

PATENTABILITY ASSESSMENT OF THE INVENTION



**Biotechnology Industry Research Assistance Council
(A Government of India Enterprise)**

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**Vinita Jindal, Ph.D
Manager- IP & Technology
Management**

WHAT IS PATENTABILITY

- Refers to the fundamental conditions that must be met for a patent to be held valid.
- As patent laws are different in different countries, the patentability criteria also vary from country to country.
- Invention must satisfy the requirements under the context of a national or multinational body of law to be granted a patent.

REQUIREMENTS FOR PATENTABILITY

- ✓ NOVELTY
- ✓ NON-OBVIOUSNESS
- ✓ UTILITY

Novelty- requires an invention to be new and must not be known to anywhere in the world

Utility/Industrial application- Invention should be useful or has some industrial application

Non-obviousness or Inventive step- Invention should be different from what a common person can do

Non-exclusion by law- Invention should not have been excluded by law from the patentability list

PATENTABILITY ASSESSMENT

A patentability assessment includes:

- a patent search,
- a detailed analysis of the references uncovered and
- a written report on patentability

Detailed Analysis involves consideration of what prior art documents could be combined for obviousness

WHY PATENTABILITY ASSESSMENT

- Patentability assessment is basically evaluating the patentability criteria
- Patent application may be rejected for several unforeseen reasons, therefore, it is important to conduct a patentability assessment before filing a patent.
- Reduces the risk of rejection and saves money, effort and time
- Ensures that the patent will not be rejected because of patentability criteria

COMPONENTS OF PATENTABILITY ASSESSMENT

The following points are examined while doing patentability assessment

- An assessment of ***Novelty*** of the invention
- Assessment of the ***Inventiveness***
- Assessment of ***Usefulness***
- Assessing non-exclusion by law
- Analyse the prior art such as patents/articles published by other parties which may challenge the invention's patentability

NOVELTY ASSESSMENT

- *To study the gap between the invention and the prior art*
- *An assessment of the prior art of the universe i.e. available anywhere in the world*
- Novelty is defined differently in the legal system of different countries. eg. the US laws are not so strict on novelty
- **Absolute novelty:** invention should not have been known to the public anywhere in the world, in any manner, immediately prior the earliest patent application date (earliest priority date).
- **Relative novelty:** In the USA if the invention is published, the inventor or his successor can still file a patent application within one year of such publication

Another form of relative novelty occurred in New Zealand and was referred to as “***Local novelty***”.

Publication, use or sale within New Zealand only, was regarded as novelty destroying i.e. if the invention was known anywhere else, but not in New Zealand, it could still be patented in New Zealand.

INVENTIVENESS ASSESSMENT

- ✓ Evaluate if a person with average intelligence and skill in the art could have discovered the invention
- ✓ Generally, patent examiner may cite multiple prior art documents in combination against the application.
- ✓ None of these documents describe the entire proposed invention, but the sum of the teachings of the documents will be assumed as causing the proposed invention to be obvious

INVENTIVENESS ASSESSMENT

- Identification of the closest prior art/the most relevant prior art
- Determining whether or not the claimed invention is able to address the problems in view of the closest prior art
- Examining whether or not the claimed solution to the technical problem is obvious for the skilled person in view of the state of the art in general
 - If the skilled person have been prompted to modify the closest prior art in such a way as to arrive at something falling within the terms of the claims, then the invention does not involve an inventive step.

INDUSTRIAL APPLICABILITY ASSESSMENT

- Aim of the Patent law is to protect the *“technical solutions to a given problem”* and not *“abstract knowledge”*.
- According to US law, the invention which do not lead to an industrial product can also be patented, if it has some function (*“useful”*) of benefiting the humanity.
- This concept of *“usefulness”* is broader than industrial applicability.
- However, the TRIPs agreement does not define the concept of industrial applicability, Member countries have flexibility to assess *“industrial applicability”* synonymous with *“useful”*.

NON-EXCLUSION ASSESSMENT

- Done by looking at the list of categories, which are excluded from the patentability list
- Different countries have different exclusions and lists may include scientific discoveries, invention against human society etc.
- If the invention directly falls into any of those categories, then it is disqualified.

HOW TO DO A PATENTABILITY ASSESSMENT?

