Numeric property searching in DWPI℠ on STN®

FIZ Karlsruhe
DWPI is 50 years old this year

• The Derwent record in a form similar to the one we use today was first launched in 1963 as a pharmaceutical patent service

• 50 years later we now cover all technologies with more detailed abstracts and more extensive indexing

• Coming very soon (should be end of Q1) we are adding our 50th data source (Indonesia)
Agenda

• **New!** Numeric property search in DWPI
• Numeric data identification and normalization
• Numeric property searching
  – Specific property searches
  – General searches for records containing properties
• In-depth look at Thomson Reuters abstracting
Numeric property search in DWPI

- Numeric property searching is now available in Derwent World Patents Index® (DWPI)
  - 1,800 original unit variants indexed
  - 55 numeric property search fields
- Available within all DWPI English-language text fields, e.g. enhanced title, abstract and claims
  - In files WPINDEX, WPIDS and WPIX

NEW!

Type HELP NPS in DWPI on STN to learn more.
Agenda

- Numeric property search in DWPI
- Numeric data identification and normalization
- Numeric property searching
  - Specific property searches
  - General searches for records containing properties
- In-depth look at Thomson Reuters abstracting
Numeric data identification and normalization

• Numbers and their units are identified within the text and made fully numerically searchable
  – 1,800 chemical and physical property unit variants are identified, normalized and indexed
  – Both exact values and ranges

• Identified original data are normalized to base units and indexed for searching
  – 55 numeric property search fields are available

DWPI Numeric property search fields and base units: http://www.stn-international.com/dwpi_nps.html
Example: Numeric data identification and normalization to base units

Relevant values are converted to SI base units.

The resulting $\text{CeO}_2$ particle size measured by x-ray diffraction were in the range of 10 to 30 nm. Fig. 1 shows typical nano particles in a sample milled for 6 hours. In a second experiment a 1 litre attrition mill was used for milling the mixture. … In addition it is widely accepted that the existence of a so-called 'limiting particle size' limits the practical minimum particle size that can be attained by grinding to values greater than 100 nm, irrespective of the type of ball mill employed.

Irrelevant numbers are ignored.
Example: Numeric data identification and normalization to base units

Relevant values are converted to SI base units.

<table>
<thead>
<tr>
<th>Unit Description</th>
<th>Converted Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 to 30 nm</td>
<td>$1 \times 10^{-8}$ m, $3 \times 10^{-8}$ m</td>
</tr>
<tr>
<td>6 hours</td>
<td>$2.16 \times 10^4$ s</td>
</tr>
<tr>
<td>1 litre</td>
<td>$1 \times 10^{-3}$ m$^3$</td>
</tr>
<tr>
<td>greater than 100 nm</td>
<td>$1 \times 10^{-7}$ m</td>
</tr>
</tbody>
</table>
Agenda

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Numeric property data can be searched within all English-language text fields

- Numeric search terms can be combined with text-based search terms of interest
  - Using standard text-based proximity operators
  - Specifying text fields of interest, e.g. abstract (/AB)

- Flexible data input options are available
  - 55 chemical and physical numeric fields
  - Ranges, exact values and tolerances
  - A wide variety of STN search units

**Search unit ➔ Base unit ➔ Original unit**
Searching using the STN units system

• All values searched using accepted units are automatically converted for searching
  – E.g. 100 °C → 373.15 K

• **SET UNIT** to change default search units
  – E.g. => SET UNIT TEMP=F DEN=LB/FT**3** PERM
  – HELP SET UNIT for instructions

• **D UNIT <field>** to see the default and current units for an individual property
  – E.g. => D UNIT TEMP
  – D UNIT ALL to see the complete list
Valid units systems for searching

CGS The centimeter-gram-second system
ENG Customary U. S. Engineering units
FPS The foot-pound-second system
MKS The meter-kilogram-second system
SI Systeme Internationale (International System), based on the MKS system
STN Customary units based on the SI system

Tip: Use e.g. `SET UNITS ALL=CGS` to convert all units to the centimeter-gram-second system.
Numeric operators

- within a range
> greater than
< less than
\geq greater or equal to
\leq less or equal to
STN Proximity Operators

• (#W) – words apart – in same order as query
• (#A) – words apart – in either order as query
• (S) – same ‘sentence’
Search example: Particle size

Here we are using the length (/LEN) field* to search for nanoscale particle size (1-100 nm).

