



## Patenting Aspects of Natural Products

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Received: 10-06-2021; Revised: 25-07-2021; Accepted: 03-08-2021; Published on: 15-08-2021.

### ABSTRACT

A patent is a monopoly right granted to a Patentee for a definite time period, during which he/she is given the exclusive right to stop anyone else from using his/ her invention without approval. The European law may allow patents to be granted to natural products, where such products may not be eligible for patent protection in USA, the European patent office strict assessment of priority and added subject matter, it is important that all subject matter is included in the first application for the invention.

**Keywords:** Patent, purpose of patent, patent filling procedure, IPR, patent aspects of natural products.

### QUICK RESPONSE CODE →

DOI:  
10.47583/ijpsrr.2021.v69i02.027



DOI link: <http://dx.doi.org/10.47583/ijpsrr.2021.v69i02.027>

### INTRODUCTION

#### PATENT:

A patent refers to an exclusive right which is granted to an inventor.

The person who has been granted patent is called "Patentee".

The word patent is a Latin term "PATERE". Which means to lay open or open letter.

#### Purpose of Patent:

- † To motivate the inventor
- † It gives legal monopoly to the people
- † Ensure that ultimately better products and processes are found to prove the quality of human life.

An invention is patentable subject matter if it meets the following criteria –

- i) It should be novel.
- ii) It should have inventive step or it must be non-obvious
- iii) It should be capable of Industrial application.
- iv) It should not attract the provisions of section 3 and 4 of the Patents Act 1970.

Patent protection is a territorial right and therefore it is effective only within the territory of India. There is no concept of global patent.

#### Patent office in India:

- Kolkata (Head office)
- Mumbai
- Delhi
- Chennai

#### Patent application stages:

- ✦ Filing
- ✦ Publication
- ✦ Examination
- ✦ Opposition
- ✦ Grant

#### Patent filling procedure:

1. Filing of parent application
2. Publication
3. Opposition (if any)
4. Request for examination
5. First examination results
6. Amendment of objectives by the applicant
7. Grant of patent
8. Renewal fees

#### IPR:

Intellectual Property Rights

**Definition:** IPR is defined as the exclusive rights of the inventor for the protection of his or her actual property, thus excluding others from making, copying, using, or selling his proprietary subject matter.

It is a legal characterization and treatment of trade related biotechnological processes and product.



IPR are the rights given to person who over the creations of their mind.

It contains

- Creation of mind
- Invention
- Symbols
- Literary
- Artistic work

**IPR includes:**

- a) Patent
- b) Copy right
- c) Trade secrets
- d) Trade marks

**Patent:**

Process, product, and apparatus having industrial applications.

**Copy right**

Design, book, charts, films, advertisement.

**Trade secrets**

Literally works, artistic works, software, photography.

**Trade marks**

Words, sign.

**Patenting of pharmaceuticals:**

- New chemical entities
- Process for preparing the new chemical entity
- Pharmaceutical intermediates
- Pharmaceutical composition of new compounds
- New pharmaceutical composition of old compounds
- Process of preparing new compositions
- First pharmaceutical use of known compounds
- Second or new pharmaceutical use of a known compounds.

**Validity of patent:**

The term of every patent granted is 20 years from the date of filing of application. However, for application filed under national phase under Patent Cooperation Treaty (PCT), the term of patent will be 20 years from the international filing date accorded under PCT.

**Granting of the Patent:**

No opposition or clearing satisfactorily all the objections by the applicant, patent is granted and sealed by the Patent Office.

**Patentable natural products:**

- 1) Novel isolation process of natural product from it's surroundings.
- 2) Characterization of new product either by its structure or by other physical parameters.
- 3) A new application of isolated product provided unless such knowledge or invention do not exist anywhere  
Example; Japanese patent for the use of turmeric as a stabilizer for an antifungal agent.

- 4) Invention and novelties

Example; products like biopesticides.

