



POPs Chemicals

Lindane, Alpha-HCH, Beta-HCH

CAS No. 58-89-9; 319-84-6; 319-85-7

Full Name: Gamma hexachlorocyclohexane; alpha hexachlorocyclohexane; beta hexachlorocyclohexane

Trade Name: Lindane

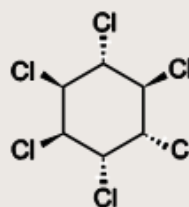
Uses: Lindane has been used as a broad-spectrum insecticide for seed and soil treatment, foliar applications, tree and wood treatment and against ectoparasites in both veterinary and human applications. The production of lindane has decreased rapidly in the last few years and only few countries are still known to produce lindane. Alpha- and beta-HCH are produced as unintentional by-product of lindane. For each ton of lindane produced, around 6-10 tons of the other isomers including alpha- and beta-HCH are created. Large stockpiles of alpha- and beta-HCH are therefore present in the environment.

Stockholm Convention: Lindane is listed in Annex A to the Stockholm Convention with specific exemptions for the use of lindane as a human health pharmaceutical for the control of head lice and scabies as second line treatment (decision SC-4/15). Alpha- and beta-HCH are listed in Annex A to the Stockholm Convention without specific exemptions (decisions SC-4/10, SC-4/11).

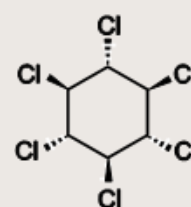
Hazards and risks to human health and the environment:

Lindane is persistent, bioaccumulates easily in the food chain and bioconcentrates rapidly. There is evidence for long-range transport and toxic effects (immunotoxic, reproductive and developmental effects) in laboratory animals and aquatic organisms.

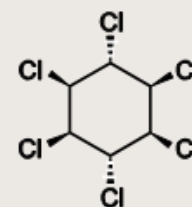
Alpha- and Beta-HCH are highly persistent in water in colder regions and may bioaccumulate and biomagnify in biota and arctic food webs. These chemicals are subject to long-range transport, are classified as potentially carcinogenic to humans and adversely affects wildlife and human health in contaminated regions.



Alpha-HCH



Beta-HCH



Lindane

Reference

1. Risk profile on lindane. Persistent Organic Pollutants Review Committee 2006; UNEP/POPS/POPRC.2/17/Add.4
2. Risk management evaluation on lindane. Persistent Organic Pollutants Review Committee 2007; UNEP/POPS/POPRC.3/20/Add.4
3. Risk management evaluation for alpha hexachlorocyclohexane. Persistent Organic Pollutants Review Committee 2008; UNEP/POPS/POPRC.4/15/Add.3
4. Risk management evaluation for beta hexachlorocyclohexane. Persistent Organic Pollutants Review Committee 2008; UNEP/POPS/POPRC.4/15/Add.4



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STOCKHOLM CONVENTION