Proximity operators may be used just like in a typical text search.

KWIC is a free-of-charge review format for text searches conducted in DWPI subscriber files WPI and WPIX.

* Size (/SIZ) may also be used as a synonym for Length (/LEN).
Search example: Particle size (cont.)

=> FILE WPINDEX

Flexible search input options.

=> S PARTICLE (3A) SIZE (3A) LEN<=100 NM

L1  35606 PARTICLE (3A) SIZE (3A) LEN<=100 NM

The base unit for size is meter.

=> S PARTICLE (3A) SIZE (3A) LEN<=0.0000001

L2  35606 PARTICLE (3A) SIZE (3A) LEN<=0.0000001 M

Scientific notation is supported.

=> S PARTICLE (3A) SIZE (3A) LEN<=1.0E-7

L3  35606 PARTICLE (3A) SIZE (3A) LEN<=1.0E-7 M
### The DWPI Record Architecture

<table>
<thead>
<tr>
<th>Title, Abstract, Claim(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INVENTION</strong> part</td>
</tr>
<tr>
<td><strong>MEMBER 1</strong></td>
</tr>
<tr>
<td>EP913216 A1</td>
</tr>
<tr>
<td><strong>MEMBER 2</strong></td>
</tr>
<tr>
<td>CA2251524 A1</td>
</tr>
<tr>
<td><strong>MEMBER 3</strong></td>
</tr>
<tr>
<td>CN1219449 A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>VALUE-ADDED TEXT</strong> part</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Index</strong> /BI</td>
</tr>
<tr>
<td><code>AN 1999-265576</code></td>
</tr>
<tr>
<td><strong>Basic Index Extension</strong> /BIEX</td>
</tr>
<tr>
<td>PI EP913216 A1 CA2251524 A1 CN1219449 A ...</td>
</tr>
</tbody>
</table>
DWPI Search Fields

• The default search field is the *basic index*
  – This includes the value-added title and abstracts generated by Thomson Reuters abstracters

=> FILE WPINDEX

=> S PARTICLE (3A) SIZE (3A) 1-100 NM/LEN
L1 35700 PARTICLE (3A) SIZE (3A) 1-100 NM/LEN

=> D KWIC

L1 ANSWER 1 OF 35700 WPINDEX COPYRIGHT 2012 THOMSON REUTERS on STN TECH.

into the developer carrier by a distance of 0.85-1.15 mm.

ORGANIC CHEMISTRY - Preferred Components: The carbon black has an average *particle size* of 20-50 nm.
DWPI Search Fields (cont.)

- Additional fields to search in Member level data
  - Original title(s)
  - Original abstract(s)
  - Original claim(s)

- To search additional fields,
  - Add search qualifiers to search string
    - i.e., /BIEX or /CLM
  - SET your search fields
    - either temporarily or permanently

Summary table of DWPI coverage at the Member Level:
http://www.stn-international.com/dwpi_table.html
DWPI Search Fields

- To search additional fields,
  - Add search qualifiers to search string
    - i.e., /BIEX or /CLM

```
=> FILE WPINDEX

=> S PARTICLE (3A) SIZE (3A) 1-100 NM/LEN
L1 35700 PARTICLE (3A) SIZE (3A) 1-100 NM/LEN

=> S (PARTICLE (3A) SIZE)/BI,CLM (3A) 1-100 NM/LEN
L2 39677 (PARTICLE (3A) SIZE)/BI,CLM (3A) 1-100 NM/LEN

=> S (PARTICLE (3A) SIZE)/BI,BIEX (3A) 1-100 NM/LEN
L3 41589 (PARTICLE (3A) SIZE)/BI,BIEX (3A) 1-100 NM/LEN
```

Searching additional fields by using search codes CLM or BIEX.
DWPI Search Fields

• To search additional fields,
  – SET your search fields
    • either temporarily or permanently

=> FILE WPINDEX

... 

=> S (PARTICLE (3A) SIZE)/BI,BIEX (3A) 1-100 NM/LEN
L3 41589 (PARTICLE (3A) SIZE)/BI,BIEX (3A) 1-100 NM/LEN

=> SET SFIELDS BI,BIEX PERM
SET COMMAND COMPLETED

SETting the system to search the basic index and the extended basic index permanently for this STN ID.

