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Improved patent searching using DWPI Manual Codes on STN: Part 1

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Agenda

- Why should I use Derwent Manual codes?
- The complete Derwent patent indexing scheme
 - File Segments
 - Derwent Sections
 - Derwent classes
 - Derwent manual codes
- How the codes are applied by our analysts
- Search tips

REMINDER – THE DWPI ABSTRACT

- Derwent abstracts are a big help in understanding an invention
 - They are all in English
 - They try to standardize terminology as far as possible
 - They are organized into several paragraphs each talking about a different aspect of the invention (Novelty, Use, Advantage etc.)
- However abstractors have to accurately summarize the invention
 - So they have to use more generic terminology for instance to accurately summarize the claims

Why are manual codes better?

- Manual codes are applied by a subject expert who is in effect giving an opinion on which area of technology is being referred to in the patent
 - Codes only cover standard technology terms so the code applied is the best fit to the technology described
 - Code hierarchies are updated annually to reflect changes in technology with input from users of the system
 - A small team of people applies codes in any given technology area so codes should be applied more consistently than IPC
 - Where a patent involves more than one technology area it will have codes applied by different subject specialists for each technology area

Another issue – words sometimes have more than one meaning

- Using a manual code can restrict to your preferred meaning
- It also eliminates trivial references to the topic often found by key words
- Example mouse can be a pointing device for a computer or a small rodent
- A search on the manual code T04-F02B1 will restrict to patents about the type of mouse attached to a computer and furthermore only find patents where that is the inventive feature or a principle application of the invention



Manual codes vs patent office classification systems

- IPC's are applied by 90 different patent offices and so can be inconsistent
 - DWPI does pool all IPC's for each invention to help with this
- ECLA/CPC is more accurate but less timely
- National classification symbols are only applied to patents from one authority
- Manual codes cover 47 authorities and appear within 2-4 weeks of publication of the patent in most cases
- Using manual codes together with other schemes means 2 sets of eyes have reviewed the material and classified it reducing the opportunity for missing any key patent

Manual code vs IPC

- Although broadly similar in depth of coverage the following differences do occur
 - Only IPC covers most general and mechanical engineering subject areas
 - Derwent manual codes are more detailed in the areas of pharmaceutical / agrochemical activities and biotechnology
 - Manual codes consistently cover applications of inventions as well as the novelty

The Derwent Patent Classification scheme

- Top level – The file segment
 - Chemical, Electrical engineering or General & Mechanical Engineering
- Next level – The DWPI Section
 - High level summary of technology (e.g. pharmaceuticals, communication devices, transport)
- Next level – The DWPI class
 - The broad technology involved (e.g. steroids, domestic electrical appliances, railways)
- Lowest level (in most cases) – The DWPI manual code
 - The specific technology involved

The file segment

- There are 3 of these
 - CPI – The Chemical Patents Index
 - EPI – The Electrical Patents Index
 - GMPI – The General & Mechanical Patents Index
- They are searched in the field /FS
 - For example S CPI/FS
- Patents can be assigned to 1, 2 or all 3 of these file segments as necessary based on the invention and it's area of application

CPI Sections

- The chemical patents Index is split into 12 sections as follows
 - A - Polymers & Plastics
 - B – Pharmaceuticals & Veterinary
 - C – Agrochemicals & Veterinary
 - D – Food, Detergents, Water treatment & Biotechnology etc.
 - E – General Chemicals
 - F – Textiles & Paper Making
 - G – Printing, Coating & Photographic
 - H – Oil & Petroleum
 - J – Chemical Engineering
 - K- Nucleonics, Explosives & Protection
 - L- Glass, Ceramics, Cement Electro(In)organic
 - M - Metallurgy

EPI Sections

- The Electrical Patents Index is split into 6 sections as follows
 - S - Instrumentation, Measuring & Testing
 - T - Computing & Control
 - U – Semiconductors & Electronic Circuitry
 - V – Electronic Components
 - W – Communications
 - X – Electrical Power Engineering