- ✓ Always good to have assessment done by an experienced professional organization or by a patent attorney.
- ✓ But before outsourcing to external organization,
 - Always carry out preliminary analysis/search by yourself
 - Preliminary analysis always gives the basic knowledge and confidence and reduces dependability
- ✓ Cost of a patentability assessment varies with the amount of time spent searching, analyzing references, and preparing the written report as well as the skill of the searcher and the patent agent or patent lawyer providing the assessment



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WHY WE SEARCH?

To retrieve information which is required to answer specific questions

HOW WE SEARCH?

Identify Keywords or write the Key string

WHAT WE SEARCH?

Any document or information related to questions

WHY WE SEARCH PATENTS?

PATENTABILITY SEARCH

- Is a given invention (claimed in a patent application) patentable?

FREEDOM-TO-OPERATE SEARCH

- Do the Intellectual Property rights of others infringe your product?

VALIDITY/INVALIDITY SEARCH

- Is a given patent valid?

STATE-OF-THE ART SEARCH

- Which technologies exist in a given field of technology?
- Who is active in a given field of technology?

PATENTABILITY SEARCH

- ❑ Also known as *Novelty Search* which helps to determine the Novelty of the invention
- ❑ Done to identify Patents and Non-Patent literature
- ❑ To find out if the similar or identical invention that has been patented by someone else
- ❑ Recommended to be done before writing and filing patent specification, hence known as Pre-application search



PATENT DATABASE

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SITE

- US Patent and TradeMark Office (USPTO)
URL: www.uspto.gov
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URL: www.ep.espacenet.com
- WIPO (World Intellectual Property Organization) Patentscope
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Term 1: in Field 1:

AND

Term 2: in Field 2:

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1976 to present [full-text]

- All Fields
- All Fields
- Title
- Abstract
- Issue Date
- Patent Number
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- Assignee Name
- Assignee City
- Assignee State
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In November, 2012 Eurasian Patent Office (EAPO) is launching new Espacenet v. 5 server. You have certainly noticed the significant changes in the layout: the server now has a modern look and the use of regular functions is now more convenient. The changes go beyond just the look, the server now has new functionalities and stored information has new features. At present the data loaded to the server is processed directly at the EAPO. This allows for the completeness of the front file data, higher quality and prompt updates. Nevertheless the EAPO continues to provide its patent documents in English for Espacenet Worldwide database.

New features related to the Eurasian patents data include:

- Descriptions of inventions and claims are displayed also in text-coded format;
- Search within full texts is now supported;
- Names of companies, inventors' last names in English are now searchable (e.g. BASF, Smith);
- Documents in PDF format are now text-coded; therefore you can search for a key word within downloaded PDF file.

Some new features of the Espacenet v. 5:

- Smart search with query syntax, including data search in Russian;
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Currently we have loaded the back file data starting from 2006. We plan to load the complete back file collection (data since 1996) before the end of 2013.

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Keyword(s) in title or abstract (in English):	<input type="text"/>	
Publication number:	<input type="text"/>	e.g. EP1322146
Application number:	<input type="text"/>	e.g. EP20030005329
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Publication date:	<input type="text"/>	e.g. 20030917
Applicant(s):	<input type="text"/>	e.g. IBM
Inventor(s):	<input type="text"/>	e.g. Siemens
European Classification (ECLA):	<input type="text"/>	
International Patent Classification (IPC):	<input type="text"/>	e.g. H02M7/537 H03K17/687

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Examples:

The entered value is searched against the Title, Abstract, Numbers and Names.

↓ "electric car"~50

↓ Smith or Klein

↓ WO2010000001

↓ EP2012001709

↓ "sol* panel"~5

↓ elect?icit?

↓ electric^10 and car^3

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Field Abbr.	Field Name	Type	Syntax Example and Comments
AADR	Assignee Address (complete string)	Text	AADR/California AADR/"Route 66"
ABST	Abstract	Text	ABST/widget ABST/"titanium steel"
AC	Assignee City	Text	AC/Paris AC/"New York"
ACLM	Claims	Text	ACLM/"cardboard box"
ACN	Assignee Country	Text	ACN/IP or ACN/US

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Common Fields

All (e.g. Metal) ?
Title (e.g. "metal detector") ?
Abstract (e.g. television) ?
Claim(s) (e.g. system) ?
Description/Specification (e.g. "hand-held telephone") ?