=> S PARTICLE (3A) SIZE (3A) 1-100 NM/LEN
L4 41589 PARTICLE/BI,BIEX (3A) SIZE/BI,BIEX (3A) 1-100 NM/LEN
Agenda

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Numeric property searching in DWPI

• Derwent abstracts are widely used as both a powerful search tool for patent information as well as an easily understood summary of the invention written in a style easily understood by scientists.

• STN have recently introduced the ability to search the DWPI files by numeric value further enhancing the utility of abstract as a search tool.

• This presentation looks at the DWPI abstract with a detailed look at the content of each field within it and identifies which of those fields are likely to contain useful numerical data and what type of data it might be.

• It also contains examples of the numerical data found in the various sections emphasized in bold.
AN 2001-521572 [200157] WPIX Full-text

Synchronizing system of multiple cable modem termination for high speed internet access, calculates future time stamp value, based on which operation of slave cable modem termination system is regulated.

NOVELTY - A slave CMT system (24) has a upstream channel for receiving data from cable modems (12) and a counter. The master CMT system (22) compares future time stamp value calculated by a processor (311) with its counter value and when equal, transmits signal to each slave device via bus (30). Each slave device leads the received future time stamp value to respective counters in response to the received signal. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) CMT system synchronizing method; (b) Time slots allocating method

USE - For high speed communication in multiple cable modem termination device, for high speed file transfer, video teleconferencing, pay-per-view television, high speed internet access, digital telephoning. ADVANTAGE - Map information is simultaneously broadcast to each of slave CMT systems from master CMT system. Each CMT system device determines the relevant information, based on unique identifiers assigned to respective upstream channels and hence high speed data communication is ensured.

DESCRIPTION OF DRAWINGS - The figure shows the schematic diagram of synchronizing system of multiple CMT system for high speed internet service.

Cable modems (12)
Master CMT system (22)
Slave CMT system (24)
Bus (30)
Processor (311)
SAMPLE CHEMICAL ABSTRACT (DERPICT FORMAT)

Composition useful for eliminating stasis, and activating collaterals, comprises three groups of pharmaceuticals (Chn) C2011M94679

Addtl. Data: LI Y 2011/05/04 2011CN-10113752

NOVELTY
Composition comprises three groups of pharmaceuticals orderly. The first group contains glucose solution, sodium chloride solution, arginine hydrochloride and coenzyme A. The second group contains sodium chloride solution, disodium adenosine triphosphate, potassium glutamate, ligustrazine injection, vitamin B12 and coenzyme A. The third group comprises sodium chloride solution and mailuoning.

DETAILED DESCRIPTION
Composition comprises three groups of pharmaceuticals orderly. The first group of pharmaceutical comprises (in parts weight): glucose solution (100-130), sodium chloride solution (100-130), arginine hydrochloride (4.5-5.5), sodium glutamate (5.5-6), potassium glutamate (3-4), magnesium sulfate (1-1.5), disodium adenosine triphosphate (0.015-0.025) and coenzyme A, where the ratio of coenzyme A and glucose solution is 0.8-1.2 unit/g. The second group comprises sodium chloride solution (210-250), disodium adenosine triphosphate (0.015-0.025), potassium glutamate (1-1.5), ligustrazine injection (0.07-0.1), Astragalus injection (35-45), vitamin B6 (0.045-0.055), vitamin B12 (0.0018-0.0022) and coenzyme A, where the ratio of coenzyme A and sodium chloride solution is 0.4-0.6 unit/g. The third group comprises sodium chloride solution (210-250) and mailuoning (35-45). An INDEPENDENT CLAIM is included for method for preparing the composition, which involves (a) uniformly mixing glucose solution to sodium chloride solution, and adding remaining medicines of first group to obtain a clear solution, (b) mixing second group of pharmaceutical, and mixing the mixture uniformly, and (c) mixing third group of pharmaceutical, and uniformly mixing the mixture to obtain the final product.

ACTIVITY
Thrombolytic; Anticoagulant; Vasotropic.

