

An Insight on Industrial Waste Water Treatment

Dereddy Mamatha*

Department of Pharmacy, Sri Indu Institute of Pharmacy, Hyderabad, India

ABSTRACT

This describes the processes that are used for treating the wastewater that is produced by the industries as an undesirable byproduct.

Keywords: Wastewater; Industries; Water treatment

INTRODUCTION

Wastewater has a lot of impact on the neutral world and to treat it effectively. Industrial wastewater treatment describes the processes that are used for treating the wastewater that is produced by the industries as a byproduct. This water is reused and released to the sanitary sewer and other uses after the treatment.

Most of the companies produce this wastewater recently many trends have been done to reduce the wastewater at the production level itself. The water treatment is done in different stages they are Collection; Screening and Straining; Chemical Addition; Coagulation and Flocculation; Sedimentation and Clarification; Filtration; Disinfection; Storage and finally Distribution.

Sources of industrial wastewater

Battery manufacturing: These manufacturing industries are specialized in producing small devices for electronics and other small equipment's and the large devices for cars and other vehicles that are motorized. The pollutants that are released from these units are chromium, cobalt, cadmium, copper, cyanide, iron, lead, manganese, mercury, nickel, oil & grease etc.

Food industry: The waste produced from these industries has different properties. It is generally nontoxic and biodegradable. This has high biological oxygen demand and suspended solids.

Iron and Steel manufacturing units: Production iron from its raw sources involves various reactions. While cooling these products the water is contaminated with various products like ammonia and cyanide.

Mines and quarries: the main waste product in these mines and quarries are solid particles in the water. These are mainly produced by the surfaces that are exposed to raining.

Effective ways of treatment

There are four most common ways of treating the wastewater. These include physical water treatment, biological water treatment, chemical treatment, and sludge treatment.

Physical Water Treatment: In this stage of wastewater treatment only physical methods are used without using any chemicals. The processes used in this treatment are screening, sedimentation and skimming. In this process the main target is to remove the solid waste.

Biological Water treatment: In this process various biological processes are used to breakdown the organic matter (soap, human waste, oils and food) present in the wastewater. In this method microorganisms metabolize the organic matter in the wastewater.

Chemical Water Treatment: In this treatment the procedure involves the uses of chemicals in the water. The main chemical used is chlorine an oxidizing chemical as it kills the bacteria which decomposes the water by adding its contaminants to it. Second chemical is ozone. water is brought to its neutral pH by adding an acid or base this technique is called neutralization. These chemicals prevent the bacteria from reproducing in the water and so by making the water pure.

Sludge Treatment: This is a solid-liquid separation process where the least possible residual moisture is required in the solid phase and the lowest possible solid particle residues are required in the separated liquid phase.

CONCLUSION

Hereby we can conclude that these wastewaters are very toxic to the environment. Various techniques are used to treat the wastewater. Many advancements should be made so to reduce the wastewater from the industries.

*Corresponding to: Dr. Dereddy Mamatha, Department of Pharmacy, Sri Indu Institute of Pharmacy, Hyderabad, India. E-mail: mamathareddy.dereddy@gmail.com

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