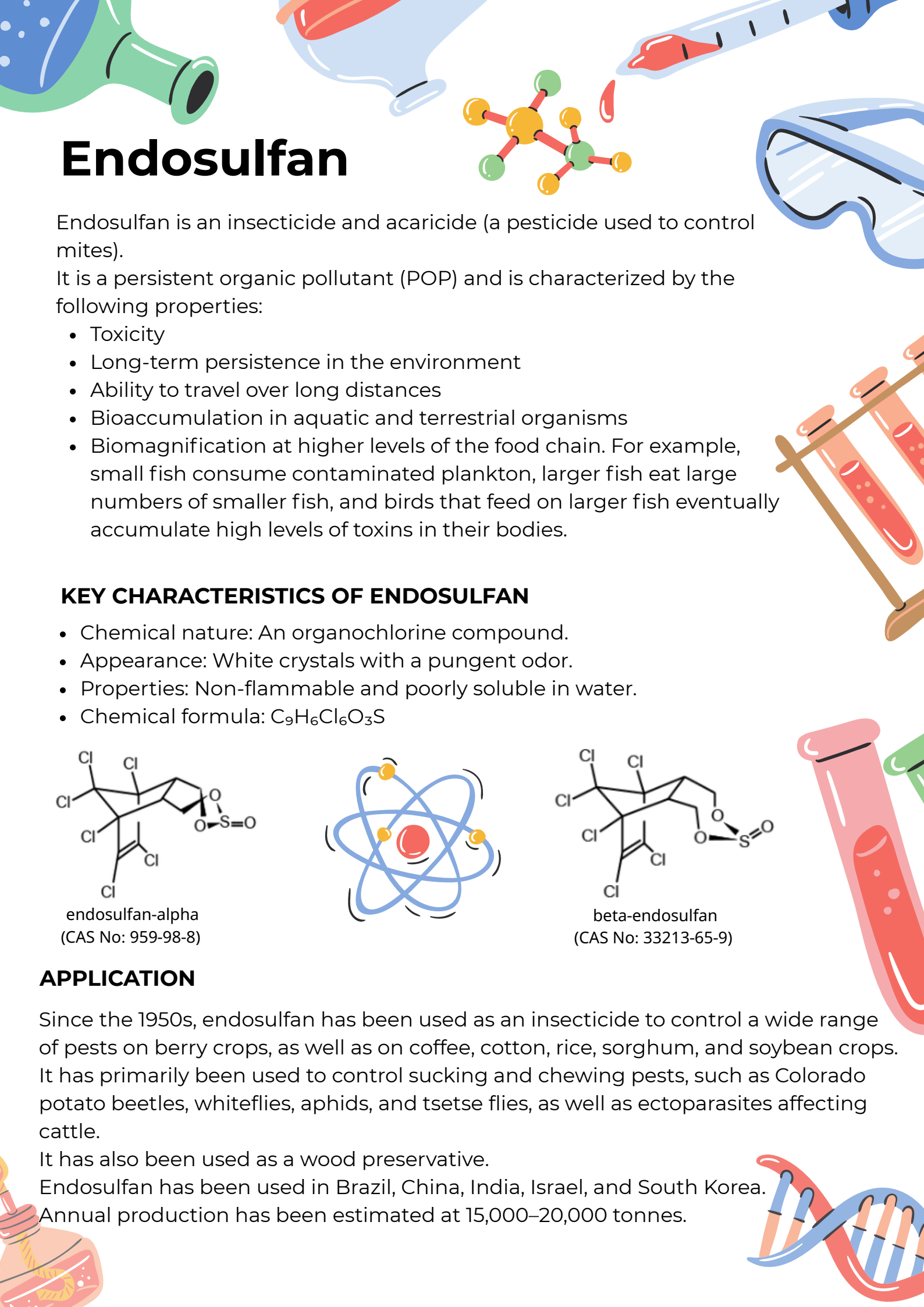




Endosulfan

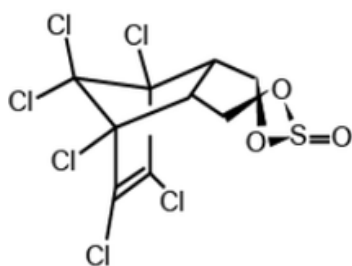
Endosulfan is an insecticide and acaricide (a pesticide used to control mites).

