

# STN<sup>®</sup>

Numeric property searching in  
DWPI<sup>SM</sup> on STN<sup>®</sup>

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# Agenda

- **New!** Numeric property search in DWPI
- Numeric data identification and normalization
- Numeric property searching
  - Specific property searches
  - Percent searches
  - General searches for records containing properties

# Numeric property search in DWPI

- Numeric property searching is now available in Derwent World Patents Index<sup>®</sup> (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



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
  - Percent searches
  - General searches for records containing properties

# 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](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 100nm, 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.

10 to 30 nm

$1 \times 10^{-8}$  m,  $3 \times 10^{-8}$  m

6 hours

$2.16 \times 10^4$  s

1 litre

$1 \times 10^{-3}$  m<sup>3</sup>

greater than 100nm

$1 \times 10^{-7}$  m

# Agenda

- Numeric property search in DWPI
- Numeric data identification and normalization
- **Numeric property searching**
  - Specific property searches
  - Percent searches
  - General searches for records containing properties



## 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

<b>CGS</b>	The centimeter-gram-second system
<b>ENG</b>	Customary U. S. Engineering units
<b>FPS</b>	The foot-pound-second system
<b>MKS</b>	The meter-kilogram-second system
<b>SI</b>	Systeme Internationale (International System), based on the MKS system
<b>STN</b>	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
- >= greater or equal to
- <= less or equal to

# Search example: Particle size

=> FILE WPIX

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

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

L1 35429 PARTICLE (3A) SIZE (3A) 1-100 NM/LEN

=> D KWIC

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

L1 ANSWER 1 OF 35429 WPIX 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.

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

\* Size (/SIZ) may also be used as a synonym for Length (/LEN).

# Search example: Particle size (cont.)

=> FILE WPIX

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

# Search example: Green AlGaInP LEDs

=> FILE WPIX

Here we are using the size (/LEN) field to search for green light wavelengths (500-570 nm).

=> S (LIGHT EMITTING DIODE OR LED) (10A)  
(AlGaInP or AlInGaP or InGaAlP) (10A) 500-570 NM /LEN

L1 2 (LIGHT EMITTING DIODE OR LED) (10A) (ALGAINP OR  
ALINGAP OR INGAALP) (10A) 500-570 NM /LEN

=> D KWIC

L4 ANSWER 1 OF 2 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
ADV. . . . This enables fabrication and commercialization of high power  
and high efficient nitride LEDs, especially in the range of wavelength  
from 560 to 680 nm, and nitride-based white LEDs. The current  
AlInGaP-based yellow and amber LEDs are not suitable for high  
temperature and high injection current operations due to carrier  
overflow due to

The same numeric field may be searched in various contexts, e.g. size of wavelength, size of particles, etc.

# Search example: Block copolymer molecular weight

=> FILE WPIX

Here we are searching for a Molecular Weight (/MM)\* of over 75 kg/mol.

=> S ?BLOCK?(A)?POLYMER?/TI,AB (S) MM>75000

L1 52 ((?BLOCK?(A)?POLYMER?)/TI,AB (S) MM>75000

Specialized text fields, e.g. the DWPI enhanced title and abstract (/TI,AB), may be used just like in a typical text search.

=> D KWIC 3

L1 ANSWER 3 OF 52 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
NOV NOVELTY - An article comprises a mixture of a polyolefin and a styrenic based **block copolymer**, where the styrene based **block copolymer** has an A-B-A block configuration and a molecular weight of at least **350 kg/mol**.

**Note:** in DWPI (S)-proximity limits text terms to the same paragraph.

\* /MM = Molar Mass.



# Search example: Molar concentration

=> FILE WPIX

Here we are searching for a molar concentration (/CMOL) of 1-5 mol/L.