USE
The composition is useful for eliminating stasis, activating collaterals, and treating cardiovascular thrombus.

TECHNOLOGY FOCUS
Pharmaceuticals - Preferred Composition: The first group of pharmaceutical comprises (in parts weight): glucose solution (110-120), sodium chloride solution (110-120), arginine hydrochloride (5), sodium glutamate (5.75), potassium glutamate (3.5), magnesium sulfate (1.25), disodium adenosine triphosphate (0.02) and coenzyme A, where the ratio of coenzyme A and glucose solution is 1 unit/g. The second group comprises sodium chloride solution (230), disodium adenosine triphosphate (0.020), potassium glutamate (1.25), ligustrazine injection (0.080), Astragalus injection (40), vitamin B6 (0.050), vitamin B12 (0.0012) and coenzyme A, where the ratio of coenzyme A and sodium chloride solution is 0.5 unit/g. The third group comprises sodium chloride solution (230) and mailuoning (40). The ratio of glucose solution to sodium chloride solution in the first group of pharmaceutical is 1: 1.1:1.2.

(FeedDraNo A80)
Composition, useful for treatment of e.g. inflammatory and obstructive respiratory complaint, sinus rhythm in heart in atrioventricular block and circulatory shock, comprises 6-hydroxy-4H-benzol,4oxazin-3-one derivatives and other actives

- A high-level summary of the record abstract content to enable users to make a judgement as to the relevance of the complete record to their search
- Replaces the original author title with Thomson’s English-language, enhanced title.
- Designed to provide more information than the original title and in a more user-friendly way than the original
- Contains the scope of the invention, the principle applications and the novelty
- **Quantitative data is generally forbidden** in the title
  - It is sometimes necessary to indicate that the patent specification does specify quantities without actually giving the numerical value
PARTS OF THE ABSTRACT; NOVELTY

NOVELTY - Cosmetic composition comprises: a polymer derived predominantly from statistical (co-) (homo-)polymerization of vinylaromatic hydrocarbon-based monomers with a glass transition temperature (Tg) of greater than 80 degrees C and a molecular mass of greater than 80000 g/mol, where the polymer obtained is optionally hydrogenated; and a volatile organic solvent present in a weight content of greater than or equal to 20%.

- Summarizes the main claim with the legal terminology removed but excludes embedded formulae
- When two or more equal main claims are identified, the information from both will be covered in the Novelty section
- Novelty will include figure references for parts appearing in the selected drawing.
- Will only include numerical data if the value of a quantity is a defining feature of the invention (as in the above example)
Numeric Property Searching on STN

- Search can be broad or narrow

=> FILE WPINDEX

=> S GLASS TRANSITION TEMPERATURE (5A) TEMP>50 C
L1 17252 GLASS TRANSITION TEMPERATURE/BI,BIEX (5A) TEMP>50 C

=> S (GLASS TRANSITION TEMPERATURE)/NOV (5A) TEMP>50 C
L2 3571 (GLASS TRANSITION TEMPERATURE)/NOV (5A) TEMP>50 C

=> S (GLASS TRANSITION TEMPERATURE)/NOV (5A) 50-100 C/TEMP
L3 2991 (GLASS TRANSITION TEMPERATURE)/NOV (5A) 50-100 C/TEMP

Open and closed range searching is possible on STN.
 Numeric Property Searching on STN

• Different units can be used in search strategy

=> FILE WPINDEX

=> S GLASS TRANSITION TEMPERATURE (5A) TEMP>50 C
L1  17252 GLASS TRANSITION TEMPERATURE/BI,BIEX (5A) TEMP>50 C

=> S (GLASS TRANSITION TEMPERATURE) (5A) TEMP>323.15 K
L2  17252 GLASS TRANSITION TEMPERATURE/BI,BIEX (5A) TEMP>323.15 K

=> S (GLASS TRANSITION TEMPERATURE) (5A) TEMP>122 F
L3  17252 GLASS TRANSITION TEMPERATURE/BI,BIEX (5A) TEMP>122 F

The same records are captured whether temperature was searched in Celsius, Kelvin or Fahrenheit.
PARTS OF THE ABSTRACT; DETAILED DESCRIPTION

• DETAILED DESCRIPTION – INDEPENDENT CLAIMS are included for the following:
  (1) a composition (C2) for treating, ameliorating and/or preventing CRC comprising: (a) (PEG) (having an average molecular weight of 2000-10000 Da) (50-90 wt./wt.%), (b) a solid (10-40 wt./wt.%), and (c) optionally further excipients comprising flavorings, sweeteners and lubricants; and
  (2) a kit comprising several units of the composition (C2) together with directions for use.

