

## A necessary way for the conversion of harmful plastics into productive fuel

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Waste management is today's biggest concern. In the water sources and soil, high volumes of wastes are being dumped; occasionally, these wastes are burnt, which poses risks not only to the environment but also to public health. Among the waste disposal, plastics disposal is the major issue that we are currently facing because the use of polythene bags is predominant as they are being utilised for almost every purpose. When these polythene bags are disposed of, animals feed on them, which leads to a block in their digestive tracts, thereby diminishing the urge to eat, and altering their feeding behaviour which will eventually create an impact on their growth and reproductive output. Plastics are harming marine life to a greater extent. According to research, microplastics have been found to affect fish at the population level. A recent study found that dead fish contained 2 to 3 kg of plastics. This might cause an imbalance in biodiversity. Hence, going through the conversion of the plastic into some other productive form, such as alcohol would tackle this problem. The alcohol produced can be used as fuel. Plastics contain the monomeric unit as ethene, when this ethene is treated with a base, such as sodium hydroxide, it produces alcohol. For this process, depolymerisation of the polymer should be performed initially followed by treatment with a base. By doing so we could save our earth and its biodiversity. This method is suitable not only for polythene but for almost all types of plastics. More research should be carried out in this area to bring a cleaner environment by eliminating plastic and meanwhile producing valuable output from the waste.

*Keywords: Alcohol production, Waste management, Plastics, Effects, Biodiversity, Marine life, Alcohol, Fuel*

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