

*Derwent World Patents Index® (DWPI)*

## **Derwent Chemistry Resource (DCR) Details of Indexing**

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IP Solutions

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### **Introduction**

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- The *Derwent Chemistry Resource (DCR)* is a chemical structure database for searching specific compounds indexed in *Derwent World Patents Index® (DWPI)* bibliographic records.
- DCR indexing commenced in *DWPI Update 199916*. *The database is searchable both by chemical structure and by various text fields, allowing simple access to the DWPI database by specialist and non-specialist chemical searchers alike. DCR runs in parallel to, and to a certain extent replicates, current subscriber Chemical Indexing (Fragmentation Codes) for patents classified in Chemical Patents Index (CPI) Sections B (Pharmaceuticals), C (Agrochemicals) and/or E (General Chemicals).*
- DCR Numbers, which are unique identifiers for specific chemical compounds, form the link between the DCR chemical structure database and corresponding bibliographic indexing in *DWPI*.



## Access Derwent Chemistry Resource (DCR)

- STN: Seamless part in WPINDEX, WPIDS, WPIX file
- Dialog: Derwent Chemistry Resource (File 355),
- Questel: Derwent Chemistry Resource incorporated into Merged Markush Service (MMS)
- Derwent Innovation Index (DII): A patent search tool on Web of Knowledge.
- Datafeed direct from Thomson Reuters

To find user guide of DCR

- Visit Thomson Reuters website:
  - <http://www.thomsonscientific.jp/support/code/fragcode/index.shtml> (Japan)
  - <http://science.thomsonreuters.com/support/patents/userguides/chemistryguides/>
- STN (Fiz) website(PDF):
  - [http://www.stn-international.de/fileadmin/be\\_user/STN/pdf/search\\_materials/patents/dcr\\_rm.pdf](http://www.stn-international.de/fileadmin/be_user/STN/pdf/search_materials/patents/dcr_rm.pdf)

## DCR Indexing country coverage (2009.04)

Patent Authority	Country Code
Australia	(AU)
Austria	(AT)
Belgium	(BE)
Canada	(CA)
China*	(CN)
European Patent Office	(EP)
France	(FR)
Germany	(DE)
India*	(IN)
Ireland	(IE)
Japan**	(JP)
Korea, South*	(KR)
Netherlands	(NL)
New Zealand	(NZ)
Patent Cooperation Treaty (PCT)	(WO)
South Africa	(ZA)
Sweden	(SE)
Switzerland	(CH)
United Kingdom	(GB)
United States of America	(US)

\*India: 2005~,Based on Author's Abstract;  
\*China: 2008~; \*Korea: 2008~; \*\*Japan: from 2000

# e.g. DWPI on STN provides patent family and chemical substance records

•FILE LAST UPDATED: 7 MAY 2009 <20090507/UP>  
 •MOST RECENT UPDATE: 200928 <200928/DW>

## Patent Families (DWPI)

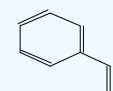
## Substances (DCR)

**17,000,000 DWPI Records**

L1 ANSWER 1 OF 1 WPINDEX COPYRIGHT 2007 THE THOMSON CORP on STN  
 AN 2005-217884 [23] WPINDEX  
 TI Recovery of solvent and styrene from polystyrene solution involves recovering solvent by evaporation and recovering styrene from polystyrene thermally decomposed by solvent  
 DC A13; A35; E14; J01  
 IN KANG E; KYO Y; OGURA A  
 PA (TOSH-M) TOSHIBA PLANT KENSETSU KK  
 FI JP 2005060471 A 20050310 (200523)\* JA 10[2] C08J0011-12  
 ADT JP 2005060471 A JP 2003-290004 20030808  
 PRAL JP 2003-290004 20030808  
 IPCR B01D0001-22 [I,A]; B01D0001-22 [I,C]; B01D0003-00 [I,A]; B01D0003-00 [I,C]  
 AB JP 2005060471 A UFAB: 20050708  
 NOVELTY - Solvent from a polystyrene solution obtained by dissolving polystyrene in a solvent is evaporated and the solvent is recovered. The solvent thermally decomposes the separated polystyrene and styrene is recovered.  
 DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for equipment for recovering solvent and styrene from a polystyrene solution.  
 USE - Used for recovering solvent and styrene from a polystyrene solution.  
 ADVANTAGE - The solvent and styrene are recovered efficiently from the polystyrene solution. The styrene monomer of high purity is obtained with high yield.  
 DESCRIPTION OF DRAWINGS - The figure shows the thermal decomposition portion of the apparatus used for solvent and styrene recovery. (Drawing includes non-English language text).  
 Storage tank (1)  
 Transfer pump (2)  
 Solvent evaporator (3)  
 Piping (4)  
 Condenser (5)  
 TECHNICAL ORGANIC CHEMISTRY - Preferred Process: The cracked gas thermally decomposing polystyrene is condensed. The oil distilled and styrene of high purity is recovered.  
 FS CFI  
 MC CFI: A04-C02D; A10-E05C; A10-G01A; E10-J02A1; E10-J02B2; E11-Q01A; J01-A01  
 IT UPIT 20050708  
 2113-DIS 2113-PRD; 368-CL 368-PRD

