

(54) Title of the invention : A DEVICE AND A METHOD FOR REDUCING HARMFUL GASES IN AN EXHAUST OUTLET OF VEHICLE

(51) International classification :A61B 900000, C10L 011600, F01N 030800, G09G 033400, H05H 014600

(86) International Application No :NA  
 Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
 Filing Date :NA

(62) Divisional to Application Number :NA  
 Filing Date :NA

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(57) Abstract :  
 A device (200) and a method (400) for reducing harmful gases in an exhaust outlet of vehicle is provided. The device (200) includes a doped zinc oxide (ZnO<sub>2</sub>) nanomaterial based filter (202) configured to adsorb reducing harmful gases in the exhaust outlet (102) of the vehicle. The device (200) is highly effective at adsorbing reducing gases, such as carbon monoxide, which is a highly toxic gas. The device (200) not only adsorbs carbon monoxide but also gases such as cyanides, benzene, toluene, and PAH which are exhausted by the vehicle and are extremely carcinogenic. The device is small enough to be easily integrated into existing exhaust systems without the need for major modifications or alterations. The device (200) allows the user to monitor the performance of the doped ZnO<sub>2</sub> nanomaterial based filter (202) in real-time.

No. of Pages : 19 No. of Claims : 10