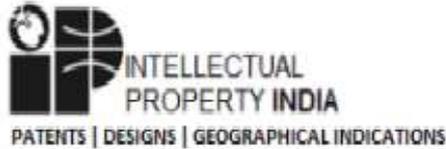
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Application Date (National)	▼ From:	01/01/1912	☒ To:	13/03/2015	☒ AND	▼
Title	▼	e.g. computer			AND	▼
Abstract	▼	e.g. computer +keyboard			AND	▼
Claims	▼	e.g shed+			AND	▼
Description	▼	e.g tamiflu			AND	▼
Application Number	▼	e.g 3285/CHENP/2008			AND	▼
Publication Number	▼	e.g 218531			AND	▼
Applicant Name	▼	e.g chris*			AND	▼

Application Number:

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<i>Legal Status :</i>	<i>Ceased</i>
<i>Date Of Cessation</i>	<i>09/11/2009</i>

Patent Number	236542	Date of Patent	24/Jun/2004
Application Number	3511/CHENP/2005	Date of Grant	09/Nov/2009

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SEQUENCE SEARCH FACILITY- PATENT LENS



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Important Information

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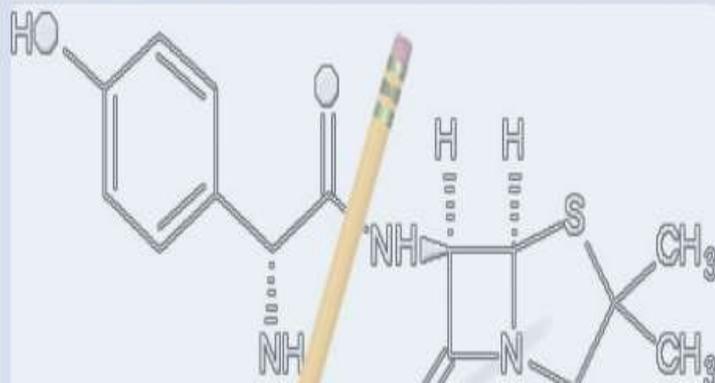
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General search

