

Use of Cobalt Graphene in Place of Platinum in Catalytic Converter

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Abstract : Today in the modern world the most important problem faced by the mankind is increasing the pollution in a very high rate. It affects the ecosystem of the environment and also aids to increase the greenhouse effect. The exhaust gases from the automobile is the major cause of a pollution. Automobiles have increased to a large number which has increased the pollution of our world to an alarming rate. There are two methods of controlling the pollution namely, pre-pollution control method and post-pollution control method. This paper is based on controlling the emission by post-pollution control method. The ratio of surface area of nanoparticles to the volume of the nanoparticles is inversely proportional to the radius of the nanoparticles. So decreasing the radius, this ratio is leading resulting in an increased rate of reaction and thus the concentration of the pollution is decreased. To achieve this objective, use of cobalt-graphene element is proposed. The proposed method is mainly to decrease the cost of platinum as it is expensive. This has a longer life than the platinum-based catalysts.

Keywords : automobile emissions, catalytic converter, cobalt-graphene, replacement of platinum

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