=> S (SODIUM HYDROXIDE OR NAOH) (3A) 1-5/CMOL

L1 4621 (SODIUM HYDROXIDE OR NAOH) (3A) 1 MOL/L - 5 MOL/L /CMOL

=> D KWIC

L1 ANSWER 1 OF 4621 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
ABEX. . .

g) was added, followed by triacetoxy borohydride (5.1 g). The reaction was stirred at ambient temperature for 15 minutes. Added 1M NaOH until basic and extracted with hexane and washed with water. After work up (2S)-N,N-dimethyl-1-((9Z,12Z)-octadeca-9,12-dien-1-yloxy)undecan-2-amine.

Using suitable proximity between numeric and text terms helps find highly relevant hits.

# Search example: Dosage

```
=> FILE WPIX
```

```
=> S CISPLATIN/CN
```

```
L1          2 CISPLATIN/CN
```

```
=> SEL CN
```

```
E1 THROUGH E40 ASSIGNED
```

```
=> D SEL
```

```
E1          4      CISPLATIN/CN
E2          1      ABIPLATIN/CN
E3          1      BRIPLATIN/CN
E4          1      CDDP/CN
E5          1      CIS-DDP/CN
E6          1      CIS-PLATINUM/CN
E7          1      CISMALPLAT/CN
E8          1      CISPLATINE/CN
E9          1      CISPLATINO/CN
```

```
. . . .
```

In this example, we are looking for DWPI records describing a **cisplatin dosage** of less than 16 mg/Kg.

To be more comprehensive, we **SELECT** the various DWPI Chemistry Resource (DCR) chemical names (/CN) for cisplatin (E1-E40).

# Search example: Dosage (cont.)

=> S E1-E40/BI (5A) **DOS<16**

L2 107 (CISPLATIN/BI OR ABIPLATIN/BI OR . . .) (5A) DOS<16 MG/KG

=> D KWIC 1-107

Here we are looking for a dosage (/DOS) of less than 16 mg/Kg.

L2 ANSWER ... OF 107 WPIX COPYRIGHT 2012  
TECH

PHARMACEUTICALS - Preferred Components: The dosage quantities of each ingredients are **2 mg/kg** of **cis-platinum**, iodized oil, and 0.6 U<sub>g</sub>/kf of bafilomycin chloroquine.

**Note:** The default search unit for dosage is mg/Kg.

L2 ANSWER ... OF 107 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
ABEX ADMINISTRATION - Administration of the **cisplatin** is **10 mg/kg**, intraperitoneally or orally. Administration of the NK1 receptor antagonist is intravenous.

L2 ANSWER ... OF 107 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
ACTV . . . disulfide in physiological saline was administered at 40 mg/kg/day via intraperitoneal (IP) injections. At one hour after MPG disulfide administration, **cisplatin** (**2 mg/kg**) was administered to these rats by IP. MPG treatment alone without cisplatin was continued for two more days in.. . .

# Search example: Unit conversion

```
=> FILE WPIX
```

```
=> S 100000 - 200000/PRES
```

```
L1          72205 100000 PA - 200000 PA /PRES
```

```
=> S 1 - 2 BAR/PRES
```

```
L2          72205 1 - 2 BAR/PRES
```

```
=> SET UNIT PRES=BAR
```

```
SET COMMAND COMPLETED
```

```
=> S 1 - 2/PRES
```

```
L3          72205 1 BAR - 2 BAR /PRES
```

The base unit for pressure (/PRES) is Pascal (Pa).

Values in other accepted search units, e.g. Bar (bar), are automatically converted.

Use SET UNIT to change the default search unit, e.g. from Pascal to Bar.

# Search example: Unit conversion (cont.)

=> D KWIC 1-2

The Bar search (L3) retrieves answers in several original units (e.g. torr, psi, atm, bar).

L3 ANSWER 1 OF 72205 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN ABEX. . . at the center of a zirconia-made setter. The compact was thermally treated in an oxygen atmosphere (oxygen partial pressure was 0.1 MPa) at 775 degrees C for 24 hours, to thus produce an independent  $\text{Li}_1(\text{Ni}(0.75)\text{Co}(0.2)\text{Al}(0.05))\text{O}_2$  ceramic sheet for a cathode active. . .

