

(54) Title of the invention : Diesel Engine Emission Reduction Using Catalytic Nanoparticles

(51) International classification :B01D0053940000, F01N0003280000, F01N0013000000, B01J0021040000, B01J0037080000

(86) International Application No :PCT//
Filing Date :01/01/1900

(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

(71)Name of Applicant :

1)Dr.C Sailaja

Address of Applicant :Professor, Department of Mechanical Engineering, Bangalore College of Engineering, Chandarura, Bangalore, Karnataka-560099 -----

2)Dr. Raffi Mohammed**3)Dr.N. Ahalya****4)Er. Shaik Shajahan****5)Dr.S C V Ramana Murty Naidu****6)Dr.N.Santhi Sree****7)Dr. B. Vijaya Ramnath**

Name of Applicant : NA

Address of Applicant : NA

(72)Name of Inventor :

1)Dr.C Sailaja

Address of Applicant :Professor, Department of Mechanical Engineering, Bangalore College of Engineering, Chandarura, Bangalore, Karnataka-560099 -----

2)Dr. Raffi Mohammed

Address of Applicant :Professor, Department of Mechanical Engineering, NRI Institute of Technology, Pothavarappadu Village, Agiripalli Mandal, Krishna District, Andhra Pradesh, Pin-521212 -----

3)Dr.N. Ahalya

Address of Applicant :Department of Biotechnology, Ms Ramaiah Institute of Technology, MSRIT PO, Bangalore 560054, Karnataka -----

4)Er. Shaik Shajahan

Address of Applicant :Lab Assistant, Department of Mechanical Engineering, SRM University, Amaravati, Andhra Pradesh -522503 -----

5)Dr.S C V Ramana Murty Naidu

Address of Applicant :Professor, Department of Mechanical Engineering, Sri Venkateswara College of Engineering and Technology, Etcherla, Srikakulam, Andhra Pradesh -532410 -----

6)Dr.N.Santhi Sree

Address of Applicant :Associate Professor, Department of Mechanical Engineering, Matrusri Engineering College, Hyderabad -500059 -----

7)Dr. B. Vijaya Ramnath

Address of Applicant :Professor and Head, Department of Mechanical Engineering, Sri Sai Ram Engineering College, Chennai - 600044, Tamil Nadu, India -----

(57) Abstract :

[06] This work presents the testing of a catalytic converter coated with aluminum oxide nanoparticles. Catalytic converters are developed based on catalytic materials containing metal oxides such as aluminum oxide nanoparticles (Al₂O₃). The catalyst material (Al₂O₃) is cheap compared to noble catalysts like platinum or palladium. In addition, noble metals such as platinum group metals are now recognized as hazardous to human health due to emissions from conventional catalytic converters into the environment. The conversion efficiency of Al₂O₃ based catalytic converter has been experimentally found to be 99.5%, 92% for CO and HC emissions respectively. The objective of this work is to develop a low cost three-way catalytic converter for use with a DI diesel engine.

No. of Pages : 19 No. of Claims : 5