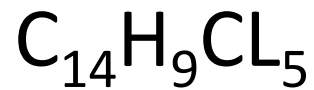


DDT

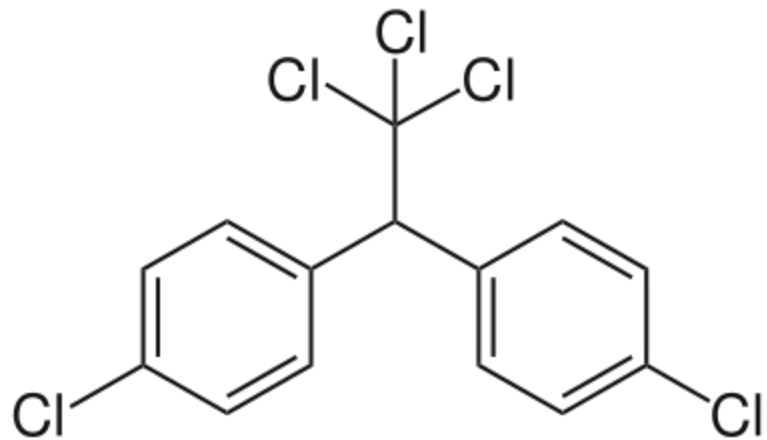
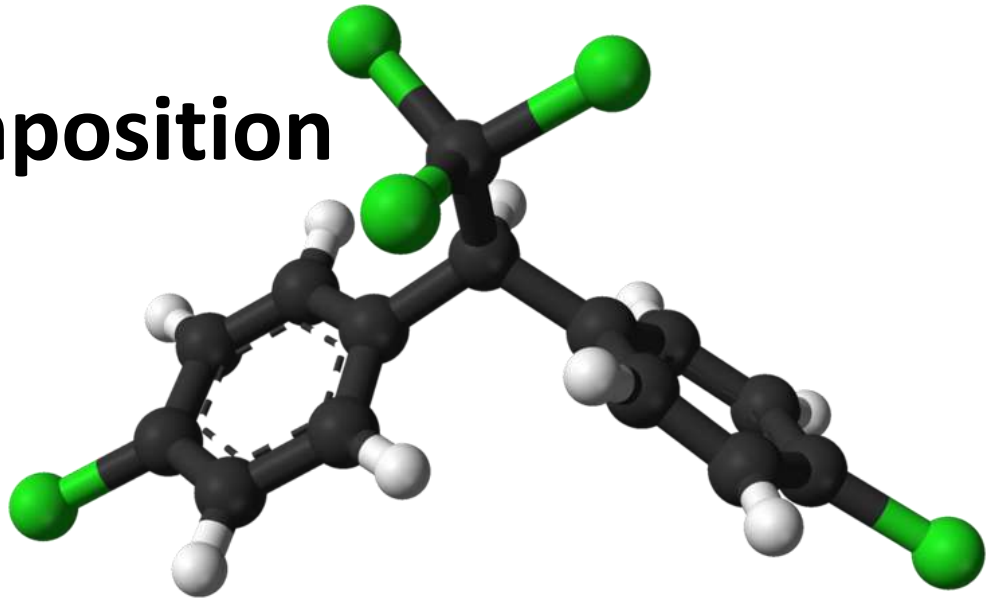
The Life and Times of
dichlorodiphenyltrichloroethane

The Chemical Composition

- DDT's chemical formula is



- For every molecule of DDT, there are 14 carbon atoms, 9 hydrogen atoms, and 5 chlorine atoms



Reactivity

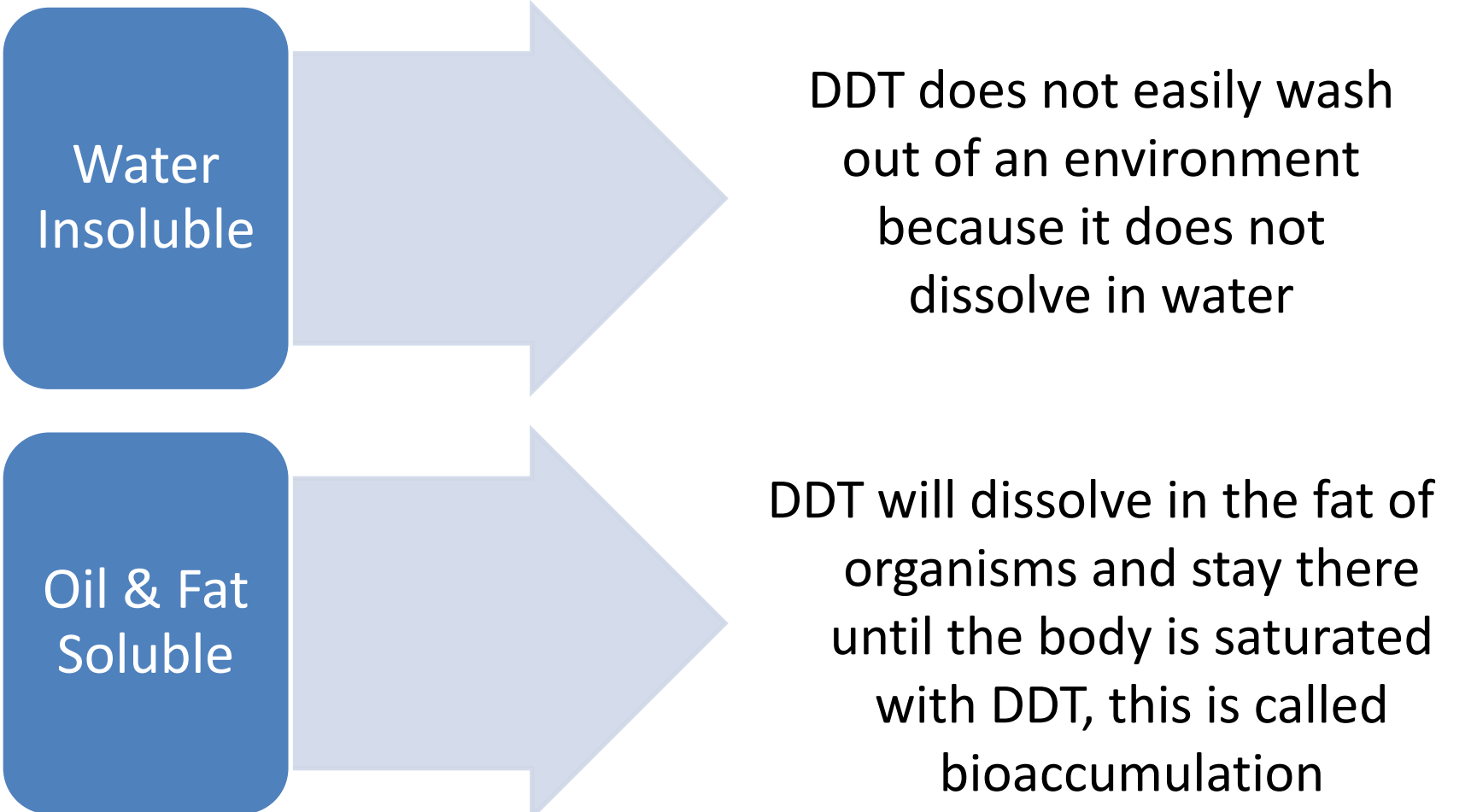
- DDT may react with iron, aluminum, aluminum and iron salts, and alkalis
- DDT can also react with strong oxidizing materials



