



Certificate of Registration for a UK Design

Design number: 6424079

Grant date: 20 February 2025

Registration date: 16 February 2025

This is to certify that,

in pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of

Dr. RAVINDRA FAKIRRAO PATHRE, Mr. YOGESH RAMESHWAR KAYANDE,

SACHIN SHANKAR JADHAV, Dr. DIGAMBAR DAMODHAR BHUTEKAR, Ms.

MONIKA GULABRAO RATHOD, Mr. AMOL PRAKASHRAO

KUKKADGAONKAR, Mr. PRASHANT DHARMANAND KAMBLE

in respect of the application of such design to:

Insect Trap with Real-Time Connectivity

International Design Classification:

Version: 15-2025

Class: 22 ARMS, PYROTECHNIC ARTICLES, ARTICLES FOR HUNTING,
FISHING AND PEST KILLING

Subclass: 06 TRAPS, ARTICLES FOR PEST KILLING

Adam Williams

Comptroller-General of Patents, Designs and Trade Marks

Intellectual Property Office

The attention of the Proprietor(s) is drawn to the important notes overleaf.





INTELLECTUAL
PROPERTY INDIA

PATENTS | DESIGNS | TRADE MARKS
GEOGRAPHICAL INDICATIONS



क्रमांक : 022124022
SL No :



भारत सरकार
GOVERNMENT OF INDIA
पेटेंट कार्यालय
THE PATENT OFFICE
पेटेंट प्रमाणपत्र
PATENT CERTIFICATE
(Rule 74 of The Patents Rules)

पेटेंट सं. / Patent No. : 429588

आवेदन सं. / Application No. : 202221045945

फाइल करने की तारीख / Date of Filing : 11/08/2022

पेटेंटी / Patentee : 1. Manohar Kashiram Jopale 2. Amol Haridas Kategaonkar
3. Bharat Namdev Shelke 4. Gayatri Madhukar Gaidhane et
al.

प्रमाणित किया जाता है कि पेटेंटी को, उपरोक्त आवेदन में यथाप्रकटित A METHOD FOR MANUFACTURING NANOPARTICLES OF COBALT OXIDE WITH TRAPPED NEON नामक आविष्कार के लिए, पेटेंट अधिनियम, 1970 के उपबंधों के अनुसार आज तारीख अगस्त 2022 के ग्यारहवें दिन से बीस वर्ष की अवधि के लिए पेटेंट अनुदत्त किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled A METHOD FOR MANUFACTURING NANOPARTICLES OF COBALT OXIDE WITH TRAPPED NEON as disclosed in the above mentioned application for the term of 20 years from the 11th day of August 2022 in accordance with the provisions of the Patents Act, 1970.



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अनुदान की तारीख : 21/04/2023
Date of Grant :

पेटेंट नियंत्रक
Controller of Patent

टिप्पणी - इस पेटेंट के नवीकरण के लिए फीस, यदि इसे बनाए रखा जाना है, अगस्त 2024 के ग्यारहवें दिन को और उसके पश्चात प्रत्येक वर्ष में उसी दिन देय होगी।

Note. - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 11th day of August 2024 and on the same day in every year thereafter.

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Not classified

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(25) Filing Language:

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(26) Publication Language:

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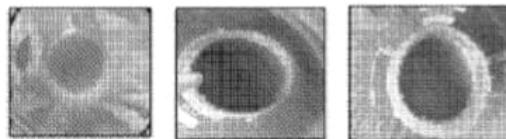
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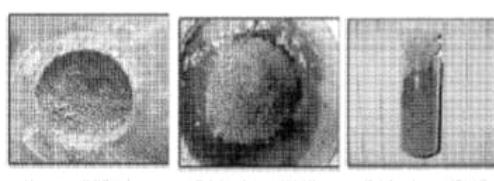
(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU,

(54) Title: RAPID GREEN PROCESS USING OPAQUE LATEX OF *JATROPHA CURCAS* PLANT FOR THE PREPARATION OF HIGHLY PURE NICKEL OXIDE

Images during Nickel Oxide Preparation.

Latex of *Jatropha curcas* Latex + $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$ Latex + $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$ + Heat

Just at solidification Yellow colour mixture Yellow colour semisolid



Near to solidification Calcination at 400 °C Calcination at 650 °C

Fig4 Nickel Oxide Preparation

(57) **Abstract:** Nickel oxide has number of applications in fields like electronic, magnetic and in industries the requirement of nickel oxide (NiO) is in large quantity and in high purity state. The present rapid green process invented for the preparation of nickel oxide (NiO) from analytical reagent grade solid nickel chloride ($\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$) and specifically opaque latex of *Jatropha curcas* plant as a green solvent. This process results in covering the green chemistry principles like waste prevention, all atoms converted to oxide, less hazards, non-toxic material generation, due to short time requirement for the real time analysis pollution prevention occurred, energy required for this process was minimized. Material was analysed by using XRD, EDAX and SEM characterization methods. This results in perfectly matches to (JCPDF: 00-432-0490) card number for NiO.