L3 ANSWER 2 OF 72205 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN TECH. . . T1 is higher than T2 by 5-200 degrees C. The pressure of the interior of the PVT furnace system is 0.1-1500 torr. The method further comprises: doping the ZnO single crystal boule during the PVT growth with at least one positive. . . at 600-1400 degrees C in an oxygen-containing gas environment at an oxygen partial pressure of greater than or equal to 100 torr, and the ZnO wafer have a p-type conduction and a resistivity of less than 0.1  $\Omega$ -cm or the. . .

# Search example: Unit conversion (cont.)

Many imperial / U.S. Customary units can also be used for searching.

=> FILE WPIX

=> S ALUMINIUM SHEET (5A) THICK? (3A) SIZ<0.5 INCH

L4 214 ALUMINIUM SHEET (5A) THICK? (3A) SIZ<0.5 INCH

=> D KWIC 1,80

L4 ANSWER 1 OF 214 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
NOV NOVELTY - The method involves adopting electric spark cutting technique to cut aluminum sheet with thickness of 1.9 to 2mm. Surface oxide is removed by utilizing corrosion action of deionized water and absolute ethyl alcohol. Adhesive force of.. . .

L4 ANSWER 80 OF 214 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
DETD DETAILED DESCRIPTION - The method comprises combining polymeric printing raw fabric materials on both sides of aluminum sheet having 0.25mm thickness then conducting relief and intaglio engraving work over the combined substrate. The obtained material does not need alternative thermal treatment.. . .

# Search example: Open ranges

=> FILE WPIX

An open range voltage (/VOLT) search (L1).

=> S VOLT>0.5

L1 100082 VOLT>0.5 V

Open ranges are truly open – and may retrieve unintended results.

=> D KWIC 5,100

L1 ANSWER 5 OF 100082 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
NOV NOVELTY - The switch has a bipolar transient voltage suppression diode  
connected to an alternating current (AC) 220V input end of a switch  
circuit (101). A sensing circuit (103) is sleeved on a coil L (4). The  
sensing.. . .

L1 ANSWER 100 OF 100082 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
TI Capacitor charging current rectifier device for use with 12 volt  
storage battery of engine, has trigger resistor whose end is  
electrically coupled with cathode in parallel, where cathode leads. . .

USE USE - Capacitor charging current rectifier device for use with a  
12 volt storage battery of an engine.

ADV ADVANTAGE - The device is connected with positive and negative pole  
wires of the 12 volt storage battery to generate electric charge on a  
coil of a magnetic motor after starting the engine. The device.. . .

# Search example: Open ranges (cont.)

=> FILE WPIX

Open range searches may also exceed system limits.

=> S IRON (2A) PARTICLE (2A) LEN>100 NM

. . . .

TRUNCATION LIMITS EXCEEDED - SEARCH ENDED

=> S IRON (2A) PARTICLE (2A) 100 - 1000 NM/LEN

L2 89 IRON (2A) PARTICLE (2A) 100 - 1000 NM/LEN

=> D KWIC

Restricting the range allows the search to complete.

L2 ANSWER 1 OF 89 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
TECH. . .

nanoparticle, or their combination. The nanoparticle is an iron oxide magnetic particle. The nanoparticle has an average size diameter of 1-1000 nm. The iron oxide magnetic particle is functionalized through ligand ex

**Conclusion:** it's typically a good idea to search a closed range, even if you have an open range in mind.



# Search example: Exact values

=> FILE WPIX

=> S 100 C/TEMP(3A)(MELTING(W)POINT OR MP)  
L1 6516 100 C/TEMP(3A)(MELTING(W)POINT OR MP)

An exact value (L1).

=> S 99-101 C/TEMP(3A)(MELTING(W)POINT OR MP)  
L2 6579 99-101 C/TEMP(3A)(MELTING(W)POINT OR MP)

A closed range (L2).

