CPC COOPERATIVE PATENT CLASSIFICATION

C01G COMPOUNDS CONTAINING METALS NOT COVERED BY SUBCLASSES C01D OR C01F (metal hydrides {monoborane, diborane or addition complexes thereof} C01B 6/00; salts of oxyacids of halogens C01B 11/00; peroxides, salts or peroxyacids C01B 15/00; thiosulfates, dithionites, polythionates C01B 17/64; compounds containing selenium, or tellurium C01B 19/00; binary compounds of nitrogen with metals C01B 21/06; azides C01B 21/08; {compounds containing nitrogen, other non-metals and metal C01B 21/082}; metal amides C01B 21/092; nitrites C01B 21/50; {compounds of noble gases C01B 23/0005}; phosphides C01B 25/08; salts of oxyacids of phosphorus C01B 25/16; carbides C01B 31/30; compounds containing silicon C01B 33/00; compounds containing boron C01B 35/00; compounds having molecular sieve properties but not having base-exchange properties C01B 37/00; compounds having molecular sieve and base-exchange properties, e.g. crystalline zeolites, C01B 39/00; cyanides C01C 3/08; salts of cyanamide C01C 3/16; thiocyanates C01C 3/20)

1/00 **Methods of preparing compounds of metals not covered by subclasses C01B, C01C, C01D, or C01F, in general** (electrolytic production of inorganic compounds C25B 1/00)

1/02 . Oxides
1/04 . Carbonyls
1/06 . Halides
1/08 . Nitrates
1/10 . Sulfates
1/12 . Sulfides
1/14 . Sulfites

3/00 **Compounds of copper**

3/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
3/006 . {Compounds containing, besides copper, two or more other elements, with the exception of oxygen or hydrogen}
3/02 . Oxides; Hydroxides
3/04 . Halides
3/05 . . Chlorides
3/06 . . Oxychlorides
3/08 . Nitrates
3/10 . Sulfates
3/12 . Sulfides
3/14 . Complexes with ammonia

5/00 **Compounds of silver**

5/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
5/006 . {Compounds containing, besides silver, two or more other elements, with the exception of oxygen or hydrogen}
5/02 . Halides

7/00 **Compounds of gold**

7/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
7/006 . {Compounds containing, besides gold, two or more other elements, with the exception of oxygen or hydrogen}

9/00 **Compounds of zinc**

9/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
9/006 . {Compounds containing, besides zinc, two ore more other elements, with the exception of oxygen or hydrogen}
9/02 . Oxides; Hydroxides
9/03 . . Processes of production using dry methods, e.g. vapour phase processes
9/04 . Halides
9/06 . Sulfates
9/08 . Sulfides

11/00 **Compounds of cadmium**

11/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
11/006 . {Compounds containing, besides cadmium, two or more other elements, with the exception of oxygen or hydrogen}
11/02 . Sulfides

13/00 **Compounds of mercury**

13/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
13/006 . {Compounds containing, besides mercury, two or more other elements, with the exception of oxygen or hydrogen}
13/02 . Oxides
13/04 . Halides

15/00 **Compounds of gallium, indium or thallium**

15/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
15/006 . {Compounds containing, besides gallium, indium, or thallium, two or more other elements, with the exception of oxygen or hydrogen}

17/00 **Compounds of germanium**

17/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
17/006 . {Compounds containing, besides germanium, two or more other elements, with the exception of oxygen or hydrogen}
17/02 . Germanium dioxide
17/04 . Halides of germanium

19/00 **Compounds of tin**

19/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}

19/006 . {Compounds containing, besides tin, two or more other elements, with the exception of oxygen or hydrogen}
19/02 . Oxides
19/04 . Halides
19/06 . . Stannous chloride
19/08 . . Stannic chloride

21/00 Compounds of lead
21/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
21/006 . {Compounds containing, besides lead, two or more other elements, with the exception of oxygen or hydrogen}
21/02 . Oxides
21/04 . . Lead suboxide (Pb_2O)
21/06 . . Lead monoxide (PbO)
21/08 . . Lead dioxide (PbO_2)
21/10 . . Red lead (Pb_3O_4)
21/12 . Hydroxides
21/14 . Carbonates
21/16 . Halides
21/18 . Nitrates
21/20 . Sulfates
21/21 . Sulfides
21/22 . Plumbates; Plumbites