• An optional paragraph which describes the inventive step in full where this has not been achieved by the NOVELTY and describers any independent claims

• Provides additional supporting information for the Novelty field

• Detailed description will cover all independent claims, except claimed uses which are covered in the USE section. Claimed uses are also included as independent claim(s) only if further relevant information is available in dependent claim(s).

• It will only include numerical data when this is a limiting feature of one of the invention (as in the above)
ACTIVITY  - Antimigraine; Antipyretic; Antimanic; Neuroleptic; Antidepressant; Hypnotic; Sedative; Analgesic; Immunomodulator; Anticonvulsant. Anticonvulsant activity of (I) was tested in rats. The results showed that (E)-12-amino-13-(2,3-dichlorophenyl)-10,13-diimino-8-oxo-7-oxa-3,4-dithia-9,11-diazatridec-11-enyl nitrate exhibited ED50 value of 10.1mg/kg.

- Activity section will be included when the invention is:
  - New chemical or biological entity with a pharmaceutical or agrochemical use.
  - New composition containing a chemical or biological entity with a pharmaceutical or agrochemical use.
  - New method of treating or preventing an animal or plant disease, or a method of protecting plants from various stresses.
  - New use of known chemical or biological entity to treat or prevent an animal or plant disease, or to protect plants from various stresses.
  - New method of producing a known chemical or biological entity which has a pharmaceutical or agrochemical use
  - New non-active ingredient to a known pharmaceutical composition
  - New drug screening Methods
- Will also include details (when given) of any test designed to validate a given activity – this includes numerical data
Numeric Property Searching on STN

• The search value can be exact or a range.

=> FILE WPINDEX

=> S ED50/ACTV (5A) 10.1/DOS
L1 12 ED50/ACTV (5A) 10.1 MG/KG /DOS

=> S ED50/ACTV (5A) 10–12/DOS
L2 33 ED50/ACTV (5A) 10 MG/KG – 12 MG/KG /DOS

=> S ED50/ACTV (5A) DOS<12
L3 150 ED50/ACTV (5A) DOS<12 MG/KG

Searches can be for exact values, closed ranges or open ranges.
MECHANISM OF ACTION - Enzyme inhibitor modulator. The efficacy of composition containing dichlofluanide and pyrion disulfide (in a ratio of 80:20) was evaluated for enzyme inhibitor modulatory activity against Chlorella vulgaris by using poison plate assay; and minimum inhibitory concentration (MIC) values was determined. The composition showed MIC values of 0.68 parts per million.

- Used to describe how a chemical or biological entity with a pharmaceutical or agrochemical activity acts at a molecular level.
- Will include details (where present) of any test carried out to validate this activity. This will include numerical data.
PARTS OF THE ABSTRACT; MECHANISM OF ACTION (contd)

- Mechanism of Action section will be included when the invention is:
  - New chemical or biological entity with a pharmaceutical or agrochemical use.
  - New composition containing a chemical or biological entity with a pharmaceutical or agrochemical use.
  - New method of treating or preventing an animal or plant disease, or method of protecting plants from various stresses.
  - New use of known chemical or biological entity to treat or prevent an animal or plant disease, or to protect plants from various stresses.
  - New method of producing a known chemical or biological entity which has a pharmaceutical or agrochemical use
  - New non-active ingredient to a known pharmaceutical composition
Numeric Property Searching on STN

• Search query can be broad or narrow

=> FILE WPINDEX

=> S ((MINIMUM INHIBITORY CONCENTRATION) OR MIC)/ACTN (3A) .50E-6 - 1E-6/PER (3A) (PARTS PER MILLION OR PPM)
L1  1 ((MINIMUM INHIBITORY CONCENTRATION) OR MIC)/ACTN (3A) .50E-6 PERCENT - 1E-6 PERCENT /PER (3A) (PARTS PER MILLION/BI,BIEX OR PPM/BI,BIEX)

