272(3)**, 1223-1230 (1995).
3. Taylor, R.M. and Maren, T.H. The pharmacology of trichlormethiazide, a benzothiadiazine diuretic. *J. Pharmacol. Exp. Ther*. **140(2)**, 249-257 (1963).
4. Ueda, M., Matsuda, S., Tonda, K., *et al*. Antihypertensive effect of trichlormethiazide in spontaneously hypertensive rats. *Jpn. J. Pharmacol*. **28(4)**, 617-626 (1978).

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