23/00 Compounds of titanium {(preparation of Ti-compounds from ores or scraps C22B 34/12)**}**
23/001 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
23/002 . {Compounds containing, besides titanium, two or more other elements, with the exception of oxygen or hydrogen (C01G 23/001 takes precedence)}
23/003 . {Titanates, e.g. titanates of two or more metals other than titanium (C01G 23/001 takes precedence)}
23/005 . . {Alkali titanates}
23/006 . . {Alkaline earth titanates}
23/007 . {Titanium sulfides (C01G 23/001 takes precedence)}
23/008 . {Titanium- and titanyl sulfate (C01G 23/001 takes precedence)}
23/02 . Halides of titanium
23/022 . . {Titanium tetrachloride}
23/024 . . . {Purification of tetrachloride}
23/026 . . {Titanium trichloride}
23/028 . . {Titanium fluoride}
23/04 . Oxides; Hydroxides
23/043 . . {Titanium sub-oxides}
23/047 . . Titanium dioxide
23/0475 . . . {Purification}
23/053 . . . Producing by wet processes, e.g. hydrolysing titanium salts
23/0532 . . . . {by hydrolysing sulfate-containing salts}
23/0534 . . . . . {in the presence of seeds}
23/0536 . . . . {by hydrolysing chloride-containing salts}
23/0538 . . . . . {in the presence of seeds}
23/07 . . . Producing by vapour phase processes, e.g. halide oxidation
23/075 . . . . {Evacuation and cooling of the gaseous suspension containing the oxide; Desacidification and elimination of gases occluded in the separated oxide}
23/08 . . . Drying; Calcining; {After treatment of titanium oxide}

25/00 Compounds of zirconium
25/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
25/006 . {Compounds containing, besides zirconium, two or more other elements, with the exception of oxygen or hydrogen}
25/02 . Oxides
25/04 . Halides
25/06 . Sulfates

27/00 Compounds of hafnium
27/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
27/006 . {Compounds containing, besides hafnium, two or more other elements, with the exception of oxygen or hydrogen}
27/02 . Oxides
27/04 . Halides
27/06 . Sulfates

28/00 Compounds of arsenic
28/001 . {Preparation involving a solvent-solvent extraction, an adsorption or an ion-exchange}
28/002 . {Compounds containing, besides arsenic, two or more other elements, with the exception of oxygen or hydrogen (C01G 28/001 takes precedence)}
28/004 . . {containing halogen}
28/005 . {Oxides; Hydroxides; Oxyacids (C01G 28/001 takes precedence)}
28/007 . {Halides (C01G 28/001 takes precedence)}
28/008 . {Sulfides (C01G 28/001 takes precedence)}
28/02 . Arsenates; Arsenites {(C01G 28/001 takes precedence)}
28/023 . . {of ammonium, alkali or alkaline-earth metals or magnesium}
28/026 . . {containing at least two metals}

29/00 Compounds of bismuth
29/003 . {Preparations involving a liquid-liquid extraction, an adsorption or an ion-exchange}
29/006 . {Compounds containing, besides bismuth, two or more other elements, with the exception of oxygen or hydrogen}

30/00 Compounds of antimony
30/001 . {Preparation involving a solvent-solvent extraction, an adsorption or an ion-exchange}
30/002 . {Compounds containing, besides antimony, two or more other elements, with the exception of oxygen or hydrogen (C01G 30/001 takes precedence)}
30/003 . . {containing halogen}
30/004 . {Oxides; Hydroxides; Oxyacids (C01G 30/001 takes precedence)}
30/005 . . {Oxides}
30/006 . {Halides (C01G 30/001 takes precedence)}
30/007 . . {of binary type SbX3 or SbX5 with X representing a halogen, or mixed of the type SbX3X'2 with X,X' representing different halogens}
30/008 . {Sulfides (C01G 30/001 takes precedence)}
30/02 . Antimonates; Antimonites {(C01G 30/001 takes precedence)}

30/023 . . {of ammonium, alkali or alkaline-earth metals or magnesium}
30/026 . . {containing at least two metals}

31/00 Compounds of vanadium
31/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
31/006 . {Compounds containing, besides vanadium, two or more other elements, with the exception of oxygen or hydrogen}
31/02 . Oxides
31/04 . Halides

33/00 Compounda of niobium
33/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
33/006 . {Compounds containing, besides niobium, two or more other elements, with the exception of oxygen or hydrogen}

35/00 Compounds of tantalum
35/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
35/006 . {Compounds containing, besides tantalum, two or more other elements, with the exception of oxygen or hydrogen}
35/02 . Halides

37/00 Compounds of chromium
37/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
37/006 . {Compounds containing, besides chromium, two or more other elements, with the exception of oxygen or hydrogen}
37/02 . Oxides or hydrates thereof
37/027 . . Chromium dioxide
37/033 . . Chromium trioxide; Chromic acid
37/04 . Chromium halides
37/06 . . Chromylhalides
37/08 . Chromium sulfates
37/10 . . Chrome alum
37/14 . Chromates; Bichromates