— ▲ **Keywords** —

⊕ Title, Abstract, Object of invention, ▾ ... E.g.:Telecom+ CR phone

— ▼ **Classifications** —

— ▲ **Names** —

Assignee (Original or Current) ▾ Corporate Tree E.g.:Siemens Nixdorf

Inventor: E.g.:Fleming Alexander, Moyer Andrew

Representative: E.g.:Baker Botts

— ▲ **Numbers, Dates & Country** —

Publ. number ▾ ... E.g.:EP0981063

Date: No Restriction ▾

Patents published in (Patent authorities): E.g.:US, EP

— ▲ **Legal status** —

Status: No restrictior (alive or dead) ▾

Legal events: None ▾

Expiration date: No Restriction ▾

— ▲ **More fields** —

NON-PATENT DATABASES

Google scholar



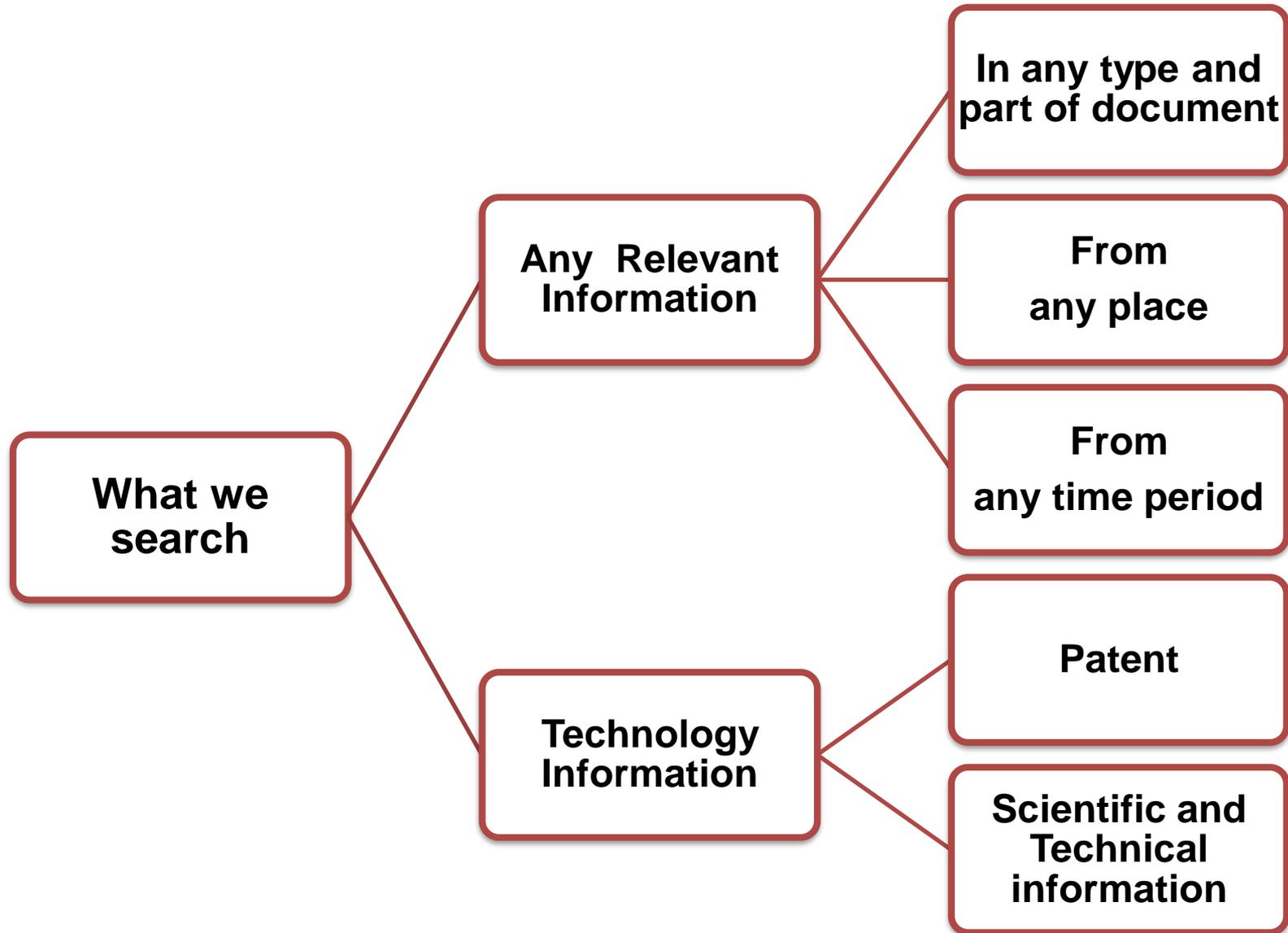
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CONCEPTS IN SEARCHING



SCIENTIFIC AND TECHNICAL INFORMATION

❖ **Scholarly publications:**

- Handbooks, textbooks, encyclopaedias, journals, dissertations, conference proceedings, technical reports

❖ **Industry/trade publications**

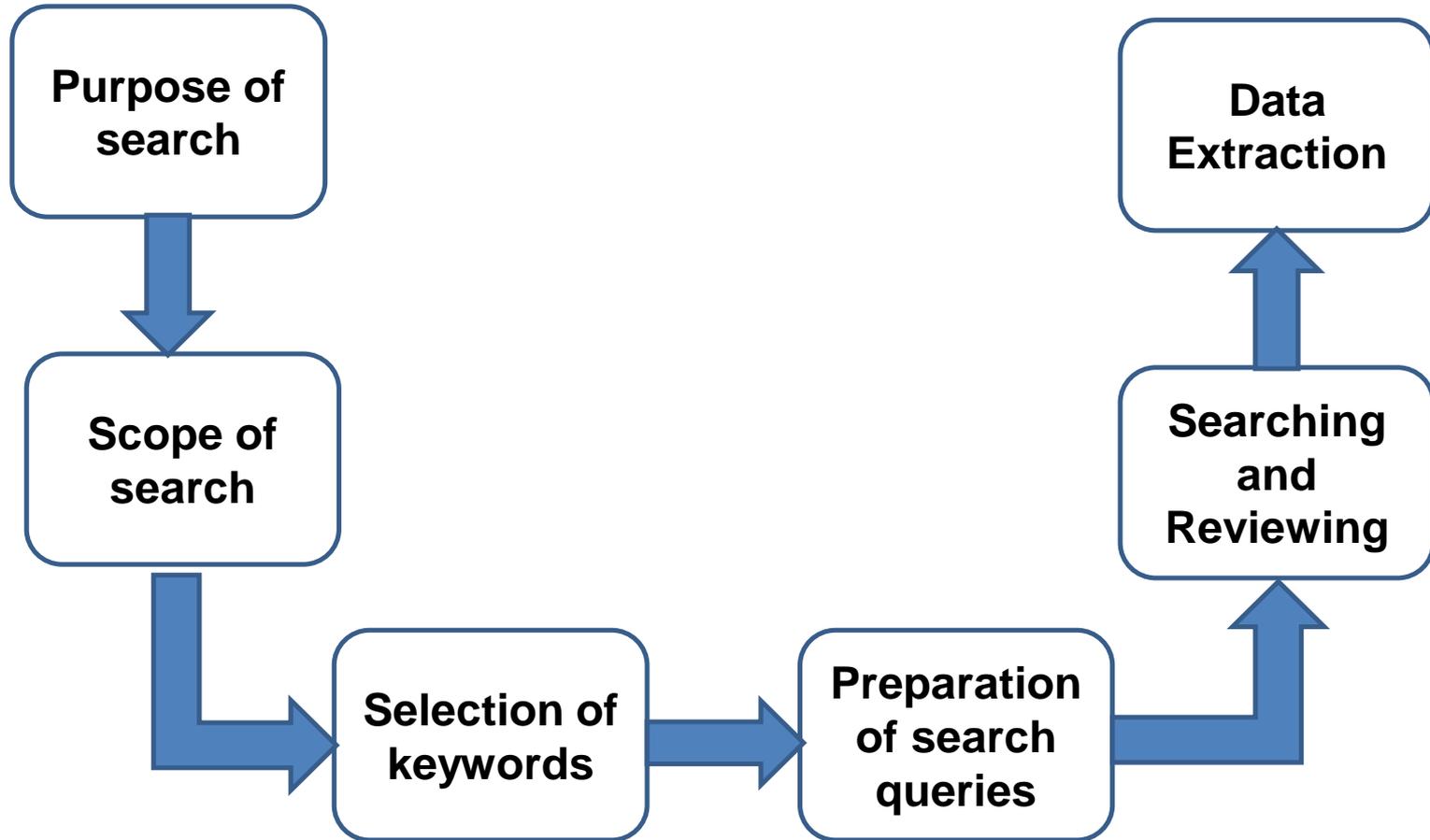
- Industry reviews, disclosure publications