=> S L2 NOT L1  
L3 63 L2 NOT L1

**Note:** Using exact values (L1) may miss potentially relevant documents (L3).

=> D KWIC 26

L3 ANSWER 26 OF 63 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
ABEX. . . with water. Solvent was distilled off and bis(3,4-epoxy  
cyclohexyl)-1,1,1,3,3,3-hexafluoro propane (56) was obtained as white  
solid. The epoxy compound had **melting point** of 99.5 degrees C,  
purity of 99.5% and epoxy equivalent of 170.42.

**Conclusion:** it's typically a good idea to search a closed range, even if you have an exact value in mind.

# Search example: Tolerances

=> FILE WPIX

=> S 100+-1 C/TEMP

L1 310496 100+-1 C/TEMP

A tolerance of  $\pm 1$  (L1).

=> SET TOLERANCE TEMP=1

SET COMMAND COMPLETED

Use SET TOLERANCE to automatically turn exact values into ranges. Use => SET TOL TEMP=1 PERM to save this setting for your Login ID.

=> S 100/TEMP

L2 310496 100+-1 C/TEMP

=> SET TOLERANCE TEMP=1%

SET COMMAND COMPLETED

Percent-based tolerances can also be used (L3, L4).

=> S 100 C/TEMP

L3 310496 100 +-1% C/TEMP

1% of 100 = 1, so L3 = 99 - 101 °C.

=> S 200/TEMP

L4 231593 200 C +-1% /TEMP

1% of 200 = 2, so L4 = 198 - 202 °C.

# Search example: Percent alloy composition

Here we are searching for percent (/PER) of metals in an alloy composition.

=> FILE WPIX

=> S ALLOY (S) BISMUTH (1A) PER<60 (S) LEAD (1A) PER>20 (S)  
TIN (S) CADMIUM

L1 12 ALLOY (S) BISMUTH (1A) PER<60 PERCENT (S) LEAD (1A)  
PER>20 PERCENT (S) TIN (S) CADMIUM

=> D KWIC

L1 ANSWER 1 OF 12 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
TECH

INORGANIC CHEMISTRY - Preferred Components: The metals are lead, zinc, tin, bismuth and cadmium with melting point of 100 degrees C and boiling point of 850 degrees C. The alloy of heat-carrier and/or the metal melt contains bismuth (50%), lead (25%) and tin (25%).

# Search example: Monomer weight percent

=> FILE WPIX

Here we are searching for the weight % (/PER) of monomers in a copolymer.

=> S COPOLYM? (S) (30-50/PER (1A) ETHYLENE (NOTW) OXIDE)  
(5A) (50-70/PER (1A) PROPYLENE (NOTW) OXIDE)

L1 183 COPOLYM? (S) (30 PERCENT - 50 PERCENT /PER (1A)  
ETHYLENE (NOTW) OXIDE)(5A)(50 PERCENT - 70 PERCENT  
/PER (1A) PROPYLENE (NOTW) OXIDE)

=> D KWIC

L1 ANSWER 1 OF 183 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
NOV. . .

lower than 20 wt.%) comprising a propylene homopolymer and/or  
a propylene copolymer with at least one alpha -olefin  
comonomer; copolymer of ethylene (42-70 wt.%) with propylene  
(35-85 wt.%) (B); polymer composition (5-45 wt.%) (C)  
comprising a blend of ethylene copolymer (20-80 wt.%)  
containing at least one alpha -olefin comonomer, and . . .

# Search example: Percent sequence identity

=> FILE WPIX

Here we are searching for the percent (/PER) identity of disclosed sequences to a known protein.

=> S (FIBROBLAST GROWTH FACTOR OR FGF?)(10A)(SIMILAR? OR IDENTI?  
OR HOMOLOG?)/TI,AB,TECH(5A)PER>=80

L1 38 (FIBROBLAST GROWTH FACTOR OR FGF?)(10A)(SIMILAR? OR IDENTI?  
OR HOMOLOG?)/TI,AB,TECH(5A)PER>=80 PERCENT

=> D KWIC

L1 ANSWER 1 OF 38 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
TECH. . .

bone morphogenetic protein (BMP) polypeptide or its fragment,  
preferably BMP6 or BMP7 or their polypeptide or fragment. Preferred  
Sequence: The FGF6 polypeptide exhibits at least 95% homology to a 208  
amino acid sequence (SEQ ID NO: 1) fully defined in the specification,  
and FGF9 exhibits at least 95% homology to a 208 amino acid sequence  
(SEQ ID NO: 2) fully defined in the specification. The FGF2 polypeptide  
exhibits at least 95% homology to a 288 amino acid sequence (SEQ ID  
NO: 3) fully defined in the specification. Preferred Cell: The target  
cell. . .

