

**ECLA****EUROPEAN CLASSIFICATION****C01G****COMPOUNDS CONTAINING METALS NOT COVERED BY**

**SUBCLASSES C01D OR C01F** (metal hydrides [N: monoborane, diborane or addition complexes thereof] [C01B6/00](#); salts of oxyacids of halogens [C01B11/00](#); peroxides, salts or peroxyacids [C01B15/00](#); thiosulfates, dithionites, polythionates [C01B17/64](#); compounds containing selenium, or tellurium [C01B19/00](#); binary compounds of nitrogen with metals [C01B21/06](#); azides [C01B21/08](#); [N: compounds containing nitrogen, other non-metals and metal [C01B21/082](#)]; metal amides [C01B21/092](#); nitrites [C01B21/50](#); [N: compounds of noble gases [C01B23/00B](#)]; phosphides [C01B25/08](#); salts of oxyacids of phosphorus [C01B25/16](#); carbides [C01B31/30](#); compounds containing silicon [C01B33/00](#); compounds containing boron [C01B35/00](#); compounds having molecular sieve properties but not having base-exchange properties [C01B37/00](#); compounds having molecular sieve and base-exchange properties, e.g. crystalline zeolites, [C01B39/00](#); cyanides [C01C3/08](#); salts of cyanamide [C01C3/16](#); thiocyanates [C01C3/20](#)) [[C9602](#)]

[N: **WARNING**  
[C2011.12]

Groups [C01G51/30](#) to [C01G51/70](#) and [C01G53/40](#) to [C01G53/70](#) do not correspond to former or current IPC-groups.  
The concordance ECLA : IPC is as follows:  
- C01G 51/30 - 51/70 : [C01G51/00](#)  
- C01G 53/40 - 53/70 : [C01G53/00](#)  
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**C01G1/00**

**Methods of preparing compounds of metals not covered by subclasses [C01B](#), [C01C](#), [C01D](#), or [C01F](#), in general** (electrolytic production of inorganic compounds [C25B1/00](#))

- [C01G1/02](#) . Oxides
- [C01G1/04](#) . Carbonyls
- [C01G1/06](#) . Halides
- [C01G1/08](#) . Nitrates
- [C01G1/10](#) . Sulfates
- [C01G1/12](#) . Sulfides
- [C01G1/14](#) . Sulfites

**C01G3/00****Compounds of copper**

- [C01G3/00B](#) . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- [C01G3/00D](#) . [N: Compounds containing, besides copper, two or more other elements, with the

exception of oxygen or hydrogen]

- C01G3/02 . Oxides; Hydroxides
- C01G3/04 . Halides
- C01G3/05 . . Chlorides
- C01G3/06 . . Oxychlorides
- C01G3/08 . Nitrates
- C01G3/10 . Sulfates
- C01G3/12 . Sulfides
- C01G3/14 . Complexes with ammonia

#### **C01G5/00      Compounds of silver**

- C01G5/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G5/00D . [N: Compounds containing, besides silver, two or more other elements, with the exception of oxygen or hydrogen]
- C01G5/02 . Halides

#### **C01G7/00      Compounds of gold**

- C01G7/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G7/00D . [N: Compounds containing, besides gold, two or more other elements, with the exception of oxygen or hydrogen]

#### **C01G9/00      Compounds of zinc**

- C01G9/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G9/00D . [N: Compounds containing, besides zinc, two or more other elements, with the exception of oxygen or hydrogen]
- C01G9/02 . Oxides; Hydroxides
- C01G9/03 . . Processes of production using dry methods, e.g. vapour phase processes
- C01G9/04 . Halides
- C01G9/06 . Sulfates
- C01G9/08 . Sulfides