=> S ((MINIMUM INHIBITORY CONCENTRATION) OR MIC) (3A) .50E-6 - 1E-6/PER (3A) (PARTS PER MILLION OR PPM)
L2  16 ((MINIMUM INHIBITORY CONCENTRATION/BI,BIEX) OR MIC/BI,BIEX) (3A).50E-6 PERCENT - 1E-6 PERCENT /PER (3A) (PARTS PER MILLION/)

We are looking for a content (/PER) of 0.5-1.0 ppm.
PARTS OF THE ABSTRACT; USE

USE - The device is useful for filtering a liquid sample such as a blood (claimed), urine, sputum and tissue culture.

• All specific uses for which the invention is intended will be included.

• When only certain ones are claimed this will be clearly indicated

• Does not normally include numerical data
ADVANTAGE - The small molecule ligand in human body does not generate anaphylaxis and does not cause toxicity. It has LD50 of 500–2000 mg/kg in experiment result of animal. The method has mild condition and has easy antibody elution.

- All stated advantages resulting from the novelty will be included
- Quantitative data will be included when available
- For pharma/agrochem compounds toxicity data will be included when available including comparisons with known compounds
Numeric Property Searching on STN

- Search query can be broad or narrow

=> FILE WPINDEX

=> S (LD50 (5A) DOS<1000) AND ?ANAPHYL?

L1 15 (LD50/BI,BIEX (5A) DOS<1000 MG/KG ) AND ?ANAPHYL?/BI,BIEX

=> S (LD50/ADV (5A) DOS<1000) AND ?ANAPHYL?

L2 2 (LD50/ADV (5A) DOS<1000 MG/KG ) AND ?ANAPHYL?/BI,BIEX
PARTS OF THE ABSTRACT; DESCRIPTION OF DRAWINGS

DESCRIPTION OF DRAWINGS - The figure shows a preferred inhaler for delivery of the composition.

- Only those parts mentioned in the Novelty and shown in the selected image are compulsory for inclusion.

- The first choice drawing is almost always the one on the front page unless it does not illustrate the novelty in any way or it is prior art.

- If the first choice drawing is not selected, then the drawing which best illustrates the novelty will be selected from the other drawings.
PARTS OF THE ABSTRACT; TECHNOLOGY FOCUS

TECH ORGANIC CHEMISTRY - Preparation (Claimed): Preparation of (A) comprises stirring or kneading an aqueous preparation of alpha-cyclodextrin or methyl-, sulfobutyl ether- or hydroxypropyl-derivative of alpha-cyclodextrin with a concentration of 2-80 wt.% of cyclodextrin with a halogenated ether in a weight ratio of cyclodextrin to halogenated ether between 4:1 and 35:1. Preferred Process: The preparation of the complex of a concentrated aqueous cyclodextrin preparation is carried out at a concentration of 4-70 wt.%. The process is carried out at a reaction temperature of 0-80 degrees C, preferably 25-50 degrees C and at a reaction time as a function on the temperature between 10 minutes and 3 days, preferably from 1-24 hours and at a pressure of one bar. Preferred Components: The halogenated ether consists of less than or equal to four carbon atoms and is sevoflurane, isoflurane or desflurane.

PHARMACEUTICALS - Preferred Composition: The formulation is in the form of a tablet, a dragee or an aqueous preparation. The pharmaceutical formulation comprises galenic auxiliaries.

- This field (when present) contains one or more paragraphs which describe preferred features of the invention and details of how it is carried out. Each paragraph will relate to a different technology area. The information given here is taken from the dependent claims and sometimes also the disclosure.
- Technology Focus section can include numerical values such as amounts and properties of substances from the claims or as is the case here reaction temperatures.
Technology focus headings

• AGRICULTURE
• IMAGING AND COMMUNICATION
• BIOLOGY
• INDUSTRIAL STANDARDS
• BIOTECHNOLOGY
• INORGANIC CHEMISTRY
• CERAMICS AND GLASS
• INSTRUMENTATION AND TESTING
• CHEMICAL ENGINEERING
• MECHANICAL ENGINEERING
• COMPUTING AND CONTROL
• METALLURGY
• ELECTRICAL POWER AND ENERGY
• ORGANIC CHEMISTRY
• ELECTRONICS
• PHARMACEUTICALS
• ENVIRONMENT
• POLYMERS
• FOOD
• TEXTILES AND PAPER
THE EXTENSION ABSTRACT

