

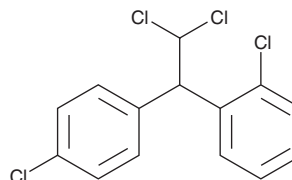
PRODUCT INFORMATION



Mitotane

Item No. 18651

CAS Registry No.: 53-19-0
Formal Name: 1-chloro-2-[2,2-dichloro-1-(4-chlorophenyl)ethyl]-benzene
Synonyms: o,p'-DDD, 1,1-Dichlorodiphenildichloroethane, NSC 38721
MF: C₁₄H₁₀Cl₄
FW: 320.0
Purity: ≥98%
UV/Vis.: λ_{max}: 229 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

Mitotane is supplied as a crystalline solid. A stock solution may be made by dissolving the mitotane in the solvent of choice, which should be purged with an inert gas. Mitotane is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of mitotane in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Mitotane is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, mitotane should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Mitotane has a solubility of approximately 0.33 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

Mitotane is an inhibitor of steroidogenesis.¹ It decreases secretion of cortisol (Item No. 20739) and 17-hydroxy progesterone (Item No. 33154) from H295R adrenocortical carcinoma cells when used at a concentration of 50 μM. Mitotane also inhibits mitochondrial complex IV, also known as cytochrome c oxidase, activity in H295R cells (IC₅₀ = 58 μM). It inhibits steroid production induced by adrenocorticotrophic hormone (ACTH) and is cytotoxic to zona fasciculata and zona reticularis, but not zona glomerulosa, adrenal cortex cells in dogs when administered at a dose of 60 mg/kg.² Formulations containing mitotane have been used in the treatment of adrenocortical carcinoma.

References

1. Hescot, S., Slama, A., Lombès, A., *et al.* Mitotane alters mitochondrial respiratory chain activity by inducing cytochrome c oxidase defect in human adrenocortical cells. *Endocr. Relat. Cancer* **20(3)**, 371-381 (2013).
2. Hart, M.M., Reagan, R.L., and Adamson, R.H. The effect of isomers of DDD on the ACTH-induced steroid output, histology and ultrastructure of the dog adrenal cortex. *Toxicol. Appl. Pharmacol.* **24(1)**, 101-113 (1973).

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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