GMPI Sections

- The general & Mechanical Patents Index is split into 2 Sections as follows
 - P General (No manual codes applied to this section)
 - Q Mechanical (Partial coverage of this section with manual codes)
- Sections are top level terms of the DWPI class and can be searched in the /DC field
 - For instance S B/DC AND M/DC would find patents where both metallurgy and pharmaceuticals were important

DWPI classes

- Each DWPI Section is split into several classes
 - For example D16 Biotechnology & Fermentation, D25 Detergents and cleaning compositions, Q21 railway vehicles T04 Computer peripherals
- They are often used to restrict the meaning of keywords (e.g. S cell and (B04 OR C06 OR D16)/DC to find patents about living cells
- Analyzing the DC field can find the broad technology area a company is working in
 - S BADI/PACO
 - ANA 1- DC
 - D 1-10 will identify the top 10 technologies BASF are working in

DWPI Manual codes

- In section M and Q-X the manual code (where it exists) is simply a sub-division of the Derwent Class
 - E.g. all patents classified in T04 will be given T04 manual codes
- However in Sections A, B, C & E there is no such simple relationship
 - A class in one of these sections only ensures manual codes from the same section will be applied but does not restrict the range of applicable codes within that section available to that patent (e.g. B02 class patents can get codes from any of the code sections B01 – B15)
- Furthermore in Sections D, F, G, H, J, K & L the relationships are more complex
 - For instance D15 class relates to D04 manual codes

Manual code application rules

- The manual codes applied generally reflect the broadest concepts described in the patent
 - Where a patent describes in the main claim a broad concept and then in a dependent claim drills down to a specific example that would sit below that in the hierarchy only the top code is applied
 - So a drug that treats cancers such as lung cancer would be code B14-H01 (cancer treatment) not B14-H01K3 (lung cancer)
 - Also in cases where 3 or more specific codes that sit under a general code would be applied only the general code applies
 - The specific code is only applied when the patent focuses solely on that topic

The Special Section of Manual Codes

- There is no such CPI Section as N and there are no N classes however there are Section N manual codes
- These cover catalysts (other than polymerization catalysts) together with the processes they catalyze mentioned in patents
- The codes are applied whenever a catalyst is mentioned in the DWPI documentation abstract, even if it is only mentioned in the example
- They are applied to patents classified in any CPI section other than those which are only in Section A
- These can be searched by any user who has access to Section E

How to find which codes to use

- Use the expand command within a relevant DWPI file on STN
- There is a manual code look up tool on the Thomson Reuters Website
 - <http://ip-science.thomsonreuters.com/mcl/>
 - Lets you look up codes based on key words
 - Or look up the meaning of a code
 - Also shows codes within the hierarchies
 - Where the code has changed over time both the current and older codes are shown

View of code display in the tool

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IP & Science - Manual Code Lookup

MANUAL CODE LOOKUP

Enter code to look up: [GO](#)

| B14 : Pharmaceutical activities
|- B14-H : Anticancer drugs

CODE	B14-H01
TITLE	Anticancer general and other
STATUS	Current
DATE	(1994-)
RELATED CODES	B12-G07
SCOPE NOTES	
SEARCH TERMS	

Current code → B14-H01

Former code → B12-G07

B14-H01A :	Leukaemia treatment
<i>Current</i>	
B14-H01B :	Antiproliferative, inhibitor of cell division, cytostatic
<i>Current</i>	
B14-H01C :	Dermatological cancers
<i>Current</i>	
B14-H01D :	Endocrine cancers
<i>Current</i>	
B14-H01E :	Gastrointestinal cancers
<i>Current</i>	
B14-H01F :	Genitourinary cancers
<i>Current</i>	

OPTIONS

- [Learn more about the DWPI classification system](#)
- [Download Classification Manual](#)
- [CPI Manual Codes](#)
- [EPI Manual Codes](#)
- [About the Manual Code Revision](#)
- [IPC reform](#)

MANUAL CODE REVISION SUGGESTIONS

As a valued customer we welcome your input for the annual revision of DWPI Manual Codes. Please use the links below:

- [Suggestions for CPI and Frag codes](#)
- [Suggestions for EPI](#)

Alternatively please [email us](#).