# Search example: Reaction time

=> FILE WPIX

Here we are using the time (/TIM) field to search for a chemical reaction time of less than 2 hours.

=> S REACT? TIME (5A) TIM<2 HOURS

L1 3801 REACT? TIME (5A) TIM<2 HOURS

=> D KWIC 1,15

L1 ANSWER 1 OF 3801 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
TECH. . .

in the acidic solution. Reaction temperature of vanadium pentoxide and reducing agent in the acidic solution is 45-100 degrees C. **Reacting time** is 0.5-64 hours. The pH value of the acidic solution is 0-6. Pressure of reaction in high pressure kettle is 0.1-50 MPa.

L1 ANSWER 15 OF 3801 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
ABEX. . . Teflon vacuum pump was turned on and the vacuum was immediately applied to the system. After a total **reaction time** of 60 minutes the heat was turned off and the flask was backfilled with nitrogen. The reaction mixture was then charged with. . .

# Search example: Reaction time (cont.)

```
=> SET SFIELDS BI CLM
SET COMMAND COMPLETED
```

Adding the DWPI claims field (/CLM) may retrieve additional relevant results.

```
=> S REACT? TIME (5A) TIM<2 HOURS
L2          6964 REACT? TIME/BI,CLM (5A) TIM<2 HOURS
```

```
=> S L2 NOT L1
L3          3163 L2 NOT L1
```

Learn more about DWPI claims coverage here:  
[http://www.stn-international.com/dwpi\\_table.html](http://www.stn-international.com/dwpi_table.html)

```
=> D KWIC
```

```
L3  ANSWER 1 OF 3163  WPIX COPYRIGHT 2012          THOMSON REUTERS on STN
```

```
Member. . .
```

```
reagent is solid sodium methoxide or potassium methoxide or their
mixture, the reaction temperature is 70 140 degrees centigrade, the
reaction time is 1 to 5 hours, the pressure is -0.085 to -0. MPa,
removing reaction generated in the methanol.
```

```
[CLAIM 5] Preparation method butyl. . .
```

# Search example: Reaction time (cont.)

=> S REACT? TIME/ADV (5A) TIM<2 HOURS

L4 153 REACT? TIME/ADV (5A) TIM<2 HOURS

=> D KWIC 1-153

More focused searches are possible using DWPI abstract sections, e.g. the advantage (/ADV).

L4 ANSWER ... OF 153 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN

ADV ADVANTAGE - The method can greatly enhance catalytic activity, has **reaction time** of **1.5 hours** and quickly form high molecular weight product at maximum molecular weight of more than 20; has body producing, simple.. . .

L4 ANSWER ... OF 153 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN

ADV ADVANTAGE - The reactor system does not use oxygen, has high **temperature heating rate** (1000-10000 K/s) and has short **reaction time** (**less than 2 seconds**). It is capable of providing short chain low molecular substance product and improves yield and quality of biological oil.

See Appendix (slide 40) for a summary of the various DWPI abstract section search options.