#### **C01G11/00      Compounds of cadmium**

- C01G11/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G11/00D . [N: Compounds containing, besides cadmium, two or more other elements, with the exception of oxygen or hydrogen]
- C01G11/02 . Sulfides
- C01G13/00      Compounds of mercury**
- C01G13/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G13/00D . [N: Compounds containing, besides mercury, two or more other elements, with the exception of oxygen or hydrogen]
- C01G13/02 . Oxides
- C01G13/04 . Halides
- C01G15/00      Compounds of gallium, indium or thallium**
- C01G15/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G15/00D . [N: Compounds containing, besides gallium, indium, or thallium, two or more other elements, with the exception of oxygen or hydrogen]
- C01G17/00      Compounds of germanium**
- C01G17/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G17/00D . [N: Compounds containing, besides germanium, two or more other elements, with the exception of oxygen or hydrogen]
- C01G17/02 . Germanium dioxide
- C01G17/04 . Halides of germanium
- C01G19/00      Compounds of tin**
- C01G19/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G19/00D . [N: Compounds containing, besides tin, two or more other elements, with the exception of oxygen or hydrogen]
- C01G19/02 . Oxides
- C01G19/04 . Halides
- C01G19/06 . . Stannous chloride
- C01G19/08 . . Stannic chloride

**C01G21/00****Compounds of lead**

- C01G21/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G21/00D . [N: Compounds containing, besides lead, two or more other elements, with the exception of oxygen or hydrogen]
- C01G21/02 . Oxides
- C01G21/04 . . Lead suboxide ( $\text{Pb}_2\text{O}$ )
- C01G21/06 . . Lead monoxide ( $\text{PbO}$ )
- C01G21/08 . . Lead dioxide ( $\text{PbO}_2$ )
- C01G21/10 . . Red lead ( $\text{Pb}_3\text{O}_4$ )
- C01G21/12 . Hydroxides
- C01G21/14 . Carbonates
- C01G21/16 . Halides
- C01G21/18 . Nitrates
- C01G21/20 . Sulfates
- C01G21/21 . Sulfides
- C01G21/22 . Plumbates; Plumbites

**C01G23/00****Compounds of titanium** [N: (preparation of Ti-compounds from ores or scraps [C22B34/12](#))]

- C01G23/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G23/00D . [N: Compounds containing, besides titanium, two or more other elements, with the exception of oxygen or hydrogen ([C01G23/00B](#) takes precedence)]
- C01G23/00F . [N: Titanates, e.g. titanates of two or more metals other than titanium ([C01G23/00B](#) takes precedence)]
- C01G23/00F2 . . [N: Alkali titanates]
- C01G23/00F4 . . [N: Alkaline earth titanates]
- C01G23/00H . [N: Titanium sulfides ([C01G23/00B](#) takes precedence)]
- C01G23/00K . [N: Titanium- and titanyl sulfate ([C01G23/00B](#) takes precedence)]
- C01G23/02 . Halides of titanium
- C01G23/02B . . [N: Titanium tetrachloride]
- C01G23/02B4 . . . [N: Purification of tetrachloride]
- C01G23/02D . . [N: Titanium trichloride]

- C01G23/02F . . [N: Titanium fluoride]
- C01G23/04 . Oxides; Hydroxides
- C01G23/04B . . [N: Titanium sub-oxides]
- C01G23/047 . . Titanium dioxide
- C01G23/047D . . . [N: Purification]
- C01G23/053 . . . Producing by wet processes, e.g. hydrolysing titanium salts
- C01G23/053B . . . . [N: by hydrolysing sulfate-containing salts]
- C01G23/053B2 . . . . . [N: in the presence of seeds]
- C01G23/053D . . . . [N: by hydrolysing chloride-containing salts]
- C01G23/053D2 . . . . . [N: in the presence of seeds]
- C01G23/07 . . . Producing by vapour phase processes, e.g. halide oxidation
- C01G23/07B . . . . [N: Evacuation and cooling of the gaseous suspension containing the oxide; Desacidification and elimination of gases occluded in the separated oxide]
- C01G23/08 . . . Drying; Calcining; [N: After treatment of titanium oxide]
- C01G25/00           Compounds of zirconium**
- C01G25/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G25/00D . [N: Compounds containing, besides zirconium, two or more other elements, with the exception of oxygen or hydrogen]
- C01G25/02 . Oxides
- C01G25/04 . Halides
- C01G25/06 . Sulfates
- C01G27/00           Compounds of hafnium**
- C01G27/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G27/00D . [N: Compounds containing, besides hafnium, two or more other elements, with the exception of oxygen or hydrogen]
- C01G27/02 . Oxides
- C01G27/04 . Halides
- C01G27/06 . Sulfates
- C01G28/00           Compounds of arsenic**
- C01G28/00B . [N: Preparation involving a solvent-solvent extraction, an adsorption or an ion-exchange]
- C01G28/00D . [N: Compounds containing, besides arsenic, two or more other elements, with the