Download the manual code manuals

- The DWPI manual code manuals can be downloaded for free from our Website (1 for CPI and 3 for EPI/GMPI)
 - Each manual includes all codes that have ever been applied including ones that are now retired
 - The manuals also have indexes (one for CPI, one for EPI/GMPI) and also special indexes covering all codes related to the growth areas of nanotechnology and green technology
 - CPI manual <http://ip-science.thomsonreuters.com/support/patents/userguides/chemistryguides/>
 - EPI manuals <http://ip-science.thomsonreuters.com/support/patents/userguides/engineeringguides/>

CPI manual codes manual – Section B14-H codes

B14-H	CANCER RELATED DRUGS Codes from sections B14-H01D -H01Z are now structured within the hierarchy B14-H01D to B14-H01L below. All document records containing codes introduced in 2005 will be changed to reflect the updated 2006 hierarchy and codes B14-H01M to B14-H01Z will no longer be searchable.	1994
B14-H01	Anticancer general and other <i>Previous code(s): B12-G07</i>	1994
B14-H01A	. Leukaemia treatment <i>Previous code(s): B12-G05</i>	1994
B14-H01B	. Antiproliferative, inhibitor of cell division, cytostatic <i>Previous code(s): B12-D07, B12-E08, B12-G07</i>	1994
B14-H01C	. Dermatological cancers	2005
B14-H01D	. Endocrine cancers	2005
B14-H01D1	.. Breast cancers	2005



Tips for searching manual codes

- Always include the more generic code(s) above a specific term if you want complete retrieval
- Chemical structure codes are complementary to the deep indexing in Sections B, C & E and so should not normally be used instead of it
 - The rules for applying these mean only the chemically most unusual feature of a molecule is coded so the code for hydroxy compounds would not pick up hydroxyalkylsulfonic acids for instance
 - Certain structural features which can be difficult to find with deep indexing (e.g. nanostructures, metallocenes, steroids) do have their own manual codes
 - Structural manual codes can be used to limit the results from a chemical deep indexing search.
 - S Lx AND (B06-D02 OR C06-D02 OR E06-D02)/MC would restrict to patents where a quinoline ring was at the core of the structure
 - This would not work if the structures also contained metals, As, B, P, Se, Si or Te atoms or patents where quinoline was one of several rings which could be present at the core of the structure



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STN[®]

Improved patent searching using DWPI Manual Codes on STN: **Part 2**

Robert Austin – FIZ Karlsruhe

Example: DC, MC and FS

L1 ANSWER 1 OF 1 WPIX COPYRIGHT 2013 THOMSON REUTERS on STN
AN 2009-R36511 [200979] WPIX
TI Elastomer composition, e.g. for forming strips, profiles, conveyor belts or tires, comprises emulsion crude rubber, synthetic latex or natural rubber latex, styrenated diphenyl amine, and thiomethyl hydroxyl containing compound
DC A18; A81; A82; A87; A88; A95; F06; F09; G02; G03
IN KNOBLOCH G; ROTA-GRAZIOSI P; ROTA GRAZIOSI P
PA (BADI-C) BASF SE; (CIBA-C) CIBA HOLDING INC
CYC 124
PIA WO 2009138342 A1 20091119 (200979)*
TW 2009051144 A 20091216 (201038)
KR 2011007248 A 20110121 (201112)
EP 2285887 A1 20110223 (201115)
ADT WO 2009138342 A1 WO 2009-EP55460 20090
Application WO 2009-EP55460 20090506;
20090513; KR 2011007248 A KR 2010-727437 20090506; KR 2011007248 A
PCT Nat. Entry KR 2010-727437 20101206; EP 2285887 A1 EP 2009-745675
20090506; EP 2285887 A1 PCT Application WO 2009-EP55460 20090506
FDT KR 2011007248 A Based on WO 2009138342 A; EP 2285887 A1 Based on WO
2009138342 A
PRAI EP 2008-156250 20080515

DWPI Classification, Manual Codes, and File Segments are searchable and displayable in the DC, MC and FS fields respectively on STN.