It is a persistent organic pollutant (POP) and is characterized by the following properties:

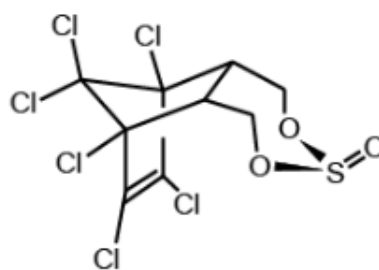
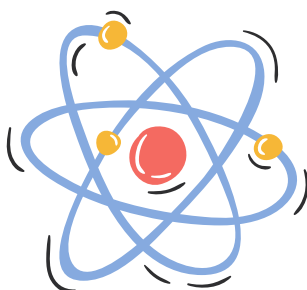
- Toxicity
- Long-term persistence in the environment
- Ability to travel over long distances
- Bioaccumulation in aquatic and terrestrial organisms
- Biomagnification at higher levels of the food chain. For example, small fish consume contaminated plankton, larger fish eat large numbers of smaller fish, and birds that feed on larger fish eventually accumulate high levels of toxins in their bodies.

KEY CHARACTERISTICS OF ENDOSULFAN

- Chemical nature: An organochlorine compound.
- Appearance: White crystals with a pungent odor.
- Properties: Non-flammable and poorly soluble in water.
- Chemical formula: $C_9H_6Cl_6O_3S$



endosulfan-alpha
(CAS No: 959-98-8)



beta-endosulfan
(CAS No: 33213-65-9)

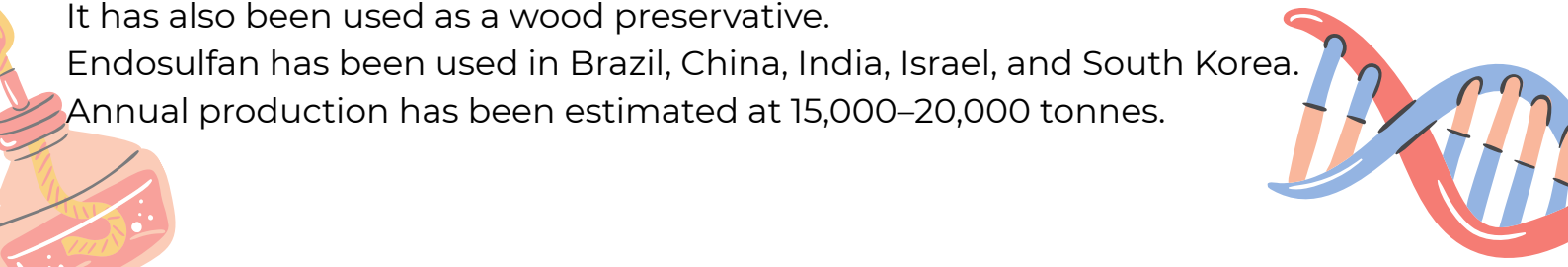
APPLICATION

Since the 1950s, endosulfan has been used as an insecticide to control a wide range of pests on berry crops, as well as on coffee, cotton, rice, sorghum, and soybean crops. It has primarily been used to control sucking and chewing pests, such as Colorado potato beetles, whiteflies, aphids, and tsetse flies, as well as ectoparasites affecting cattle.

It has also been used as a wood preservative.

Endosulfan has been used in Brazil, China, India, Israel, and South Korea.

Annual production has been estimated at 15,000–20,000 tonnes.



IMPACT ON THE ENVIRONMENT

- Endosulfan is a highly hazardous pesticide.
- It accumulates in soil, water, and air, and has been detected even in the most remote regions of the planet, such as the Arctic.
- It is highly toxic to fish and aquatic invertebrates, as it can alter their tissues and genes.

IMPACT ON HUMAN HEALTH

Causes of Poisoning

- Preparing and applying the solution without protective clothing
- Improper or incorrect application
- Consumption of water or food contaminated with endosulfan, or use of tobacco products contaminated with endosulfan

Signs of Acute Poisoning

- Nervous system disorders
- Dizziness, confusion, blurred vision, and muscle spasms
- Associated symptoms: nausea, vomiting, diarrhea, breathing difficulties, and irregular heart rhythm
- Kidney, liver, and blood-related problems
- A dose of just 35 mg per kilogram of body weight can be fatal.

Exposure to endosulfan leads to a range of adverse effects, including endocrine system disruption, neurotoxicity, and reproductive toxicity.

Legal Status

Due to its adverse effects on the environment and human health, the use of endosulfan is prohibited or severely restricted in many countries, including European Union (EU) Member States.

It is listed in Annex A of the Stockholm Convention on Persistent Organic Pollutants (POPs), which provides for its elimination.

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This informational material was developed by the Armenian Women for Health and a Healthy Environment (AWHHE) NGO within the framework of GEF ID 10924, "Enabling Activities for the Review and Update of the National Implementation Plan under the Stockholm Convention on Persistent Organic Pollutants in Albania, Armenia, and Kazakhstan."

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YEREVAN 2025