39/00 Compounds of molybdenum
39/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
39/006 . {Compounds containing, besides molybdenum, two or more other elements, with the exception of oxygen or hydrogen}
39/02 . Oxides; Hydroxides
39/04 . Halides
39/06 . Sulfides

41/00 Compounds of tungsten
41/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
41/006 . {Compounds containing, besides tungsten, two or more other elements, with the exception of oxygen or hydrogen}
41/02 . Oxides; Hydroxides
41/04 . Halides

43/00 Compounds of uranium
43/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
43/006 . {Compounds containing, besides uranium, two or more other elements, with the exception of oxygen or hydrogen}
43/01 . Oxides; Hydroxides
43/025 . . Uranium dioxide
43/04 . Halides of uranium
43/06 . . Fluorides
43/063 . . . {Hexafluoride (UF_6)}
43/066 . . . . {Preparation}
43/08 . . Chlorides
43/10 . . Bromides
43/12 . . Iodides

45/00 Compounds of manganese
45/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
45/006 . {Compounds containing, besides manganese, two or more other elements, with the exception of oxygen or hydrogen (manganates, manganites or permanganates C01G 45/12)}
45/02 . Oxides; Hydroxides
45/04 . Carbonyls
45/06 . Halides
45/08 . Nitrates
45/10 . Sulfates
45/12 . Manganates {manganites or} permanganates
45/1207 . . {Permanganates ([MnO]4-) or manganates ([MnO4]2-)}
45/1214 . . . {containing alkali metals}
45/1221 . . {Manganates or manganites with a manganese oxidation state of Mn(III), Mn(IV) or mixtures thereof}
45/1228 . . . {of the type [MnO2]n- , e.g. LiMnO2, Li[MxMn1-x]O2}
45/1235 . . . {of the type [Mn2O4]2-, e.g. Li2Mn2O4, Li2[MxMn2-x]O4}
45/1242 . . . {of the type [Mn2O4]-, e.g. LiMn2O4, Li[MxMn2-x]O4}
45/125 . . . {of the type[MnO3]n-, e.g. Li2MnO3, Li2[MxMn1-xO3], (La,Sr)MnO3}
45/1257 . . . . {containing lithium, e.g. Li2MnO3, Li2[MxMn1-xO3}
45/1264 . . . . {containing rare earth, e.g. La1-xCaxMnO3, LaMnO3}
45/1271 . . . {of the type [Mn2O8]n-, e.g. (LaSr3)Mn2O8}
45/1278 . . . {of the type [Mn2O7]n-, e.g. (Sr2-xNdx)Mn2O7, Tl2Mn2O7}
45/1285 . . . {of the type [Mn2O5]n-}
45/1292 . . . {of the type [Mn5O12]n-}

47/00 Compounds of rhenium
47/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
47/006 . {Compounds containing, besides rhenium, two or more other elements, with the exception of oxygen or hydrogen}

49/00 Compounds of iron
49/0009 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
49/0018 . {Mixed oxides or hydroxides, e.g. ferrites (C01G 49/0009 takes precedence)}
49/0027 . . {containing one alkali metal}
49/0036 . . {containing one alkaline earth metal, magnesium or lead}

49/0045 . . {containing aluminium}
49/0054 . . {containing one rare earth metal, yttrium or scandium}
49/0063 . . {containing zinc}
49/0072 . . {containing manganese}
49/0081 . . {containing iron in unusual valence state (IV, V, VI), e.g. ferrates}
49/009 . {Compounds containing, besides iron, two or more other elements, with the exception of oxygen or hydrogen}
49/02 . Oxides; Hydroxides {(C01G 49/0018 takes precedence)}
49/04 . . Ferrous oxide (FeO)
49/06 . . Ferric oxide (Fe_2O_3)
49/08 . . Ferroso-ferric oxide (Fe_3O_4)
49/10 . Halides {(C01G 49/0018 takes precedence)}
49/12 . Sulfides {(C01G 49/0018 takes precedence)}
49/14 . Sulfates {(C01G 49/0018 takes precedence)}
49/16 . Carbonyls {(C01G 49/0018 takes precedence)}