- exception of oxygen or hydrogen ([C01G28/00B](#) takes precedence)] [C9508]
- [C01G28/00D2](#) . . [N: containing halogen]
- [C01G28/00F](#) . [N: Oxides; Hydroxides; Oxyacids ([C01G28/00B](#) takes precedence)] [C9508]
- [C01G28/00K](#) . [N: Halides ([C01G28/00B](#) takes precedence)] [C9508]
- [C01G28/00M](#) . [N: Sulfides ([C01G28/00B](#) takes precedence)] [C9508]
- [C01G28/02](#) . Arsenates; Arsenites [N: ([C01G28/00B](#) takes precedence)] [C9508]
- [C01G28/02B](#) . . [N: of ammonium, alkali or alkaline-earth metals or magnesium]
- [C01G28/02D](#) . . [N: containing at least two metals]
- [C01G29/00](#) Compounds of bismuth**
- [C01G29/00B](#) . [N: Preparations involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- [C01G29/00D](#) . [N: Compounds containing, besides bismuth, two or more other elements, with the exception of oxygen or hydrogen]
- [C01G30/00](#) Compounds of antimony**
- [C01G30/00B](#) . [N: Preparation involving a solvent-solvent extraction, an adsorption or an ion-exchange]
- [C01G30/00D](#) . [N: Compounds containing, besides antimony, two or more other elements, with the exception of oxygen or hydrogen ([C01G30/00B](#) takes precedence)] [C9508]
- [C01G30/00D2](#) . . [N: containing halogen]
- [C01G30/00F](#) . [N: Oxides; Hydroxides; Oxyacids ([C01G30/00B](#) takes precedence)] [C9508]
- [C01G30/00F2](#) . . [N: Oxides]
- [C01G30/00K](#) . [N: Halides ([C01G30/00B](#) takes precedence)] [C9508]
- [C01G30/00K2](#) . . [N: of binary type  $\text{SbX}_3$  or  $\text{SbX}_5$  with X representing a halogen, or mixed of the type  $\text{SbX}_3\text{X}'_2$  with X, X' representing different halogens]
- [C01G30/00M](#) . [N: Sulfides ([C01G30/00B](#) takes precedence)] [C9508]
- [C01G30/02](#) . Antimonates; Antimonites [N: ([C01G30/00B](#) takes precedence)] [C9508]
- [C01G30/02B](#) . . [N: of ammonium, alkali or alkaline-earth metals or magnesium]
- [C01G30/02D](#) . . [N: containing at least two metals]
- [C01G31/00](#) Compounds of vanadium**
- [C01G31/00B](#) . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- [C01G31/00D](#) . [N: Compounds containing, besides vanadium, two or more other elements, with the exception of oxygen or hydrogen]

C01G31/02	. Oxides
C01G31/04	. Halides
<b>C01G33/00</b>	<b>Compounda of niobium</b>
C01G33/00B	. [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
C01G33/00D	. [N: Compounds containing, besides niobium, two or more other elements, with the exception of oxygen or hydrogen]
<b>C01G35/00</b>	<b>Compounds of tantalum</b>
C01G35/00B	. [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
C01G35/00D	. [N: Compounds containing, besides tantalum, two or more other elements, with the exception of oxygen or hydrogen]
C01G35/02	. Halides
<b>C01G37/00</b>	<b>Compounds of chromium</b>
C01G37/00B	. [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
C01G37/00D	. [N: Compounds containing, besides chromium, two or more other elements, with the exception of oxygen or hydrogen]
C01G37/02	. Oxides or hydrates thereof
C01G37/027	. . Chromium dioxide
C01G37/033	. . Chromium trioxide; Chromic acid
C01G37/04	. Chromium halides
C01G37/06	. . Chromylhalides
C01G37/08	. Chromium sulfates
C01G37/10	. . Chrome alum
C01G37/14	. Chromates; Bichromates
<b>C01G39/00</b>	<b>Compounds of molybdenum</b>
C01G39/00B	. [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
C01G39/00D	. [N: Compounds containing, besides molybdenum, two or more other elements, with the exception of oxygen or hydrogen]
C01G39/02	. Oxides; Hydroxides

