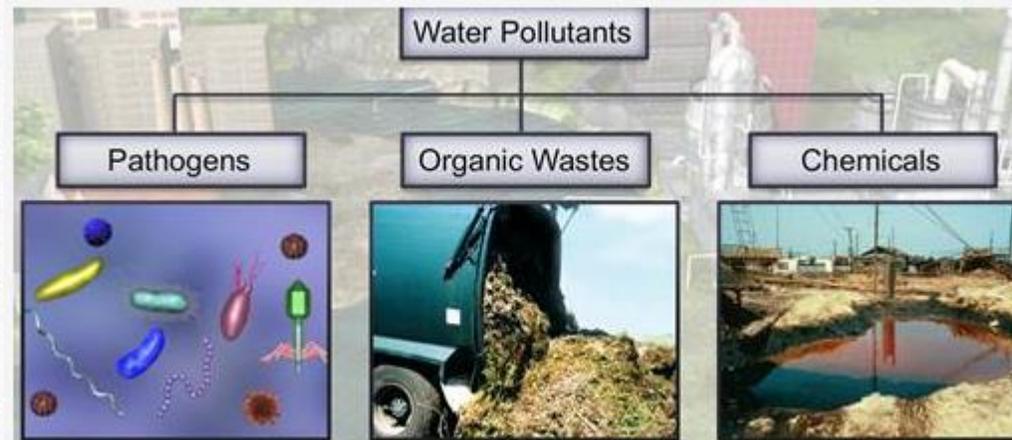


WATER TOXICOLOGY

Water pollution main sources some causes toxicological problems in water



The median lethal dose

LD₅₀

The amount of a chemical which produces death in 50% of a population of test organisms.

Unit: **mg kg⁻¹**

The median lethal concentration

LC₅₀

The concentration of a chemical in an environment (water) which produces death in 50% of an exposed population of test organisms in a specified time.

Unit: **mg L⁻¹**

Primary Routes of Exposure to Pesticides

There are three primary routes by which organisms are exposed to pesticides

Oral

Dermal

Inhalation

Oral Exposure

Any exposure to pesticide which occurs when the chemical is taken in through the mouth and passes through the gastrointestinal tract.

Dermal Exposure

Exposure of the skin to a pesticide. With proper hygiene this type of exposure is generally not serious unless there is a specific, rapid toxicological effect (often eye effects) which is of concern.

Inhalation exposure

Occurs when a pesticide is breathed into the lungs through the nose or mouth. If the chemical is corrosive it crosses from the lung into the body. It will be harmful for aquatic organisms

Toxicity is measured as clinical outputs that include

- Mortality
- Teratogenicity (ability to cause birth defects)
- Carcinogenicity (ability to cause cancer),
- Mutagenicity (ability to cause genetic change in the DNA)