

DIELDRIN

Overview

Dieldrin is an organochlorine insecticide that is structurally very similar to Aldrin. Aldrin quickly breaks down into dieldrin once it enters the atmosphere.

Dieldrin was used in the U.S. from the 1950s until 1970 on crops such as corn and cotton, and widespread use was stopped in 1974 (#ATSDR ToxFAQs). It is a persistent environmental contaminant and was once found in most watersheds, soil, and animal fat, though detection levels have decreased since its cancellation in 1974.

Physical Information
Name: Dieldrin
Use: insecticide
Source: synthetic chemistry
Recommended daily intake: none
Absorption: dermal, ingestion, inhalation
Sensitive individuals: workers
Regulatory facts: canceled
Environmental: persistent environmental contaminant

Chemical Description

Pure dieldrin is a white powder with a mild odor, and technical-grade dieldrin is a tan powder. Neither are readily soluble in water.

Pharmacology and Metabolism

Dieldrin is readily absorbed by inhalation, ingestion, or the skin. Once it is in the body, the majority is metabolized and excreted in the feces, and the rest is stored in fat cells. It can take many weeks or years for all the dieldrin to leave one's body, assuming additional exposures do not occur (#MedicineNet.com).

Uses

Dieldrin was used extensively from the 1950s to 1970 as an insecticide on corn and cotton. The USDA canceled its use in 1974 for all purposes except for controlling termite populations (#ATSDR Public Health Statement). The manufacturer voluntarily canceled its use in 1987.

Health Effects

People exposed to large amounts of dieldrin, by any route of exposure, have been seen to experience convulsions and death. Chronic exposure to low to moderate levels of dieldrin has been shown to cause headaches, dizziness, irritability, vomiting, and uncontrolled muscle movements. Workers removed from the source of exposure rapidly recovered from most of these effects (#ATSDR ToxFAQs).

Environmental Effects

Dieldrin is a persistent environmental contaminant, adheres strongly to soil, and is bioaccumulative(#MedicineNet.com). It can be found in soil and in most watersheds due to soil runoff, and the majority of dieldrin is found attached to soils at the bottom of lakes, ponds, and streams. It is also found in animal fat.