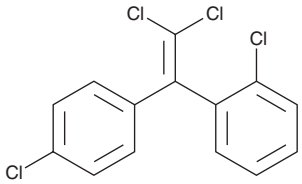
PRODUCT INFORMATION

o,p'-DDE

Item No. 24235

CAS Registry No.: 3424-82-6
Formal Name: 1-chloro-2-[2,2-dichloro-1-(4-chlorophenyl)ethenyl]-benzene
Synonyms: 2,4'-DDE, *o,p'*-Dichlorodiphenyldichloroethylene, NSC 59908
MF: $C_{14}H_8Cl_4$
FW: 318.0
Purity: ≥95%
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

o,p'-DDE is supplied as a solid. A stock solution may be made by dissolving the *o,p'*-DDE in the solvent of choice, which should be purged with an inert gas. *o,p'*-DDE is slightly soluble in warm chloroform and methanol.

Description

o,p'-DDE is a metabolite and degradation product of the organochlorine pesticide DDT.[1] It accumulates in smallmouth buffalo, channel catfish, and largemouth bass as well as sediment in the Huntsville Spring Branch-Indian Creek tributary system surrounding a DDT manufacturing plant where it is considered a persistent organic pollutant (POP). *o,p'*-DDE inhibits estrogen binding to rainbow trout estrogen receptors (rtERs) with an IC_{50} value of 3.2 µM.[2] It induces concentration-dependent secretion of estradiol by granulosa and theca cell co-cultures isolated from porcine ovarian follicles.[3] *In ovo* exposure to *o,p'*-DDE increases degeneration of ovarian follicles and reduces testicular size in Japanese medaka (*O. latipes*).[4]

References

1. Garrison, A.W., Cyterski, M., Roberts, K.D., *et al.* Occurrences and fate of DDT principal isomers/metabolites, DDA, and o,p'-DDD enantiomers in fish, sediment and water at a DDT-impacted Superfund site. *Environ. Pollut.* **194**, 224-234 (2014).
2. Matthews, J., Celius, T., Halgren, R., *et al.* Differential estrogen receptor binding of estrogenic substances: A species comparison. *J. Steroid. Biochem. Mol. Biol.* **74(4)**, 223-234 (2000).
3. Wójtowicz, A.K., Gregoraszczuk, E.L., Ptak, A., *et al.* Effect of single and repeated *in vitro* exposure of ovarian follicles to o,p'-DDT and p,p'-DDT and their metabolites. *Pol. J. Pharmacol.* **56(4)**, 465-472 (2004).
4. Papoulias, D.M., Villalobos, S.A., Meadows, J., *et al. In ovo* exposure to *o,p* -DDE affects sexual development but not sexual differentiation in Japanese medaka (*Oryzias latipes*). *Environ. Health Perspect.* **111(1)**, 29-32 (2003).

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