MC CPI: A07-A05; A08-A01; F03-F16; F03-F18; F05-A06B; G02-A05C;
G03-B02D; G03-B02D1; G03-B02D2; G03-B02D3

FS CPI

Search examples: Important principles

- Manual Codes will often retrieve unique relevant answers compared to text searching
 - Its difficult to take into account all synonym text terms
- Unlike IPC, Manual Codes are assigned to the inventive features plus major uses/applications
 - Manual Codes will therefore often retrieve unique relevant hits compared to IPC searching
- If 3 or more concepts from the same hierarchy apply, then only the generic code will be indexed
 - For complete retrieval of a specific concept, search for the specific and generic Manual Code using 'OR'

Example: Direction finders

=> FILE WPIX

=> S ((DIRECTION FIND?) OR (BEARING MEASUR?)) RANGE=1980-
L1 2473 ((DIRECTION FIND?) OR (BEARING MEASUR?))

=> S W06-A02+NT/MC
W06-A02 DIRECTION FINDERS
L2 8785 W06-A02+NT/MC (7 TERMS)

=> S L2 NOT L1
L3 7722 L2 NOT L1

=> D L3 TI MC 1-20

L3 ANSWER 1 OF 7722 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
TI Sound source localization error reduction method, involves receiving
video information from beacon marker module, calculating distance and
angle among microphones according to coordinate values, and extracting
marker module information
MC EPI: T01-J10B3A; W04-G01F1; W04-P01F3; W06-A02E; W06-A03F

Manual Codes will often retrieve unique relevant answers compared to text searching (L3).

Note: Electronic/electrical (EPI) Manual Codes were added into DWPI from 1980 onwards.

Example: Direction finders (cont.)

L3 ANSWER 3 OF 7722 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
TI Hybrid beam forming apparatus for use in wideband wireless communication system, has transmitter comprising analog phase shifter to perform phase shift based on estimated angle of arrival/designated angle of orientation

MC EPI: W02-B06; W02-B08R1C; W06-A02A

. . . .

L3 ANSWER 9 OF 7722 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
TI Mixed signal direction estimating method, involves estimating direction of arrival of irrelevant signal, and forming uniform linear array of sensors, where distance between adjacent sensors is half of wavelength of narrow band signal

MC EPI: W06-A02A

. . . .

L3 ANSWER 14 OF 7722 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
TI Optical angle sensor for use in solar plant to determine angle between direction toward sun and angle sensor alignment, has light-sensitive sensor producing signal to represent angle between direction toward light source and alignment

MC EPI: S02-A03B4; T01-L02B; T01-S03; W06-A02C

. . . .

Its often difficult to take into account all synonym text terms.

Example: ABS polymer

=> FILE WPIX

=> S A04-C03/MC

A04-C03 STYRENE WITH ACRYLONITRILE AND BUTADIENE

L1 7073 A04-C03/MC

=> D L1 SUM MC 1

L1 ANSWER 1 OF 7073 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
AN 2012-E64493 [201228] WPIX
TI Injection molding method for plastic washing machine cover plate,
involves injecting drying **acrylonitrile butadiene styrene** plastic into
molten state after heating nozzle, and drying acrylonitrile butadiene
styrene plastic by utilizing oven
NOV NOVELTY - The method involves drying **acrylonitrile butadiene styrene**
(ABS) plastic for 3 hours by utilizing an oven. An injection molding
system is heated to 200 degrees centigrade to 260 degrees centigrade.
A hot flow passage is heated to 230 degrees centigrade to 260 degrees
centigrade in the injection molding system. An injection mold is
heated to 65 degrees centigrade to 75 degrees centigrade. The ABS
plastic is injected into a molten state after heating a nozzle.
MC CPI: A04-C03; A09-D01; A11-B12C

Manual Codes are assigned to main inventive features.

ABS is a central theme in records retrieved via its Manual Code (L1).

