

**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.

**C01P 2002/00****Crystal-structural characteristics****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

## **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