

**CPC****COOPERATIVE PATENT CLASSIFICATION****C01P****INDEXING SCHEME RELATING TO STRUCTURAL AND PHYSICAL ASPECTS OF SOLID INORGANIC COMPOUNDS****NOTE**

This subclass constitutes an internal scheme for indexing only.

The indexing scheme is used to identify structural and physical aspects of solid inorganic compounds, already classified in class [C01](#) or subclass [C09C](#).

**Guidance heading:**

<b>C01P 2002/00</b>	<b>Crystal-structural characteristics</b>
C01P 2002/01	. depicted by a TEM-image
C01P 2002/02	. Amorphous compounds
C01P 2002/04	. Compounds with a limited amount of crystallinity, e.g. as indicated by a crystallinity index
C01P 2002/08	. Intercalated structures, i.e. with atoms or molecules intercalated in their structure
C01P 2002/10	. One-dimensional structures
C01P 2002/20	. Two-dimensional structures
C01P 2002/22	.. layered hydroxide-type, e.g. of the hydrotalcite-type
C01P 2002/30	. Three-dimensional structures
C01P 2002/32	.. spinel-type (AB <sub>2</sub> O <sub>4</sub> )
C01P 2002/34	.. perovskite-type (ABO <sub>3</sub> )
C01P 2002/36	.. pyrochlore-type (A <sub>2</sub> B <sub>2</sub> O <sub>7</sub> )
C01P 2002/50	. Solid solutions
C01P 2002/52	.. containing elements as dopants
C01P 2002/54	... one element only
C01P 2002/60	. Compounds characterised by their crystallite size
C01P 2002/70	. defined by measured X-ray, neutron or electron diffraction data
C01P 2002/72	.. by d-values or two theta-values, e.g. as X-ray diagram
C01P 2002/74	.. by peak-intensities or a ratio thereof only
C01P 2002/76	.. by a space-group or by other symmetry indications
C01P 2002/77	.. by unit-cell parameters, atom positions or structure diagrams

- C01P 2002/78 . . by stacking-plane distances or stacking sequences
- C01P 2002/80 . defined by measured data other than those specified in group [C01P 2002/70](#)
- C01P 2002/82 . . by IR- or Raman-data
- C01P 2002/84 . . by UV- or VIS- data
- C01P 2002/85 . . by XPS, EDX or EDAX data
- C01P 2002/86 . . by NMR- or ESR-data
- C01P 2002/87 . . by chromatography data, e.g. HPLC, gas chromatography
- C01P 2002/88 . . by thermal analysis data, e.g. TGA, DTA, DSC
- C01P 2002/89 . . by mass-spectroscopy
- C01P 2002/90 . Other crystal-structural characteristics not specified above

#### Guidance heading:

#### **C01P 2004/00 Particle morphology**

- C01P 2004/01 . depicted by an image
- C01P 2004/02 . . obtained by optical microscopy
- C01P 2004/03 . . obtained by SEM
- C01P 2004/04 . . obtained by TEM, STEM, STM or AFM
- C01P 2004/10 . extending in one dimension, e.g. needle-like
- C01P 2004/11 . . with a prismatic shape
- C01P 2004/12 . . with a cylindrical shape
- C01P 2004/13 . . Nanotubes
- C01P 2004/133 . . . Multiwall nanotubes
- C01P 2004/136 . . . Nanoscrolls, i.e. tubes having a spiral section
- C01P 2004/16 . . Nanowires or nanorods, i.e. solid nano-fibres with two nearly equal dimensions between 1-100 nanometer
- C01P 2004/17 . . Nanostrips, nanoribbons or nanobelts, i.e. solid nano-fibres with two significantly differing dimensions between 1-100 nanometer
- C01P 2004/20 . extending in two dimensions, e.g. plate-like
- C01P 2004/22 . . with a polygonal circumferential shape
- C01P 2004/24 . . Nanoplates, i.e. plate-like particles with a thickness from 1-100 nanometer
- C01P 2004/30 . extending in three dimensions
- C01P 2004/32 . . Spheres
- C01P 2004/34 . . . hollow
- C01P 2004/36 . . . fragmented
- C01P 2004/38 . . cube-like
- C01P 2004/39 . . parallelepiped-like
- C01P 2004/40 . . prism-like

- C01P 2004/41 . . octahedron-like
- C01P 2004/42 . . (bi)pyramid-like
- C01P 2004/45 . . Aggregated particles or particles with an intergrown morphology
- C01P 2004/50 . Agglomerated particles
- C01P 2004/51 . Particles with a specific particle size distribution
- C01P 2004/52 . . highly monodisperse size distribution
- C01P 2004/53 . . bimodal size distribution
- C01P 2004/54 . Particles characterised by their aspect ratio, i.e. the ratio of sizes in the longest to the shortest dimension
- C01P 2004/60 . Particles characterised by their size
- C01P 2004/61 . . Micrometer sized, i.e. from 1-100 micrometer
- C01P 2004/62 . . Submicrometer sized, i.e. from 0.1-1 micrometer
- C01P 2004/64 . . Nanometer sized, i.e. from 1-100 nanometer
- C01P 2004/80 . Particles consisting of a mixture of two or more inorganic phases
- C01P 2004/82 . . two phases having the same anion, e.g. both oxidic phases
- C01P 2004/84 . . . one phase coated with the other
- C01P 2004/86 . . . . Thin layer coatings, i.e. the coating thickness being less than 0.1 time the particle radius
- C01P 2004/88 . . . . Thick layer coatings
- C01P 2004/90 . Other morphology not specified above

## **C01P 2006/00 Physical properties of inorganic compounds**

### **NOTE**

Compounds having molecular sieve properties are classified in [C01B 37/00, 39/00](#).

The following codes are only to be used for physical values deviating significantly from the average usual values.

- C01P 2006/10 . Solid density
- C01P 2006/11 . Powder tap density
- C01P 2006/12 . Surface area
- C01P 2006/13 . . thermal stability thereof at high temperatures
- C01P 2006/14 . Pore volume
- C01P 2006/16 . Pore diameter
- C01P 2006/17 . . Pore diameter distribution
- C01P 2006/19 . Oil-absorption capacity, e.g. DBP values

- C01P 2006/20 . Powder free flowing behaviour
- C01P 2006/21 . Attrition-index or crushing strength of granulates
- C01P 2006/22 . Rheological behaviour as dispersion, e.g. viscosity, sedimentation stability
- C01P 2006/32 . Thermal properties
- C01P 2006/33 . . Phase transition temperatures
- C01P 2006/34 . . . Melting temperatures
- C01P 2006/35 . . . Boiling temperatures
- C01P 2006/36 . . . Solid to solid transition temperatures
- C01P 2006/37 . . Stability against thermal decomposition
- C01P 2006/40 . Electric properties
- C01P 2006/42 . Magnetic properties
- C01P 2006/44 . Alpha, beta or gamma radiation related properties
- C01P 2006/60 . Optical properties, e.g. expressed in CIELAB-values
- C01P 2006/62 . . L\* (lightness axis)
- C01P 2006/63 . . a\* (red-green axis)
- C01P 2006/64 . . b\* (yellow-blue axis)
- C01P 2006/65 . . Chroma (C\*)
- C01P 2006/66 . . Hue (H\*)
- C01P 2006/80 . Compositional purity
- C01P 2006/82 . . water content
- C01P 2006/88 . Isotope composition differing from the natural occurrence
- C01P 2006/90 . Other properties not specified above