Example: ABS polymer (cont.)

```
=> S ACRYLONITRILE STYRENE BUTADIENE OR (ABS AND A/DC)
L2      17679 ACRYLONITRILE STYRENE BUTADIENE OR (ABS AND A/DC)
```

```
=> S L2 NOT L1
L3      13232 L2 NOT L1
```

```
=> D L3 KWIC 1-20
```

In contrast, additional answers retrieved via a text search (L3) are where, e.g. ABS is one polymer in of a list of possible options.

```
L3      ANSWER 1 OF 13232 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
DC      A86; P23; P78; T01
TECH.   . .
```

(PPS), polyethyleneimine (PEI), liquid-crystal polymers (LCP), polyethylene naphthalate (PEN), polybutylene terephthalate (PBT), polyethylene terephthalate (PET), polyoxymethylene (POM), acrylonitrile butadiene styrene (ABS), PVC, PTFE, polyvinylfluoride (PVF) and polyvinylidene fluoride(PVDF).

```
L3      ANSWER 2 OF 13232 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
DC      A92; Q32; Q33
TECH.   . .
```

frame CTB and upper lid CTB are made of flexible plastics such as polypropylene or polyethylene or acrylonitrile butadiene styrene (ABS) to refrain from breaking.

Example: ABS polymer (cont.)

L3 ANSWER ... OF 13232 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
DC A95; T06; W06

DETD . . . rings are made of a carbon fiber or thermoplastic material
such as high pressure polyethylene, polypropylene, acrylonitrile
butadiene and styrene (ABS), polyamide, polycarbonate,
polyfluortetraethylene or phenolic plastic.

L3 ANSWER ... OF 13232 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
DC A85; L03; U14; X26

TECH. . .
material which is selected from polyethylene, poly vinyl chloride,
polystyrene, polypropylene, poly methyl methacrylate,
styrene-acrylonitrile copolymer (SAN), and acrylonitrile-butadiene-
styrene copolymer (ABS).

L3 ANSWER ... OF 13232 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
DC A88; D15; J01

TECH. . .
square-shaped pipe are made up of thermoplastic resin such as
polyethylene terephthalate resin, polyvinyl chloride resin, and
acrylonitrile butadiene styrene (ABS) resin.

Example: Anti-cancer

=> FILE WPIX

Tip: One way to identify relevant Manual Codes (or IPCs) is to **ANALYZE** a text search answer set.

=> S (ANTICANCER OR ANTI(W)CANCER OR ANTINEOPLAS? OR ANTI(W)NEOPLAS?)/TI

L1 7996 (ANTICANCER OR ANTI(W)CANCER OR ANTINEOPLAS? OR ANTI(W)NEOPLAS?)/TI

=> ANALYZE L1 MC IPC 1-1000

ANALYZE IS APPROXIMATELY 93% COMPLETE

L2 ANALYZE L1 1-1000 MC IPC : 3120 TERMS

For example, here terms for anti-cancer are searched in the DWPI enhanced title (L1), and some of the results are analyzed (L2) to help find out which Manual Codes and IPCs may be available in this subject area (next slide).

Example: Anti-cancer (cont.)

=> D TOP 5 MC

L2 ANALYZE L1 1-1000 MC IPC : 3120 TERMS

TERM #	# OCC	# DOC	% DOC	MC IPC
--------	-------	-------	-------	--------

1	793	793	79.30	B14-H01
3	148	148	14.80	A12-V01
4	125	125	12.50	D05-H09
5	115	115	11.50	B14-S18
6	114	114	11.40	B14-L06

B14-H01/MC =
Anticancer general and other.

=> D TOP 5 IPC

L2 ANALYZE L1 1-1000 MC IPC : 3120 TERMS

TERM #	# OCC	# DOC	% DOC	MC IPC
--------	-------	-------	-------	--------

2	1050	623	62.30	A61P0035-00
23	81	60	6.00	A61P0043-00
27	95	56	5.60	A61K0047-48
29	104	53	5.30	A61K0031-337
30	87	53	5.30	C12Q0001-68

A61P0035-00/IPC =
Antineoplastic agents.

Example: Anti-cancer (cont.)

=> S B14-H01+NT/MC

B14-H01 ANTICANCER GENERAL AND OTHER
L3 123450 B14-H01+NT/MC (50 TERMS)

Manual Codes are also assigned to major uses/applications.