C01G39/04 . Halides

C01G39/06 . Sulfides

### **C01G41/00 Compounds of tungsten**

C01G41/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]

C01G41/00D . [N: Compounds containing, besides tungsten, two or more other elements, with the exception of oxygen or hydrogen]

C01G41/02 . Oxides; Hydroxides

C01G41/04 . Halides

### **C01G43/00 Compounds of uranium**

C01G43/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]

C01G43/00D . [N: Compounds containing, besides uranium, two or more other elements, with the exception of oxygen or hydrogen]

C01G43/01 . Oxides; Hydroxides

C01G43/025 . . Uranium dioxide

C01G43/04 . Halides of uranium

C01G43/06 . . Fluorides

C01G43/06B . . . [N: Hexafluoride (UF<sub>6</sub>)]

C01G43/06B2 . . . . [N: Preparation]

C01G43/08 . . Chlorides

C01G43/10 . . Bromides

C01G43/12 . . Iodides

### **C01G45/00 Compounds of manganese**

C01G45/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]

C01G45/00D . [N: Compounds containing, besides manganese, two or more other elements, with the exception of oxygen or hydrogen (manganates, manganites or permanganates [C01G45/12](#))]

C01G45/02 . Oxides; Hydroxides

C01G45/04 . Carbonyls

C01G45/06 . Halides

C01G45/08 . Nitrates



- C01G45/10** . Sulfates
- C01G45/12** . Manganates [N: manganites or] permanganates
- C01G45/12A** . . [N: Permanganates ([MnO<sub>4</sub>]<sup>-</sup>) or manganates ([MnO<sub>4</sub>]<sup>2-</sup>)] [N1111]
- C01G45/12A2** . . . [N: containing alkali metals] [N1111]
- C01G45/12C** . . [N: Manganates or manganites with a manganese oxidation state of Mn(III), Mn(IV) or mixtures thereof] [N1111]
- C01G45/12C2** . . . [N: of the type [MnO<sub>2</sub>]<sup>n-</sup>, e.g. LiMnO<sub>2</sub>, Li[MxMn<sub>1-x</sub>]O<sub>2</sub>] [N1111] [C1203]
- C01G45/12C4** . . . [N: of the type [Mn<sub>2</sub>O<sub>4</sub>]<sup>2-</sup>, e.g. Li<sub>2</sub>Mn<sub>2</sub>O<sub>4</sub>, Li<sub>2</sub>[MxMn<sub>2-x</sub>]O<sub>4</sub>] [N1111]
- C01G45/12C6** . . . [N: of the type [Mn<sub>2</sub>O<sub>4</sub>]<sup>-</sup>, e.g. LiMn<sub>2</sub>O<sub>4</sub>, Li[MxMn<sub>2-x</sub>]O<sub>4</sub>] [N1111]
- C01G45/12C8** . . . [N: of the type [MnO<sub>3</sub>]<sup>n-</sup>, e.g. Li<sub>2</sub>MnO<sub>3</sub>, Li<sub>2</sub>[MxMn<sub>1-x</sub>O<sub>3</sub>], (La,Sr)MnO<sub>3</sub>] [N1111]
- C01G45/12C8A** . . . . [N: containing lithium, e.g. Li<sub>2</sub>MnO<sub>3</sub>, Li<sub>2</sub>[MxMn<sub>1-x</sub>O<sub>3</sub>] [N1111]
- C01G45/12C8C** . . . . [N: containing rare earth, e.g. La<sub>1-x</sub>CaxMnO<sub>3</sub>, LaMnO<sub>3</sub>] [N1111]
- C01G45/12C10** . . . [N: of the type [Mn<sub>2</sub>O<sub>8</sub>]<sup>n-</sup>, e.g. (LaSr<sub>3</sub>)Mn<sub>2</sub>O<sub>8</sub>] [N1111] [C1112]
- C01G45/12C12** . . . [N: of the type [Mn<sub>2</sub>O<sub>7</sub>]<sup>n-</sup>, e.g. (Sr<sub>2-x</sub>Ndx)Mn<sub>2</sub>O<sub>7</sub>, Ti<sub>2</sub>Mn<sub>2</sub>O<sub>7</sub>] [N1111]
- C01G45/12C14** . . . [N: of the type [Mn<sub>2</sub>O<sub>5</sub>]<sup>n-</sup>] [N1111]
- C01G45/12C16** . . . [N: of the type [Mn<sub>5</sub>O<sub>12</sub>]<sup>n-</sup>] [N1111]
- C01G47/00** **Compounds of rhenium**
- C01G47/00B** . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G47/00D** . [N: Compounds containing, besides rhenium, two or more other elements, with the exception of oxygen or hydrogen]
- C01G49/00** **Compounds of iron**
- C01G49/00B** . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G49/00C** . [N: Mixed oxides or hydroxides, e.g. ferrites ([C01G49/00B](#) takes precedence)] [C9508]
- C01G49/00C2** . . [N: containing one alkali metal]
- C01G49/00C4** . . [N: containing one alkaline earth metal, magnesium or lead]
- C01G49/00C6** . . [N: containing aluminium]
- C01G49/00C8** . . [N: containing one rare earth metal, yttrium or scandium]
- C01G49/00C10** . . [N: containing zinc]
- C01G49/00C12** . . [N: containing manganese]
- C01G49/00C20** . . [N: containing iron in unusual valence state (IV, V, VI), e.g. ferrates]
- C01G49/00D** . [N: Compounds containing, besides iron, two or more other elements, with the exception of oxygen or hydrogen]
- C01G49/02** . Oxides; Hydroxides [N: ([C01G49/00C](#) takes precedence)] [C9508]
- C01G49/04** . . Ferrous oxide (FeO)
- C01G49/06** . . Ferric oxide (Fe<sub>2</sub>O<sub>3</sub>)
- C01G49/08** . . Ferroso-ferric oxide (Fe<sub>3</sub>O<sub>4</sub>)

