

CBSE 7 Chemistry Revision Notes

Wastewater Story

- Water is one of the most precious resource on Earth and is necessary for all living beings.
- We use water for different purposes like drinking, cooking, bathing, washing and many more activities.
- Pure water is colorless, odorless and tasteless.
- Water is used by all living organisms on earth to perform their life processes. Contaminants are the suspended and dissolved impurities of water. Humans contaminate water by their activities.
- Drinking contaminated water results in the development of diseases such as cholera, typhoid and arrowhead.
- Polluted water can sometimes be fatal. Water should be boiled and filtered before it is used for drinking as it contains many impurities that are not visible to naked eye.

Waste water

Waste water is the contaminated water which is often referred to as liquid waste. Liquid waste is mainly released from wash rooms, kitchen and other areas where sewage gets collected. Liquid wastes are usually disposed through closed drains.

Components of waste water

- Sewage or liquid waste makes up the main component of waste water.
- Human excreta in the form of faeces is the main suspended impurity in the sewage.
- Oil and grease float as layers or froth on the waste water.
- Industrial liquid wastes are the effluents contaminating water.
- Agricultural wastes like pesticides, fertilisers do not dissolve in water but remain in the waste water.

Causes for contamination of water

- Human activities like bathing and washing clothes in rivers and lakes.
- Animals bathing in rivers and lakes.
- Increase in population forms the major cause for water contamination.
- Untreated sewage.
- Industrial wastes.
- Agricultural wastes

Sewage

Sewage is liquid waste containing dissolved impurities called as contaminants. Contaminants are the harmful substances which can cause illness. Sewage comprises **dissolved** and **suspended** impurities.

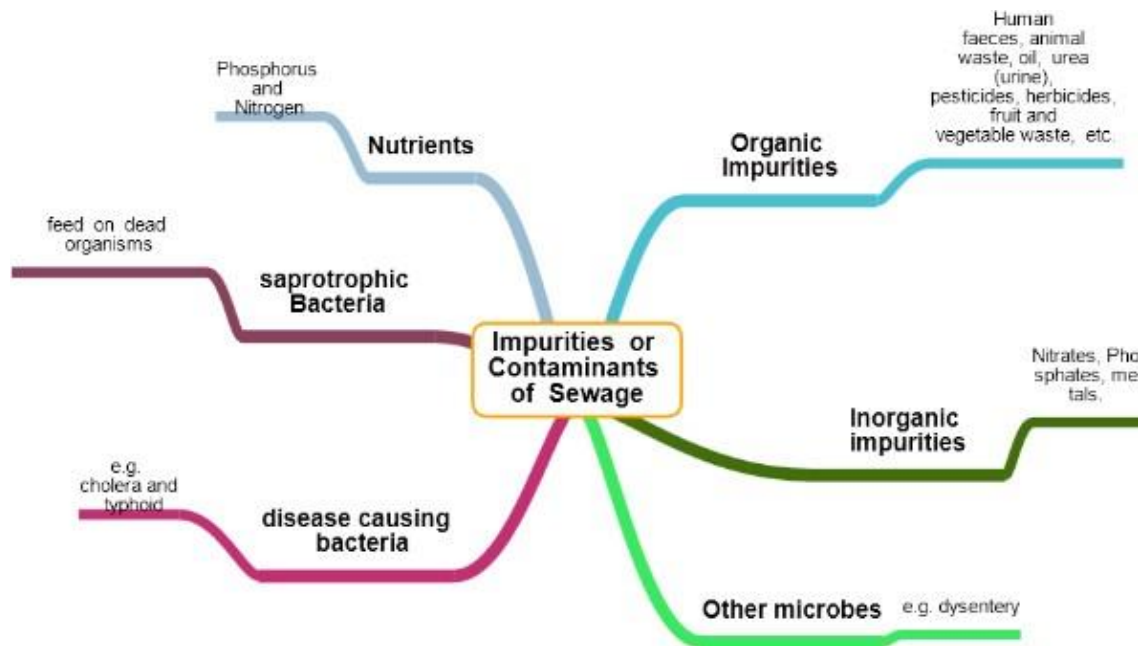
Organic and inorganic impurities: Organic impurities in sewage include animal waste, urine, oil, vegetable and fruit waste, faeces, pesticides and herbicides. Inorganic impurities include phosphates, nitrates and metals.

Disease-causing bacteria: Coliform bacteria and certain Bacilli.

Saprotrophic bacteria: Bacteria that feed on dead organisms.

Nutrients: Sewage contains some useful nutrients, such as phosphorus and nitrogen.

Other microbes: Microbes that cause typhoid, cholera, diarrhoea and dysentery are present in sewage.



Types of Sewage

There are various types of sewage, depending upon the colour and odour.

Sullage water: Waste water released from the kitchen is called sullage water. The contaminants in sullage water are mild detergents, oils and food particles.

Foul waste: Waste water released from toilets is termed as foul waste. It consists of human waste and a lot of bacteria that release gases and bad odour. It is highly infectious.

Trade waste: Wastes released from industries and commercial organisations is called as trade waste. It consists of acids and strong chemicals that are toxic in nature.

Agricultural waste: Rain water which runs off from agricultural field carries toxic substances into water resources.

Sewerage

Small and big pipes that carry waste water are called sewers. All sewers together form the sewerage.