

2023 年臺灣國際科學展覽會 優勝作品專輯

作品編號 180020
參展科別 地球與環境科學
作品名稱 Carbone monoxide filtre
得獎獎項

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關鍵詞

Abstract

Carbon Monoxide is a very toxic and dangerous that threatens our life and can cause sudden illness and death. It is the most abundant, by mass, pollutant gas generated by the engine due to the lack of oxygen and thus presented in our lives.

It is true that the oxidation catalyst absorbs carbon monoxide from the exhaust of cars during combustion. But that is not enough, the catalyst is only effective when the exhaust temperature is high (more than 400°C) which is not available in a short path.

To protect ourselves from this toxic gas, we must find solutions and innovative ideas to fulfill this objective. And this is how our project was created. Our focus in this project is to create a filter that can absorb carbon monoxide using the minimum of energy possible. It will be more efficient unlike the traditional method that not only needs high range of temperature (higher than 400°C) but also takes a long period for the reaction to occur.

【評語】 180020

Concept of a physical device for converting CO into CO₂ (using metal catalyst) as captured by particulate filter. Adsorption and oxidation are two different reaction for CO with the filter. However , this work sorts out the application concept of this filter to improve the ambient air quality , but it lacks the experiment data collection and interpretation of the actual data analysis and evaluation.