- C01G49/10 . Halides [N: ([C01G49/00C](#) takes precedence)] [C9508]
- C01G49/12 . Sulfides [N: ([C01G49/00C](#) takes precedence)] [C9508]
- C01G49/14 . Sulfates [N: ([C01G49/00C](#) takes precedence)] [C9508]
- C01G49/16 . Carbonyls [N: ([C01G49/00C](#) takes precedence)] [C9508]
- C01G51/00      Compounds of cobalt**
- C01G51/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G51/00D . [N: Compounds containing, besides cobalt, two or more other elements, with the exception of oxygen or hydrogen ([cobaltates C01G51/40](#))] [C1111]
- C01G51/02 . Carbonyls
- C01G51/04 . Oxides; Hydroxides
- C01G51/06 . Carbonates
- C01G51/08 . Halides
- C01G51/08C . . [N: Chlorides]
- C01G51/10 . Sulfates
- C01G51/12 . Complexes with ammonia
- C01G51/30 . [N: Sulfides] [N1111]
- C01G51/40 . [N: Cobaltates] [N1111]
- C01G51/42 . . [N: containing alkali metals, e.g.  $\text{LiCoO}_2$ ] [N1111]
- C01G51/44 . . . [N: containing manganese] [N1111]
- C01G51/50 . . . . [N: of the type  $[\text{MnO}_2]_n^-$ , e.g.  $\text{Li}(\text{Co}_x\text{Mn}_{1-x})\text{O}_2$ ,  $\text{Li}(\text{MyCo}_x\text{Mn}_{1-x-y})\text{O}_2$ ] [N1111] [C1203]
- C01G51/52 . . . . [N: of the type  $[\text{Mn}_2\text{O}_4]_2^-$ , e.g.  $\text{Li}_2(\text{Co}_x\text{Mn}_{2-x})\text{O}_4$ ,  $\text{Li}_2(\text{MyCo}_x\text{Mn}_{2-x-y})\text{O}_4$ ] [N1111]
- C01G51/54 . . . . [N: of the type  $[\text{Mn}_2\text{O}_4]^-$ , e.g.  $\text{Li}(\text{Co}_x\text{Mn}_{2-x})\text{O}_4$ ,  $\text{Li}(\text{MyCo}_x\text{Mn}_{2-x-y})\text{O}_4$ ] [N1111]
- C01G51/56 . . . . [N: of the type  $[\text{MnO}_3]_2^-$ , e.g.  $\text{Li}_2[\text{Co}_x\text{Mn}_{1-x}\text{O}_3]$ ,  $\text{Li}_2[\text{MyCo}_x\text{Mn}_{1-x-y}\text{O}_3]$ ] [N1111]
- C01G51/58 . . . . [N: of the type  $[\text{Mn}_2\text{O}_8]_n^-$ ] [N1111]
- C01G51/60 . . . . [N: of the type  $[\text{Mn}_2\text{O}_7]_n^-$ ] [N1111]
- C01G51/62 . . . . [N: of the type  $[\text{Mn}_2\text{O}_5]_n^-$ ] [N1111]
- C01G51/64 . . . . [N: of the type  $[\text{Mn}_5\text{O}_{12}]_n^-$ ] [N1111]
- C01G51/66 . . [N: containing alkaline earth metals, e.g.  $\text{SrCoO}_3$ ] [N1111]
- C01G51/68 . . . [N: containing rare earth, e.g.  $\text{La}_{0.3}\text{Sr}_{0.7}\text{CoO}_3$ ] [N1111]
- C01G51/70 . . [N: containing rare earth, e.g.  $\text{LaCoO}_3$  ([C01G51/68](#) takes precedence)] [N1111]