- 5) Patenting in relation to biotechnology

- 6) Patenting for biological matter

Example; Microorganisms like E.coli

- 7) Patentable microbial inventions includes; Methods for producing new organisms Reducing pathogenicity Increasing biological activity of Invention of new organisms and their composition.

- 8) Transgenic plants can be altered genetically to obtain transgenic plants of desired characters

Example; herbicidal resistant cotton plant, Insecticide resistant tobacco plant such techniques are patentable

- 9) Patenting of secondary metabolites by cell culture which includes sophisticated and specific methods can be patented.

Example; Production of taxol by cell culturing of taxus species.

**Non-patentable natural products:**

- ✦ Plants grow in wild
- ✦ Plants adapted for cultivations
- ✦ Hybrids or other cultural varieties which have been tried for particular use.

**Criteria for granting a patent:**

- New (Novelty)

i.e. invention must be new and not known earlier.

- Useful (Capable of industrial application)

i.e. invention must work and should not be only theoretical.

- Unobvious (involve an inventive step)

i.e. must involve some effort on part of inventor.

**Some examples of natural products belongs to patenting:**

**NEEM (*Azadiracta indica*)**

**N** = Nature's

**E** = Eco friendly



**E** = Economical

**M** = Miracle

**Common name:** Neem

**Botanical name:** *Azardiracta indica*



**Kingdom:** Plantae

**Family:** Meliaceae.

**Medical uses:**

All parts of Neem tree used as anthelmintic, antifungal, antidiabetic, antiviral, antibacterial, contraceptive and sedative. It used in treatment like:-

Skin diseases

Healthy hair

Improve liver function

Detoxify the blood

Pest control

Dental treatment

Cough

Asthma

Urinary disease etc.

**The Patent:**

- I. The first U.S patent on storage stable composition for Neem seed extract was issued in 1985 to the inventor **Robert O. Larsson**.
- II. Then it solid in 1988 to Multinational chemical corporation, **WR Grace and Co**.
- III. In 1990, the multinational chemical corporation, WR Grace and Co start neem based biopesticides.
- IV. In 1994, the **EPO** (European patent office granted patent.
- V. In 1995, Opposed by **Magda Aelvoet** (European parliament member and representative of the Green's in the European parliament) and **RFSTE** (Research Foundation for Science, Technology and Ecology) **VI**. 2000, EPO revoked patent on the basis of lack of inventive step and novelty.

**VII**. In 2005, The patentees appealed against this decision, and on 8<sup>th</sup> March 2005, the Boards of Appeal of the EPO gave its final decision.

**VIII**. The Patent ownership was transferred from **WR Grace** to **Thermo trilogy corporation** (a U.S company) **Turmeric (*Curcuma longa*)**

Turmeric is a tropical herb grow in East India.



Turmeric powder has a distinctive deep yellow colour and bitter taste.

It is used as a dye, cooking ingredients, litmus in chemical test and for medical purposes.

**Health benefits:-**

- ⊕ Great anti inflammatory
- ⊕ Improve digestion
- ⊕ Prevent Alzheimer's
- ⊕ Prevent gas or bloating
- ⊕ Helps to prevent cancer
- ⊕ Anti parasitic for many skin infections
- ⊕ Blood purifier
- ⊕ Natural antiseptic ❖ Boost immune system ❖ Diabetes control etc.

**The Patent:-**

- In 1993, the Patent application by University of **Mississippi medical center**.
- **USPTO** (United States patent and Trademark office) granted patent in 1995 for use of turmeric in wound healing
- In 1996, council of scientific and industrial research of India (**CSIR**) challenged the Patent.
- The Patent was cancelled in 11997.
- In 1998, the re- examination certificate was issued which signified the end of case.

## CONCLUSION

The European law may allow patents to be granted to natural products, where such products may not be eligible for patent protection in USA, the European patent office strict assessment of priority and added subject matter, it is important that all subject matter is included in the first application for the invention. Application may therefore find it valuable to consult a European patent, experience in natural products at an early stage of patent drafting.

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**Source of Support:** The author(s) received no financial support for the research, authorship, and/or publication of this article.

**Conflict of Interest:** The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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