❖ **Newspapers**

❖ **Websites**

- Technology blogs, researchers' websites

PROCESS OF PATENT SEARCH



CREATING AND REFINING SEARCH QUERIES

1. TRUNCATION OR WILDCARD OPERATORS

Stands for an unspecified number of characters in a queries

Wildcard	Meaning	Use in Patent collections	Example
? (Question Mark)	Represent to exactly one character	Left, right, and internal use supported	“t?re” will pick up “tyre” and “tire”)
* (Asterisk)	Represent to unlimited number of characters	Left and/or right, internal	“File*” will pick up file or files etc.

2. PROXIMITY OPERATORS

Proximity operators search:

- Based on the distance by number of terms separating two keywords,
- Also find words in the same paragraph

Operators	Meaning	Example
SAME	Terms must be in the same paragraph, in any order	Flame SAME Resistant
ADJ	Terms should be next to each other and in the same order	Flame ADJ Resistant
NEAR	Terms should be next to each other and in any order	Flame NEAR Resistant

Record View: Patent US4145330A

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Bibliography

DWPI Title ?

Flame retardant thermoplastic poly:pivalolactone compsn. contains ammonium poly:phosphate for heat resistant, impact resistant moulding

Original Title ?

Flame retardant polypivalolactone compositions

Assignee/Applicant ?

Standardized: **ETHYL CORP** 

Original: Ethyl Corporation, Richmond, VA, US

DWPI Assignee/Applicant ?

ETHYL CORP (ETHY-C) 

Inventor ?

Zorzi Paul A., Baton Rouge, LA, US  Allen Thomas S., Baton Rouge, LA, US  Kucsma Michael E., Baton Rouge, LA, US 

DWPI Inventor ?

ALLEN T S; KUCSMA M E; ZORZI P A

Publication Date (Kind Code) ?

1979-03-20 (A)

DWPI Accession / Update ?

1979-27723B / 197914

Application Number / Date ?

