Air Pollution Absorption System

Mr. Praveen Chouksey, Dept. of Computer Science Engineering

Dr. C.V. Raman University, Bilaspur

ABSTRACT

Air pollution is becoming a major health issue affecting millions of people around the world. The World Health Organization estimates that, in support of this observation, 2.4 million people die every year from the effects of air pollution on health. The proposed paper provides a clean environment by adsorbing the harmful gases and reducing the emission of harmful gases through a vehicle.We develop a housing structural shape which contains the mixture of chemical compound for absorbing harmful gases, sensor for detecting a percentage of carbon present in the housing.

KEYWORDS: Air pollution, Absorption, Harmful gas, Sensor, Carbon

INTRODUCTION

Air pollution is the biggest problem that is affecting the environment[1]. Air pollution occurs when harmful or excessive quantities of substances including gases, particles, and biological molecules are introduced into Earth's atmosphere[2]. It may cause diseases, allergies and even death to humans; it may also cause harm to other living organisms such as animals and food crops, and may damage the natural or built environment [3]. The harmful gases produced from the vehicle, chimney, industry etc. majorly affects the environment. In a motor vehicle, an emission gas purifier is equipped, for exhausting harmful gases outside the vehicle[4]. The purifier has catalyst converter made up of precious metals such as platinum, palladium and rhodium through which the emission gas passes. During this process, the toxicant gas such as tri-component of hydrocarbon (HC), carbon monoxide (COx) and nitrogen oxide (NOx) is simultaneously reduced in quantity by the mutual reducing and oxidizing reaction among the toxicant gas components[5]. Due to the aforementioned limitations, there exists a need to develop an apparatus

capable for adsorption of carbon monoxide (COx), hydrocarbon and nitrogen oxide (NOx)[6].

Working of Proposed System

The system consists of; housing, rod, sensor, buzzer and controller switch.A housing used as a chamber for storing harmful gases. A rod is horizontally placed inside the housing;a spring molded structure of rod is coated with the mixture of chemical compound[7]. The chemical compound used for adsorbing carbon dioxide and other harmful gases easily[8]. The sensor connected with the housing for detecting the percentage of carbon in the housing. For detecting the carbon percentage either an NDIR sensor (Non-dispersive infrared sensor) or Chemical sensor is used. The controller switch connected with a sensor, wherein the sensor transmits a signal to the controller switch when the percentage of carbon in housing crosses a limit.A buzzer for providing a signal indicating about, a user to change the housing when limit of carbon percentage is reached.

CONCLUSION

The advantages of this approach for absorbing harmful gases which emits from vehicle engine. The proposed paper providing a container that containing a rod has coating ofchemical compound for absorbing harmful gases. It will be cost effective and efficient touse and also let the person knows about to change the container.

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