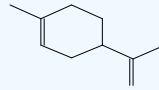
**1,300,000 DCR Substance Records**

L2 ANSWER 2 OF 2 WPINDEX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: DCR-2113  
 DERWENT CHEM.RES.NO. 2113-0-0-0  
 PREF. CHEMICAL NAME: STYRENE  
 SYSTEMATIC NAME: Vinyl-benzene  
 SYNONYM: POLYSTYRENE (MONOMER); STYRENE



MOLECULAR FORMULA: C8 H8  
 MOLECULAR WEIGHT: 104.1512

L2 ANSWER 2 OF 2 WPINDEX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: DCR-2113  
 DERWENT CHEM.RES.NO. 2113-0-0-0  
 PREF. CHEMICAL NAME: LIMONENE  
 SYSTEMATIC NAME: 4-Isopropenyl-1-methyl-cyclohexene  
 SYNONYM: (+)-LIMONENE; 1,8-PMENTHADIENE; CAJAPUTENE; CINENE; DIPENTENE; DL-LIMONENE; EULIMEN; KAUTSCHIN; LIMONENE; MENTHADIENE, 1,8-P.; REFCMOLE



MOLECULAR FORMULA: C10 H16  
 MOLECULAR WEIGHT: 136.239

**2113-DIS 2113-PRD; 368-CL 368-PRD**



# Substances are also represented in DWPI by paragraphs of fragmentation codes

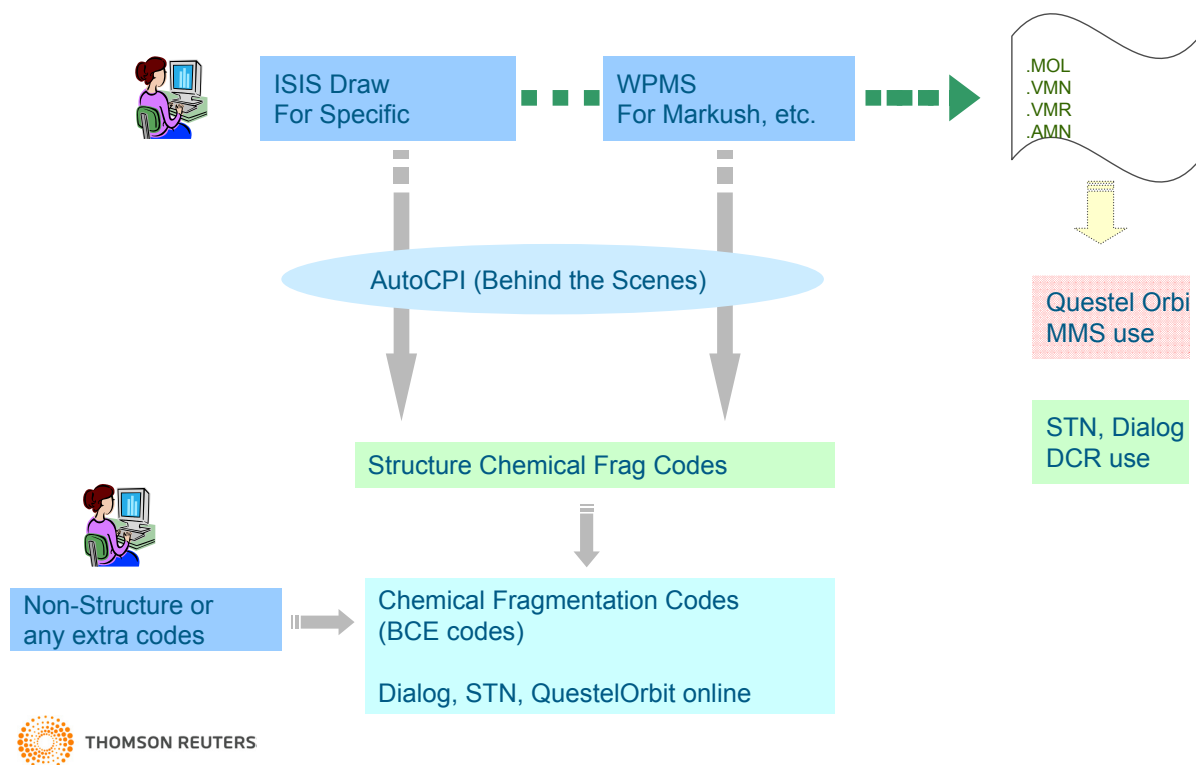
L1 ANSWER 1 OF 1 WPINDEX COPYRIGHT 2007 THE THOMSON CORP on STN  
 AN 2005-217884 [23] WPINDEX  
 TI Recovery of solvent and styrene from polystyrene solution involves recovering solvent by evaporation and recovering styrene from polystyrene thermally decomposed by solvent  
 . . . .  
 IT UPIT 20050708  
**2113-DIS 2113-PRD; 368-CL 368-PRD**  
 CMC UPB 20050708  
 DRN: 0708-P 0708-U 1119-P 1119-U

