

DOMESTIC WASTE WATER TREATMENT

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Abstract

Water which is disposed from offices, homes and industries is known as wastewater. It basically comes from the toilets, showers, sinks, washing machines, showers and industrial processes. The most considerable environmental problem and hazard to public health in both rural and urban India is not enough access to sanitation facilities and clean drinking water [1], [2]. Almost all the sources of surface water are contaminated to various extents by organic pollutants and by the bacterial contamination which makes them unfit for human utilization. There are many diseases which are commonly caused by contaminated water such as cholera, typhoid, gastroenteritis, hepatitis, bacterial dysentery etc. In this study wood and Fly ash has been independently studied for their adsorption properties [3]. The present study states the use of wood ash alone in different ratios with fly ash and in combined state for the treatment of domestic waste water. The Effect of different parameters of wood ash and fly ash has been studied. With the quick increase in the population of the India, the need to meet the increasing demands of domestic and industrial consumption, irrigation, the available water resources in many parts of the country are getting exhausted and the water quality has become worse.

Key words: fly ash, wood ash, absorption, adsorption, laundry waste water.

Introduction: -

Domestic waste water includes grey water, water from washing machines, sinks, dish washers and bath tubs etc. and black water, fecal sewage. Grey water holds for 67.5% whereas black water holds 32.5% of domestic waste water [2]. Domestic waste water is personalized as organic pollutant. A basic problem remains with all these sewage treatment plants are their high maintenance and running cost. That is why there is a need for a few cost effective material to treat domestic wash water. The artificial wetland consists of ground masses such as cut rock and gravel, etc., as well as an associated aquatic plant. The wastewater flows into or below the surface layer of ground mass in the wetland and breaks down nutrient components in water through serial procedures such as the microbe attachment scheme, which differentiates from the wetland. Fly ash commonly researched for its adsorption characteristics and accessible in India from coal-fired power plants can be used for national waste water therapy purposes. The objective of this research is to use fly ash and wood ash as a prospective drug for national wash water therapy. India generates about 70 million tons of coal ash per year from 200 million tons of coal being

burned to generate electricity. Present study is aiming towards the use of fly ash and wood ash as a potential domestic wash water treatment substance [3], [4]. There is also a use of fly ash in the soil development and also find use in some surface applications due to its soft and absorptive nature. Fly ash is also used in the growth of soil. It has been used effectively for gas adsorption, coloring and metal ions. In zeolite preparations for their micro porous constructions, fly ash was also commonly used. Domestic Waste Water treatment by fly and wood ash along with additive materials [3]. In this study wood and fly ash are ground and sieved after obtaining using different meshes and then stored in labeled and tight containers and the further study was performed in batches using conical flasks.

Methodology: -

Both fly ash and wood ash are cleaned with twice distilled water to remove contamination and dried individually for 5 hours. Both ash from fly and ash from wood are handled with conc. H_2SO_4 is stored in the oven at a temperature range of 150 degree celcius for 24 hours at 1:1 weight ratio. To remove free acid and dry in an oven, the ashes are washed again with doubly distilled water. Gray water from the washing machine and dish washer used for the research.

Conclusion: -

Fly ash in abundance available at coal-fed power plants can be used effectively to treat national waste water. Fly ash can be efficiently used in the treatment of domestic waste water and when it is used in combination with wood ash it shows great improvement in the adsorption properties. Therefore it is concluded that fly ash rather than wood ash is a better option for the treatment of domestic waste water treatment [5].

Reference: -

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