=> S A61P0035-00+NT/IPC

L4 81228 A61P0035-00+NT/IPC (3 TERMS)

=> S L3 NOT L4

L5 64360 L3 NOT L4

Cancer treatment is a major use/application in the many additional records retrieved via the Manual Code search (L5) .

=> D TRIAL 1-20

L5 ANSWER 1 OF 64360 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
AN 2012-E42573 [201228] WPIX
TI Injection port system for **injecting chemotherapeutic agents** into bone marrow during treatment of leukemia disease in human, has aperture which is provided in securing device so that material is injected/removed with respect to bone marrow
DC B04; B07; P34
IPCI A61M0039-02 [I,A]; A61M0039-04 [I,A]; A61M0005-00 [I,A]
MC CPI: B02-Z; B04-B04D; B04-F02B; B04-F13; B04-G21; B11-C04C; **B14-H01**; B14-S25

Example: Anti-cancer (cont.)

L5 ANSWER ... OF 64360 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
AN 2012-E25459 [201228] WPIX
TI Environmentally sensitive composition for determining the aggressiveness of a primary tumor, and preferentially **inhibiting proliferation of tumor cells**, comprises a pH triggered membrane sequence
DC B04; D16
IPCI A61K0051-08 [I,A]
MC CPI: B04-C01H; B04-E10; B04-E99; B04-N0100E; B04-N04A; B04-N04A0E; B04-N08; B11-C07B; B11-C08; B11-C12; B12-K04A1; **B14-H01**; B14-S03A; D05-H09

L5 ANSWER ... OF 64360 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
AN 2012-E24922 [201228] WPIX
TI Method for identifying multi-modal associations between e.g. biomedical markers, **to treat ovarian cancer** for patient, involves assigning ranking score to members of identified network, and determining network nodes
DC B04; D16; S05; T01
IPCI G06F0019-12 [I,A]
MC CPI: B04-K01J; B04-L03D; B04-L04C; B04-N04; B04-N06; B04-N11; B04-N12; B11-C08E; B11-C11; B12-K04A1; **B14-H01F3**; D05-H09
EPI: S05-G02G3; T01-J04B2; T01-N01E; T01-N02B2

Example: Polyethylene production

=> FILE WPIX

=> S A04-G02A/MC

A04-G02A ETHYLENE HOMOPOLYMER PRODUCTION

L1 3718 A04-G02A/MC

=> D TI MC 1-2

L1 ANSWER 1 OF 3718 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
TI **Producing high density polyethylene**, used to make articles (e.g. pipe)
an films, comprises polymerizing ethylene in presence of supported
chromium oxide based catalyst modified with an organic compound
comprising oxygen and nitrogen atoms
MC CPI: A02-A06A; **A04-G02A**; A10-B04

L1 ANSWER 2 OF 3718 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
TI High pressure polymerization process to form an **ethylene-based polymer**
comprises injecting first feed, and transferring first zone
reaction product to a second reactor zone
MC CPI: A02-B; **A04-G02A**; A04-G11; A10-B01; D09-C03; F02-A01; F03-C04;
F03-C05; F03-C07; F04-C05A; G02-A02D; G03-B02D3; G03-B02E

If 3 or more concepts from the same hierarchy apply, then only the generic code will be indexed.

Polyethylene production is a central theme in records retrieved using A04-G02A/MC (L1).

Example: Polyethylene production (cont.)

=> S A04-G01A/MC

A04-G01A POLYMERS FROM UNSUBSTITUTED (CYCLO)-ALIPHATIC MONOOLEFINIC MONOMERS PRODUCTION

L2 16232 A04-G01A/MC

Generic polyolefin production is a central theme in records retrieved using A04-G01A/MC (L2).