- EXTENSION ABSTRACT – A set of additional fields displayable only for those Derwent subscribers who have access to file WPIX. They cover the chemical arts. The fields are
  - Wider disclosure
  - Specific substances
  - Mode of administration
  - Definitions
  - Example
THE EXTENSION ABSTRACT; DEFINITIONS

ABEX DEFINITIONS - Preferred Definitions: - n=1; - R1 and R2=H, F, Cl, methyl or methoxy; and - R3=1-4C alkyl, OH, . . .

• Covers the Markush formulae definitions from the main and other independent claims if their inclusion in the DETAILED DESCRIPTION field causes the field character limits to be exceeded.

• The field is also used to cover the narrower Markush formulae definitions given in the dependent claims.
THE EXTENSION ABSTRACT; WIDER DISCLOSURE

WIDER DISCLOSURE – The disclosure also states that 6-hydroxy-4H-benzo(1,4)oxazin-3-one compounds of formula (I) are new.

• Covers additional novel features which are not stated in the claims

• The information comes from any part of the disclosure
ADMINISTRATION - Dosage of the ulipristal is 5-15 (preferably 10) mg/day, and administration is an oral in form of tablet (claimed). Also administration is sublingual, buccal, nasal, transdermal, vaginal, rectal, intravenous, inhalation, or implant.

- Describes the dosage and method of administration for pharmaceuticals
- Describes the rate and method of application from agrochemicals
- The widest and narrowest stated dosage ranges will be included
- Where method of administration is topical, eye drops or inhalation and there is no dosage given, the content range of the active compounds will be stated.
- If neither dosage nor administration information are given then the section is omitted.
THE EXTENSION ABSTRACT; SPECIFIC SUBSTANCES

SPECIFIC COMPOUNDS - 33 Compounds are specifically disclosed as (I) e.g. 6-hydroxy-8-(1-hydroxy-2-(2-(4-methoxy-phenyl)-1,1-dimethyl-ethylamino)-ethyl)-4H-benzo(1,4)oxazin-3-one.

- Covers specific substances that relate to the novel features of the invention.
- The information comes from the dependent claims, but from the disclosure if it is not given in the claims.
- Substances can include nucleic or amino acid sequences, plasmids, cell lines and peptides
- Specific examples of substances which are not claimed per se, but which are directly relevant to the novelty will be included
The extension abstract; example

Example - (R)-3-((R)-3-((4-Chloro-phenyl)-4-nitro-butyryl)-4-phenyl-oxazolidin-2-one (40 g), methanol (200 g) and water (4 g) were charged into a flask. The resulting suspension was added with sodium hydroxide (6.9 g), stirred for 2 hours at room temperature and the precipitate comprised of (R)-4-phenyl-oxazolidin-2-one was filtered. (R)-4-Phenyl-oxazolidin-2-one was isolated as a white solid (20.4 g, 92% recovery yield). The filtrate containing (R)-3-((4-chloro-phenyl)-4-nitro-butyric acid was added with Raney-nickel (50% wet, 4 g) and hydrogenated (5 atmosphere at 50 degrees C) for 14 hours. The catalyst was then filtered and pH of the filtrate was adjusted to 8 to precipitate out crude Baclofen. After filtration, the crude Baclofen was recrystallized from water to obtain (R)-(-)-4-amino-3-((4-chlorophenyl) butanoic acid (R-Baclofen, 65% chemical yield, 99.3% enantiomeric excess, and 10.9 g).