# Search example: Reaction time (cont.)

```
=> S REACT? TIME/ADV (5A) TIM.EX<2 HOURS  
L5          137 REACT? TIME/ADV (5A) TIM.EX<2 HOURS
```

```
=> S L4 NOT L5  
L6          16 L4 NOT L5
```

**Option:** exclude indexed open ranges (.EX), as this may help focus the search even further.

```
=> D KWIC 1-16
```

Open range hits are not always relevant (L6).

```
L6 ANSWER ... OF 16 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
ADV. . . . can be processed for obtaining the Na2Ta2O6 while the  
hydrothermal reaction temperature is lower than 150 degrees C and the  
reaction time is less than 8 hours.
```

```
L6 ANSWER ... OF 16 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
ADV. . . . greater than 30 (preferably greater than 50) kg. The process  
of preparing omeprazole form B is carried out at total reaction time of  
less than 35 hours; is simple, cost-effective and large scale  
applicable; and has improved purification step.
```

# Search example: Physical properties (PHP)

=> FILE WPIX

=> S PER/PHP (5A) CAMPHOR

L1 662 PER/PHP (5A) CAMPHOR

=> D KWIC 1,20

Searching for a property in the Physical Properties (/PHP) field, finds all property values and highlights them.

E.g. percentages PER/PHP.

L1 ANSWER 1 OF 662 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
NOV. . . . 0.5% bee wax, 6% aluminium starch octenyl succinate, 0.5 %  
shea butter, 3% triethyl citrate, 0.5 % natural menthol and 0.5 %  
natural camphor together with usual ingredients and excipients for the  
remainder to 100%.

L1 ANSWER 20 OF 662 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
DETD . . . revolutions per minute, cross linking for 5-8 hours to form an  
uniform microcapsule solution, where the microcapsule emulsifying  
solution comprises: 1-10% of peppermint camphor, 3-5% of chitosan, 6-8%  
of modified starch and 0.1-0.5% of emulsifying agent, and (g) spray  
drying the microcapsule emulsifying solution and emulsifying . . .

# Search example: Physical properties (cont.)

=> S LEN/PHP (5A) (LIPOSOM? OR (LIPID? (W) VESICL?))

L2 671 LEN/PHP (5A) (LIPOSOM? OR (LIPID? (W) VESICL?))

=> D KWIC 1,300

E.g. liposome or vesicle size LEN/PHP.

L2 ANSWER 1 OF 671 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
TECH. . .

labeled substance. The liposome composite complex has surface charge of is -30 to +10 mV. The particle size of the liposome composite complex is 50-500 nm. Preferred Method: The method further involves mixing the liquid with cell transduction substance.

L2 ANSWER 300 OF 671 WPIX COPYRIGHT 2012 THOMSON REUTERS on STN  
TECH. . . phosphatidylserine, phosphatidylethanolamine, or sphingomyelin.

Preferred Liposome: The liposome is of a size 30 - 1500 nm. The acyl chains are myristoyl (14C per chain), or palmitoyl (16C per chain).

ABEX. . . stirring. This produces a more fluid and translucent suspension of smaller liposomes. The liposomes encapsulating the oligonucleotide were then extruded. Liposome size was verified to be 112 nm. The solution (1 ml) was then diluted with isotonic saline (2 ml) to a final lipid concentration of 33. . .

# Typical numeric searches

Searching for **specific properties**.

```
=> S (LIGHT EMITTING DIODE OR LED) (10A)  
    (AlGaInP or AlInGaP or InGaAlP) (10A) 500-570 NM /LEN
```

Searching for **percent values**.

```
=> S ALLOY (S) BISMUTH (1A) 40-60/PER (S) LEAD (1A) PER>20  
    (S) TIN (S) CADMIUM
```

Presence of **numeric properties**.

```
=> S PER/PHP (5A) CAMPHOR
```

# 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](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

<u>Field</u>	<u>Description</u>	<u>Availability</u>	
TI	Enhanced Title	1963-	
NOV	Novelty	1999-	
DETD	Detailed Description	1999-	
ACTN	Mechanism of Action	1999-	
ACTV	Activity	1999-	
ADV	Advantage	1984-	
UADV	Use/Advantage	1984-	
USE	Use	1984-	
DRWD	Drawing Description	1999-	
TECH	Technology Focus	1999-	
ABEX*	Extension Abstract	1999-	

\* ABEX is only displayable in WPIX.



# STN<sup>®</sup>

For more information ...

CAS

E-mail: [help@cas.org](mailto:help@cas.org)

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[www.cas.org](http://www.cas.org)

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