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202221006276 A

(19) INDIA

(22) Date of filing of Application :05/02/2022

(43) Publication Date : 12/08/2022

(54) Title of the invention : RAPID GREEN PROCESS USING OPAQUE LATEX OF JATROPHA CURCAS PLANT FOR THE PREPARATION OF HIGHLY PURE NICKEL OXIDE

(51) International classification :C01G0053040000, H01M0004860000, C01G0053090000, G02F0001152300, C12N0001200000

(86) International Application No :NA

Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA

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(62) Divisional to Application Number :NA

Filing Date :NA

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(57) Abstract :

Nickel oxide has number of applications in fields like electronic, magnetic and in industries the requirement of nickel oxide (NiO) is in large quantity and in high purity state. The present rapid green process invented for the preparation of nickel oxide (NiO) from analytical reagent grade solid nickel chloride (NiCl₂.6H₂O) and specifically opaque latex of Jatropha curcas plant as a green solvent. This process results in covering the green chemistry principles like waste prevention, all atoms converted to oxide, less hazards, non-toxic material generation, due to short time requirement for the real time analysis pollution prevention occurred, energy required for this process was minimized. Material was analysed by using XRD, EDAX and SEM characterization methods. This results in perfectly matches to (JCPDF: 00-432-0490) card number for NiO.

1. Characterized sample was analysed for its purity from XRD database which shows exact match of XRD patterns with reference JCPDS (00-432-0490) database of nickel oxide.

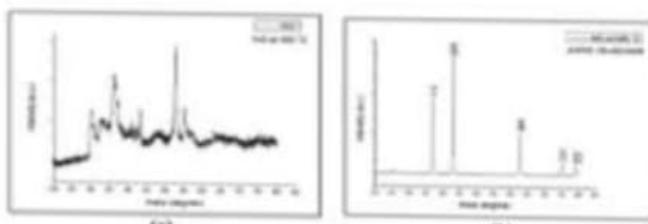


FIG: XRD patterns of Nickel Oxide (NiO) in Jatropha curcas latex as a green solvent.

(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application : 11/08/2022

(21) Application No. 20221045945 A

(43) Publication Date : 26/08/2022

(54) Title of the invention : A METHOD FOR MANUFACTURING NANOPARTICLES OF COBALT OXIDE WITH TRAPPED NEON

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(51) International classification

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C01G0051080000

(86) International Application No

: NA

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(87) International Publication No

: NA

(61) Patent of Addition to Application Number

: NA

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: NA

(62) Divisional to Application Number

: NA

Filing Date

: NA

(57) Abstract :

A method for manufacturing nanoparticles of cobalt oxide (Co_3O_4) with trapped neon provides a unique process for manufacturing cobalt oxide with improved glossiness.



Application Filing Receipt

CBR Number : 10821

**Government of India
Patent Office**
Intellectual Property Office Building,
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CBR date: 21-03-2025

Application Type: ORDINARY APPLICATION

Priority Number:

Priority Date:

Priority Country: Not Selected

To,

Ravindra Fakirrao Pathre

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Received documents purporting be to an application for patent numbered 202521025720 dated 21-03-2025 by Ravindra Fakirrao Pathre of Plot no 88, gut no 169, Shivnagar, Chate school road Satara parisar, Satara, Aurangabad, Maharashtra relating to Solar insect trap for collection and pest control together with the Complete and fee(s) of ₹1600 (One Thousand Six Hundred only).

Note:

1. In case of Patent Application accompanied by a Provisional Specification, a complete Specification should be filed within 12 months from the date of filing of the Provisional Specification, failing which the application will be deemed to be abandoned under Section 9(1) of the Patent Act, 1970.
2. You may withdraw the application at any time before the grant of patent, if you wish so. If, in addition to withdrawal, you also wish to prevent the publication of application in the Patent Office Journal, the application should be withdrawn within fifteen months from the date of priority or date of filing, whichever is earlier.
3. If not withdrawn, your application will be published in the Patent Office Journal after eighteen months from the date of priority or date of filing, whichever is earlier.
4. If you wish to get your application examined, you should file a request for examination in Form-18 within 31 months from the date of priority or date of filing, whichever is earlier, failing which the application will be treated as withdrawn by the applicant under Section 11(8)(4) of the Patent Act, 1970.

(For Controller of Patents)