- Used for chemical, polymeric or biotechnological specifications to supply hard data in support of the advantages of the invention or give detailed information about how the invention is carried out.
- The information is taken from the disclosure.
- The chosen example will be the one which best illustrates the novelty and advantage of the invention.
- The example will include a summary of specified quantities of chemicals involved and reaction conditions e.g. temperature and pressure, but not work-up details or obvious process details.
- Yields of the product and its identifying characteristics e.g. melting point and solvent used for recrystallisation will be included, but X-ray or IR spectra will not
- The complete preparation of Novel compounds will be given and the example will not stop at the preparation of an intermediate.
Numeric Property Searching on STN

- Reaction details can be searched

=> FILE WPINDEX

=> S BACLOFEN AND (40–60 C/TEMP (5A) 24 HOUR>TIM)
L1 8 BACLOFEN/BI,BIEX AND (40–60 C/TEMP (5A) 24 HOUR>TIM)

=> S BACLOFEN AND (40–60 C/TEMP (5A) 1 DAY>TIM)
L2 8 BACLOFEN/BI,BIEX AND (40–60 C/TEMP (5A) 1 DAY>TIM)
BIOLOGICAL DATA IN ABSTRACTS

- If the invention is a new chemical or biological entity the biological data will cover an example of the pharmacological or agricultural activity that illustrates the pharmacological or agricultural advantages of the specific example of the new chemical or biological entity.

- If the invention is a new use or new method the biological data will cover an example of the pharmacological or agricultural activity of the composition that illustrates the pharmacological or agricultural advantages of a specific entity.

- If the invention is a new composition the biological data will cover an example of the pharmacological or agricultural activity that illustrates the pharmacological or agricultural advantages of a specific composition.

- If the invention is a new preparation and the products are new biologically active entities the biological data will cover an example of the pharmacological or agricultural activity that illustrates the pharmacological or agricultural advantages of a specific entity.
BIOLOGICAL DATA IN ABSTRACTS (contd)

Useful pointers to pharmacological biological data are:

• ED50 Median effective dose (i.e. a dose which produces the desired effect in 50% of the test population; the lower the value the more effective the compound)

• MIC Minimum inhibitory concentration (usually given for antibiotics) (the lower the value, the more effective the compound)

• LD50 Dose required to kill 50% of subjects it is administered to

• CD50 Median curative dose

• IC50 Median inhibitory concentration

• LC50 Median lethal concentration

• In the case of herbicides, the information is often given as a scale of 0 (= no effect) to 9 (= complete kill).
Trademark information in patents

• The abstractors will include information about registered trademarks whenever possible.

• If a patent mentions a registered trademark, the abstract will always indicate it as such and also include a brief summary of what it represents.

• To find these definitions, just search the trademark name within 3 words of RTM (e.g. S Irganox(3W)RTM).

• For example, WO2008051824A2
  – Patent said Irganox1076.
  – DWPI abstract said Irganox 1076 (RTM: octadecyl 3, 5-bis(1, 1-dimethyl)-4-hydroxy benzenepropanoate).
SUMMARY

• The DWPI abstract is highly organized to enable users to find the information they need quickly and efficiently

• Numeric properties can appear in almost any part of the abstract

• Certain fields are more likely to have numeric properties than others
  – Advantage
  – Example
  – Activity
  – Mechanism of Action
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ts.support.asia@thomson.com
Review of numeric search options

=> S 50/VOL
L1 4757 50 M**3 /VOL
Searching with default units.

=> S 50−60/VOL
L1 4847 50 M**3 − 60 M**3 /VOL
Searching with closed ranges.

=> S 10−30 ML/VOL
L1 117892 10−30 ML/VOL
Searching with other units.

=> S LEN < 5 MM
L1 1063904 LEN < 5 MM
Searching with open ranges.

=> S 5 MM +−1/LEN
L1 291045 5 MM +−1/LEN
Searching with tolerances.

=> S 5 MM +−5%/LEN
L1 258720 5 MM +− 5%/LEN
Searching with tolerances in %
Summary

• Numeric property search (NPS) is now available in Derwent World Patents Index (DWPI)
• Search for specific units, percentages, or the presence of numeric values within the text
• Combine keyword and numeric terms within the text using standard STN proximity operators
• Search within all DWPI English-language fields, e.g. enhanced title, abstract and claims

DWPI Numeric property search fields and base units: http://www.stn-international.com/dwpi_nps.html
Resources

• General information about physical properties given in base or derived SI units
  http://www.bipm.org/en/si

• General Information on the STN Units System
  http://www.cas.org/support/stngen/doc/stnunits/

• DWPI database summary sheet
  http://www.stn-international.com/wpindex.html
Appendix: DWPI enhanced abstract precision searching options

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* ABEX is only displayable in WPIX.