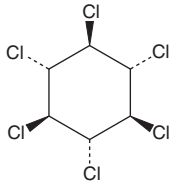
PRODUCT INFORMATION

β-BHC

Item No. 24134

CAS Registry No.:	319-85-7
Formal Name:	1α,2β,3α,4β,5α,6β-hexachloro-cyclohexane
Synonyms:	β-HCH, β-Hexachlorocyclohexane, β-Lindane
MF:	$C_6H_6Cl_6$
FW:	290.8
Purity:	≥98%
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

β-BHC is supplied as a crystalline solid. A stock solution may be made by dissolving the β-BHC in the solvent of choice, which should be purged with an inert gas. β-BHC is slightly soluble in DMSO.

Description

β-BHC is an isomer of the organochlorine pesticide γ-lindane (Item No. 23952) that is a potential impurity found in commercial preparations of lindane.[1] It is estrogenic, inducing estrogen receptor α (ERα) and ERβ reporter gene expression in CHO cells expressing the human receptors with 20% relative effective concentration (REC_{20}) values of 3.5 and 1.1 µM, respectively.[2] *In vitro*, β-BHC induces apoptosis of rat Sertoli cells *via* production of reactive oxygen species (ROS), activation of caspases, and induction of expression of Fas ligand (FasL).[3] It is a persistent organic pollutant and levels of total body β-BHC are negatively correlated to plasma testosterone levels in male polar bears.[4]

References

1. Nakajima, M. Biochemical toxicology of lindane and its analogs. *J. Environ. Sci. Health B.* **18(1)**, 147-172 (1983).
2. Kojima, H., Katsura, E., Takeuchi, S., *et al.* Screening for estrogen and androgen receptor activities in 200 pesticides by in vitro reporter gene assays using Chinese hamster ovary cells. *Environ. Health Perspect.* **112(5)**, 524-531 (2004).
3. Shi, Y., Song, Y., Wang, Y., *et al.* β-Benzene hexachloride induces apoptosis of rat Sertoli cells through generation of reactive oxygen species and activation of JNKs and FasL. *Environ. Toxicol.* **26(2)**, 124-135 (2011).
4. Oskam, I.C., Ropstad, E., Dahl, E., *et al.* Organochlorines affect the major androgenic hormone, testosterone, in male polar bears (*Ursus maritimus*) at Svalbard. *J. Toxicol. Environ. Health* **66(22)**, 2119-2139 (2003).

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