

# Water Contamination

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## Image Article

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### ABSTRACT

There are many ways by which Biological and Chemical Contamination of water happens. Some of them are by chemicals for example biocides, inorganic chemicals like phosphates and heavy metals. In drinking water, man-made organic chemicals are found and these chemicals are said to comprise 10 to 20% of the total organic matter.

### IMAGE ARTICLE

There are many ways by which Biological and Chemical Contamination of water happens [1]. Some of them are by chemicals for example biocides, inorganic chemicals like phosphates and heavy metals. In drinking water, man-made organic chemicals are found and these chemicals are said to comprise 10 to 20% of the total organic matter [2]. These chemicals can be easily identified as their molecular weight is very less (Figure 1).

There are two types of chemical contaminants:

- Organic contaminants
- Inorganic contaminants

**Figure 1.** Water Contamination.



**Organic contaminants**

Organic contaminants include oil spills from the roads and concrete areas, pesticides and fungicides which are originated from agricultural industries and are near to the waterways [3]. Organic compounds are found, both as a single molecule and as a suspended solid in water.

**Inorganic contaminants**

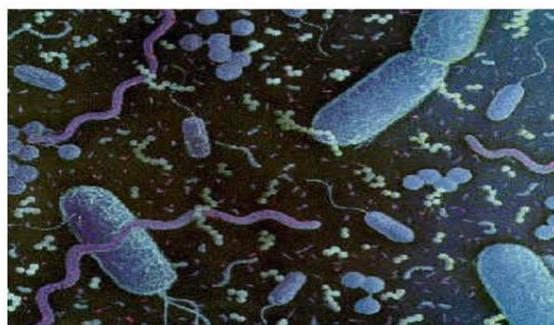
Nitrogen, phosphorus are some of the examples of inorganic contaminants. Metals and non-metals are also included in inorganic contaminants which are very harmful to humans. Many of the industries for e.g. also contaminate the water by discharging the wastewater into the freshwater.

Biological contaminants are bacteria, viruses and moulds. These can be either living or are produced by other living organisms. All the biological contaminants do not cause harm to our health but some of the moulds lead to serious allergies [4]. These moulds grow when there is a large difference between the inside temperature and the outside temperature which leads to condensation of the water and growth of moulds (Figures 2 and 3).

**Figure 2.** Biological contaminants.



**Figure 3.** Impacts of Biological and Chemical Contamination on the quality of water.



**Damage to species**

Some of the contaminants are lethal and cause physiological and behavioural changes in many species [5]. This finally results in the reduction of reproductive success, decrease in the immunity of those species.

**Decrease in the level of dissolved oxygen levels**

Due to this contamination the algae takes up all the oxygen and finally, there is a decrease in the level of oxygen.

Fishes are badly harmed by the contaminants and the persistent discharge finally kills the invertebrates (Figure 4).

**Figure 4.** Loss of fish species.



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