M3 \*01\* G035 G562 H7 H721 M210 M211 M213 M232 M240 M282 M320 M415  
 M424 M510 M520 M530 M541 M610 M720 M740 N163 N480 N513 Q431 **Limonene**  
 M905 M904 M910  
 DCN: R01119-K R01119-P  
 DCR: 130846-P 130846-U **2113-K 2113-P 2113-U**

M3 \*02\* G010 G100 H7 H715 H721 M210 M212 M240 M281 M320 M414 M424  
 M510 M520 M531 M540 M610 M720 M740 N163 N480 N513 Q110 Q431 **Styrene**  
 M905 M904 M910  
 DCN: R00708-K R00708-P  
 DCR: **368-K 368-P 368-U**



## Indexing of Chemical Structure in DWPI



## General rules for DCR indexing coverage

- All claimed compounds will be indexed together with at least those mentioned in the example and / or specific compounds section of the DWPI abstract.
- There is however an upper limit placed on this by our indexing software, namely that the total number of DCR+Markush compounds can not exceed 99. \*

\*This number is reduced if the indexing requires multiple subfields, for example the same compound can be indexed separately for Section B/C (subfield M2) and Section E (subfield M3) , meaning up to 49 compounds per subfield could be indexed.

## Claimed compounds:

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- All specifically claimed compounds plus at least one from the DWPI abstract are indexed by DCR. The only exceptions to this rule being:
  - If there are more claimed compounds than the system limits allow, the compounds selected for DCR indexing should cover the full structural diversity of the complete set. Additionally the structures of the remaining compounds will be covered specifically as part of the Markush indexing.
  - Ambiguously named compounds from which the structure can not be ascertained with certainty, or trade name / generic drug names for which no structure can be found are not indexed using DCR. If the name is ambiguous, Markush indexing would be created to cover the most likely structure or structures.
  - Synthetic polymers that are not in DCR (other than polyoxyalkylene derivatives, polysaccharides and polypeptides) are indexed with the appropriate DCR substance descriptor only. Polymers are fully indexed for Section A patents by the DWPI Enhanced Polymer Indexing system

## Disclosed compounds:

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- In most situations compounds present only in the disclosure will be covered by Markush indexing rather than in DCR. However up to 5 disclosed compounds may be indexed by DCR in the following situations:
  - If there are no claimed or exemplified compounds, up to 5 known disclosed compounds may be indexed using DCR.
  - If new compounds are claimed but there are less than 20 specifics and less than 5 examples, then up to 5 disclosed compounds with supporting physical or biological data may be indexed (to make a total of 5 exemplified and disclosed)

## Scope of DCR indexing:

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- DCR indexing covers all non-polymeric compounds for which the complete chemical structure is known together with the following polymers and natural products:
  - Polypeptides with up to 30 amino acid residues
  - Polysaccharides including those in which the backbone has been modified (e.g. ethers and esters of the sugar).
  - A list of standard synthetic polymers
  - Plant, animal and microbial extracts – one per species.
  - Specific Enzymes
  - Proteins and longer polypeptides with searchable name.

## What is not indexed in DCR:

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- New DCR records will not be created for the following:
  - Proteins and longer polypeptides without a searchable name – only the appropriate substance descriptor is indexed.
  - Synthetic polymers other than modified polysaccharides – the appropriate substance descriptor is indexed or, if it is a polymeric dye, Markush indexing is used instead.
  - Living organisms and parts thereof – “Other natural products” substance descriptor is indexed for these.
  - Classes of enzymes – the enzymes substance descriptor is indexed.
  - Specific nucleic acid sequences – the DNA and / or RNA substance descriptors are indexed.
  - Substances for which only a partial structure or no structure is given unless detailed information about how it is made or where it can be obtained from is available – these are normally covered by Markush indexing.
  - Disclosed or exemplified (but not specifically claimed) new compounds for which no physical or biological data is given to prove they have been made.
  - Solvates – always indexed as the compound the solvate is made from unless a DCR record for the solvate already exists.

## Extended coverage:

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- The database includes a closed list of approximately 300 standard polymers that they are cited whenever they appear in the claims as part of the novelty for Section B, C and E.

The standard list was prepared by creating DCR records for all polymers having a specific code in the Enhanced Polymer Indexing system, plus some additional polymers added at the suggestion of BCE indexers.

## Quality Processes:

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- A QC check covers all aspects of the value add applied to a single patent for each technology, each part is considered a "retrieval opportunity". These are broadly split into the following 4 aspects of Indexing Manual codes, DCR indexing, Markush indexing and Fragmentation coding. For DCR specifically, we look at the DCR compounds that are indexed to assess whether they should be present and if any DCR records have been missed from the indexing.
- For every correctly indexed, new DCR, we also look at whether there are any policy deviations in the following features:
  - Keto-enol tautomerism, stereochemistry
  - Charges and valencies
  - Clarity of structures
  - Salts and isomers
  - Naming
  - Substance descriptors, SMFs and external MFs
- Any feedback is passed directly to the analyst who created these new records as part of continual improvement process.



# Thank You

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- Toll Free Call: 0800-888-8855



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