51/00 Compounds of cobalt

51/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
51/006 . {Compounds containing, besides cobalt, two or more other elements, with the exception of oxygen or hydrogen (cobaltates C01G 51/40)}
51/02 . Carbonyls
51/04 . Oxides; Hydroxides
51/06 . Carbonates
51/08 . Halides
51/085 . . {Chlorides}
51/10 . Sulfates
51/12 . Complexes with ammonia
51/30 . {Sulfides}
51/40 . {Cobaltates}
51/42 . . {containing alkali metals, e.g. $LiCoO_2$}
51/44 . . . {containing manganese}
51/50 . . . . {of the type [MnO2]n- , e.g. Li(CoxMn1-x)O2, Li(MyCoxMn1-x-y)O2}
51/52 . . . . {of the type [Mn2O4]2-, e.g. Li2(CoxMn2-x)O4, Li2(MyCoxMn2-x-y)O4}
51/54 . . . . {of the type [Mn2O4]-, e.g. Li(CoxMn2-x)04, Li(MyCoxMn2-x-y)O4}
51/56 . . . . {of the type [MnO3]2-, e.g. Li2[CoxMn1-xO3], Li2[MyCoxMn1-x-yO3}
51/58 . . . . {of the type [Mn2O8]n-}
51/60 . . . . {of the type [Mn2O7]n-}
51/62 . . . . {of the type [Mn2O5]n-}
51/64 . . . . {of the type [Mn5O12]n-}
51/66 . . {containing alkaline earth metals, e.g. $SrCoO_3$}
51/68 . . . {containing rare earth, e.g. $La_{0.3}Sr_{0.7}CoO_3$}
51/70 . . {containing rare earth, e.g. $LaCoO_3$ (C01G 51/68 takes precedence)}

53/00 Compounds of nickel

53/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
53/006 . {Compounds containing, besides nickel, two or more other elements, with the exception of oxygen or hydrogen (nickelates C01G 53/40)}
53/02 . Carbonyls
53/04 . Oxides; Hydroxides
53/06 . Carbonates
53/08 . Halides
53/09 . . Chlorides
53/10 . Sulfates
53/11 . Sulfides
53/12 . Complexes with ammonia
53/40 . {Nickelates}

WARNING

Groups C01G 53/40 - C01G 53/70 are not complete pending a reorganisation, see also C01G 53/006 and C01G 53/00

53/42 . . {containing alkali metals, e.g. $LiNiO_2$}
53/44 . . . {containing manganese}
53/50 . . . . {of the type [MnO2]n- , e.g. Li(NixMn1-x)O2, Li(MyNixMn1-x-y)O2}
53/52 . . . . {of the type [Mn2O4]2-, e.g. Li2(NixMn2-x)O4, Li2(MyNixMn2-x-y)O4}
53/54 . . . . {of the type [Mn2O4]-, e.g. Li(NixMn2-x)O4, Li(MyNixMn2-x-y)O4}
53/56 . . . . {of the type [MnO3]2-, e.g. Li2[NixMn1-xO3], Li2[MyNixMn1-x-yO3}
53/58 . . . . {of the type [Mn2O8]n-}
53/60 . . . . {of the type [Mn2O7]n-}
53/62 . . . . {of the type [Mn2O5]n-}
53/64 . . . . {of the type [Mn5O12]n-}
53/66 . . {containing alkaline earth metals, e.g. $SrNiO_3$, $SrNiO_2$}
53/68 . . . {containing rare earth, e.g. La1.62 Sr0.38NiO4}
53/70 . . {containing rare earth, e.g. $LaNiO_3$ (C01G 53/68 takes precedence)}

55/00 Compounds of ruthenium, rhodium, palladium, osmium, iridium, or platinum

55/001 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
55/002 . {Compounds containing, besides ruthenium, rhodium, palladium, osmium, iridium, or platinum, two or more other elements, with the exception of oxygen or hydrogen (C01G 55/007 takes precedence)}
55/004 . {Oxides; Hydroxides}
55/005 . {Halides}
55/007 . {Compounds containing at least one carbonyl group}
55/008 . . {Carbonyls}

56/00 Compounds of transuranic elements

56/001 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}
56/002 . . {by adsorption or by ion-exchange on a solid support}
56/003 . {Compounds comprising, besides transuranic elements, two or more other elements, with the exception of oxygen or hydrogen (C01G 56/001 takes precedence)}
56/004 . {Compounds of plutonium (C01G 56/001 takes precedence)}
56/005 . . {Oxides; Hydroxides}
56/006 . . {Halides}
56/007 . {Compounds of transuranic elements (C01G 56/001 and C01G 56/004 take precedence)}
56/008 . . {Compounds of neptunium}

56/009 . . {Compounds of americium}

99/00 Subject matter not provided for in other groups of this subclass

99/003 . {Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange}

99/006 . {Compounds containing, besides a metal not provided for elsewhere in this subclass, two or more other elements other than oxygen or hydrogen (C01G 99/003 takes precedence)}