=> D TI MC 1-2

L2 ANSWER 1 OF 16232 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
TI Composition useful for preparing comb architecture **olefin** block copolymer, comprises mixture or reaction product resulting from combining first and second olefin polymerization catalysts, and chain shuttling agent e.g. vinylmethylzinc
MC CPI: A02-A06; A02-B; **A04-G01A**; A04-G01E; A10-B01; A12-E02; A12-S05E; F01-E09; F03-C07; F04-C06

L2 ANSWER 2 OF 16232 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN
TI Solution useful for preparing polymerization catalysts, preferably heterogenized **polyolefin** catalysts of Ziegler-Natta type, comprises reaction products of magnesium alkoxide with carboxylic acid halide, in hydrocarbon based solvent
MC CPI: A02-A07; **A04-G01A**; E05-B01; E10-A25B1; E12-B02

Example: Polyethylene production (cont.)

```
=> S L2 AND (ETHYLENE OR ETHENE)
L3      6821 L2 AND (ETHYLENE OR ETHENE)
```

```
=> D L3 KWIC 1
```

```
L3      ANSWER 1 OF 6821 WPIX COPYRIGHT 2012          THOMSON REUTERS on STN
TECH. . .
branched alkenyl, 3-12C cycloalkyl or phenyl).
POLYMERS - Preferred Method: In the method, the polymers subjected to
nucleation and clarification involves ethylene and propylene
homopolymers, their mutual statistical or sequential copolymers or
copolymers and terpolymers with higher alpha -olefins are selected
from. . .
MC      CPI: A02-A06; A02-A07A; A04-G01A; A08-M10; A08-S02; A10-B01
```

```
=> S L1 OR L3
L4      10257 L1 OR L3
```

```
=> S L1 OR L2
L5      19639 L1 OR L2
```

Ethylene may be specifically mentioned as, e.g. an example of the olefin (L3).

For complete retrieval of a specific concept, search the specific and generic Manual Codes using 'OR', e.g. L4 (narrower), L5 (broader).

Using the Manual Code thesaurus

- E CODE/MC to see an alphanumerical listing of codes and the number of associated terms (AT)
 - E E3+ALL to see the hierarchy of associated terms includes NT, BT, UF terms, meaning, and introduction date
 - E E3+NT to see the narrower Terms
 - E E3+BT to see the broader Terms
- E CODE+ALL/MC to see immediately the full hierarchy of terms for this code
 - Remember that the thesaurus is available in [LWPI](#)

Example: Manual Code thesaurus

=> E A04-G03+ALL/MC

```
E1      550208  BT2  A04/MC
          DEF  ADDITION POLYMERS
E2      5637    BT1  A04-G/MC
          DEF  POLYMERS FROM UNSUBSTITUTED (CYCLO)-ALIPHATIC
          MONOOLEFINIC MONOMERS (OTHERS)
E3      677     -->  A04-G03/MC
          DEF  PROPYLENE HOMOPOLYMER*
          HNTE (1966-1967)
E4      1723   NT1  A04-G03A/MC
          DEF  PROPYLENE HOMOPOLYMER PRODUCTION
          HNTE ( pre-1970)
E5      5498   NT1  A04-G03B/MC
          DEF  PROPYLENE HOMOPOLYMER COMPOSITIONS
          HNTE ( pre-1970)
E6      3153   NT1  A04-G03C/MC
          DEF  PROPYLENE HOMOPOLYMER FABRICATION
          HNTE ( pre-1970)
E7      1328   NT1  A04-G03D/MC
          DEF  PROPYLENE HOMOPOLYMER TREATMENT
          HNTE ( pre-1970)
E8      15952  NT1  A04-G03E/MC
          DEF  PROPYLENE HOMOPOLYMER USES
          HNTE ( pre-1970)
```

Broader Term (BT).

History Note (HNTE).

Narrower Term (NT).

Search with relationship codes.

.

=> S A04-G03+NT/MC

```
A04-G03 PROPYLENE HOMOPOLYMER*
L1      36344 A04-G03+NT/MC (7 TERMS)
```

Resources

- DWPI on STN User Documentation
 - http://www.stn-international.com/stn_dwpi.html
 - DWPI on STN Reference Manual
 - DWPI on STN Workshop Manual
 - DWPI Classification (DC) guide
 - Summary table of member level data coverage
 - Global Patent Sources – DWPI coverage in detail
 - Chemistry, Engineering and Polymer User Guides
- DWPI on STN database summary sheet
 - <http://www.stn-international.com/wpindex.html>

STN[®]

For more information ...

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