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<input type="checkbox"/>		Publication Number	Inventor	Assignee/Applicant	Publication Date	Relevancy
<input type="checkbox"/>		CA1056549A1	ZUPANCIC HEINZ-ULRICH	TEXACO AG	1979-06-12	3
		Title: PROCESS FOR THE PRODUCTION OF FLAME-RESISTANT PHENOLIC RESIN FOAM PLASTICS				
<input type="checkbox"/>		CA2373581C	ZUCCARINI ANTHONY MARK	ZUCCARINI ANTHONY MARK	2004-07-27	7
		Title: METHOD AND APPARATUS FOR BAKING FOODS IN A BARBEQUE GRILL				
<input type="checkbox"/>		RU2024560C1	ZUBKOVA NINA S	MO G TEKSTILNAYA AKADEMIYA IM	1994-12-15	1
		Title: FLAME RESISTANT POLYMERIC COMPOSITION				
<input type="checkbox"/>		CN101115348A	ZOU Ming-ren	NANYA PLASTICS CORP	2008-01-30	1
		Title: Polybutadiene thermosetting resin printed circuit carrier plate composition and method for making the same				
<input type="checkbox"/>		US4145330A	Zorzi Paul A.	ETHYL CORP	1979-03-20	2
		Title: Flame retardant polypivalolactone compositions				
<input type="checkbox"/>		US4113669A	Zondler Helmut	CIBA GEIGY CORP	1978-09-12	5
		Title: ...				

Application Number / Date ?

[CA221595A](#) / 1975-03-07

Priority Number / Date / Country ?

[DE2413567A](#) / 1974-03-21 / DE 

Abstract

DWPI Abstract ?

[\(DE2413567A1\)](#)

Novelty

Flame-resistant foamed phenolic resins are prepd. by (a) mixing a phenol-formaldehyde resin condensed under alkaline conditions with (I) a blowing agent, e.g. pentane or methylene chloride, and (II) a curing agent consisting of a mixt. of 8-12 vol. esp. 10% aromatic sulphonic acid, 18-22 esp. 20 vol.% ethylene glycol and 68-72 esp. 70 vol.% 85% phosphoric acid, and (b) foaming/curing under hot or cold conditions. In addn. to a good resistance to free flames, also posses a good mechanical strength. The sulphonic acid is pref. 60% phenolsulphonic acid. The phenolic resin soln. contains 75% solids, and 15-40 esp. 25-30 vol.% (II), based on soln.

Abstract ?

ABSTRACT OF THE DISCLOSURE **Flame-resistant** foam plastics are prepared by mixing with an aqueous alkaline condensed phenol-formaldehyde resin solution an expanding agent such as hexane and an acidic curing agent after which the mixture is foamed and permitted to cure. Useful acidic curing agents, comprise mixtures of a strong inorganic or organic acid, a glycol and phosphoric acid.

Classes/Indexing

IPC ?

IPC Code(1-7) [C08K 5/42](#) [C08J 9/14](#) [C08L 61/10](#)

(7)

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	 DE3271894D1	ZOLLNER ROBERT DR	BAYER AG	1986-08-07	1
	Title: PROCESS FOR THE PREPARATION OF FLAME-RESISTANT AND COLD-RESISTANT POLYURETHANE FOAMS AND THEIR USE AS INNER COATINGS OF STORAGE-TANKS				
	 EP588003B1	Zobrist Konrad (Colasit AG)	WAGNER INT	1997-09-24	1
	Title: Spraying booth				
	 JP04383665B2	-	BAYER AG	2009-12-16	1
	Title: A flame-resistant polycarbonate / ABS plastic molding material				
	 TWI304428B	MICHAEL ZOBEL	BAYER AG	2008-12-21	1
	Title: Flame-resistant polycarbonate compositions having increased chemical resistance				
	 EP1214380B1	ZOBEL Michael	BAYER MATERIALSCIENCE AG	2010-01-27	1
	Title: FLAME-RESISTANT POLYCARBONATE BLENDS				

3. BOOLEAN OPERATORS

Major Boolean operators are **AND**, **NOT**, and **OR**

Operators	Meaning	Example
AND (to narrow down a search by combining search terms)	Two term must exist	Nylon AND rayon
OR (to increase the chances of finding results)	Any one term or two terms must exist	Nylon OR rayon
NOT (to exclude irrelevant patents from a search)	A term following “NOT” must be excluded	Nylon NOT rayon

DIFFERENCE BETWEEN A PATENT SEARCH AND A PATENTABILITY ASSESSMENT

- A patent search is only the first step in a patentability assessment
- Include search for relevant prior art documents without an analysis of references or written report on patentability
- A patentability assessment includes a patent search, a detailed analysis of the references uncovered and a written report and opinion on patentability

CONCLUSION

- ✓ Patentability assessment is extremely important before filing a patent application.
- ✓ By doing a patentability assessment the inventors can:
 - Determine whether the invention is patentable or not
 - If the invention is non-patentable, substantial cost, effort and time can be avoided
 - Inventors can get the knowledge of similar inventions in the field
 - Inventors can modify their ideas to suit the patentability criteria

Thank You