DDT used as a human pest remover

Physical Characteristics

Water
Insoluble



DDT does not easily wash out of an environment because it does not dissolve in water

Oil & Fat
Soluble

DDT will dissolve in the fat of organisms and stay there until the body is saturated with DDT, this is called bioaccumulation

Physical Characteristics Con't

- In its pure form, DDT appears as a crystalline, white powder and has little odor




How DDT Enters the Body

- Because DDT was used so widely from the 40s-70s as a pesticide to control insects, the chemical had saturated many ecosystems

DDT is sprayed into the air or onto plants to control pests like mosquitoes



Humans or animals consume the DDT directly from the plants, or from water that the DDT has run into



DDT accumulates in the body and dissolves in fat, continuing to gather until fat is saturated with DDT

Major Sources of DDT

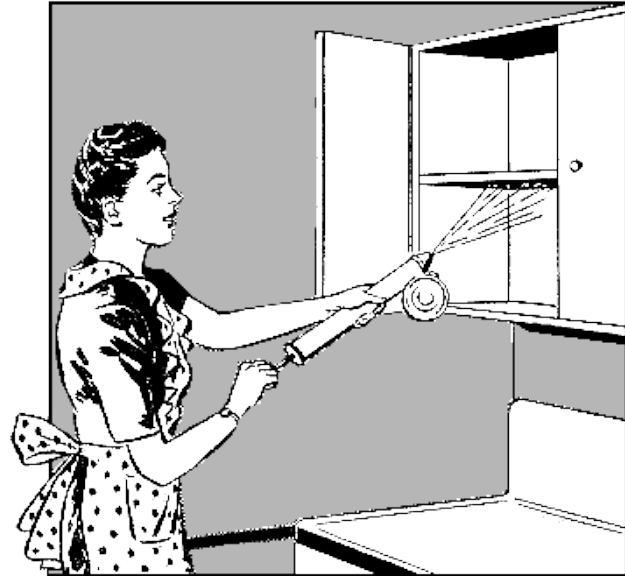


- Constantly used in the 1940s-1960s for any kind of insect control

- DDT was invented in 1939 by Paul Muller, and soon after began using DDT as a pesticide and malaria controller
- Rachel Carlson published a book, *Silent Spring*, in 1959 and it outlined the severe issues with DDT use in ecosystems

Toxicity

- The U.S. National Toxicology Program has declared DDT to be “moderately toxic”
- The World Health Organization has classified DDT as “moderately hazardous”



**DDT... FOR CONTROL
OF HOUSEHOLD PESTS**



Prepared by the
Bureau of Entomology and Plant Quarantine
Agricultural Research Administration
United States Department of Agriculture, and
the United States Public Health Service
Federal Security Agency
Washington, D. C. • Issued March 1947



Environmental Damage

- A persistent organic pollutant
- Strongly absorbed by soil
- Does not dissolve with water and creates major runoff problems
- Can transport to colder regions of the earth by global distillation
- Bio-accumulates and biomagnifies
- Can evaporate from aquatic ecosystems
- Seaweed will reduce soil toxicity by 80% within 6 weeks
- Causes hormone problems in animals, especially reptiles

Health Risk

For Humans:

- The effects of DDT on humans is much less noticeable than those on animals, DDT *can* affect hormone production, but it is very rare



For Animals:

- In animals, especially egg laying animals, there is a considerable difference in egg shell thickness as the DDT concentrations increase in an ecosystem
- DDT can be an endocrine disrupter which causes hormone receptors to connect to DDT instead of other hormones

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