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पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

INTRODUCTION

In view of the recent amendment made in the Patents Act, 1970 by the Patents (Amendment) Act, 2005 effective from 01st January 2005, the Official Journal of The Patent Office is required to be published under the Statute. This Journal is being published on weekly basis on every Friday covering the various proceedings on Patents as required according to the provision of Section 145 of the Patents Act 1970. All the enquiries on this Official Journal and other information as required by the public should be addressed to the Controller General of Patents, Designs & Trade Marks. Suggestions and comments are requested from all quarters so that the content can be enriched.

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(54) Title of the invention : METHOD FOR SYNTHESIZING TITANIUM DIOXIDE AND IRON OXIDE BASED NANOCOMPOSITE CAPABLE OF REDUCING OXIDES OF NITROGEN IN ATMOSPHERIC AIR

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(57) Abstract :

Disclosed is a method for synthesizing a TiO₂/Fe₂O₃ nanocomposite includes introducing 60-90 grams of nano-TiO₂ and 10-40 grams of nano-Fe₂O₃ into a ball mill, by maintaining a ball-to-powder ratio of 30:1 with speed associated with the ball mill of 20-80 RPM for 8- 12 hours, transferring obtained resulting mixture into a glass crucible subjecting the glass crucible to calcination in a muffle furnace at a temperature of 300-500°C for a duration of 2-5 hours, performing ultrasonication of the calcinated mixture by way of an Ultrasonicator, including two cycles of ultrasonication with acetone, each lasting for 10-20 minutes, followed by an additional cycle with deionized water (DI) under similar ultrasonication conditions, at a controlled temperature of 15-45°C, and drying the ultrasonicated obtained mixture in a hot air oven at a temperature of 80-120 °C for a duration of 4-7 hours.

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