**C01G53/00****Compounds of nickel**

- C01G53/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G53/00D . [N: Compounds containing, besides nickel, two or more other elements, with the exception of oxygen or hydrogen (**nickelates** [C01G53/40](#))] [C1112]
- C01G53/02 . Carbonyls
- C01G53/04 . Oxides; Hydroxides
- C01G53/06 . Carbonates
- C01G53/08 . Halides
- C01G53/09 . . Chlorides
- C01G53/10 . Sulfates
- C01G53/11 . Sulfides
- C01G53/12 . Complexes with ammonia
- C01G53/40 . [N: Nickelates] [N1111]
- [N: **WARNING** [N1112]  
Groups [C01G53/40](#) to [C01G53/70](#) are not complete pending a reorganisation, see also [C01G53/00D](#) and [C01G53/00](#) ]
- C01G53/42 . . [N: containing alkali metals, e.g.  $\text{LiNiO}_2$ ] [N1111]
- C01G53/44 . . . [N: containing manganese] [N1111]
- C01G53/50 . . . . [N: of the type  $[\text{MnO}_2]_n^-$ , e.g.  $\text{Li}(\text{NixMn}_{1-x})\text{O}_2$ ,  $\text{Li}(\text{MyNixMn}_{1-x-y})\text{O}_2$  ] [N1111] [C1203]
- C01G53/52 . . . . [N: of the type  $[\text{Mn}_2\text{O}_4]^{2-}$ , e.g.  $\text{Li}_2(\text{NixMn}_{2-x})\text{O}_4$ ,  $\text{Li}_2(\text{MyNixMn}_{2-x-y})\text{O}_4$  ] [N1111]
- C01G53/54 . . . . [N: of the type  $[\text{Mn}_2\text{O}_4]^-$ , e.g.  $\text{Li}(\text{NixMn}_{2-x})\text{O}_4$ ,  $\text{Li}(\text{MyNixMn}_{2-x-y})\text{O}_4$  ] [N1111]
- C01G53/56 . . . . [N: of the type  $[\text{MnO}_3]^{2-}$ , e.g.  $\text{Li}_2[\text{NixMn}_{1-x}\text{O}_3]$ ,  $\text{Li}_2[\text{MyNixMn}_{1-x-y}\text{O}_3]$  ] [N1111]
- C01G53/58 . . . . [N: of the type  $[\text{Mn}_2\text{O}_8]_n^-$  ] [N1111]
- C01G53/60 . . . . [N: of the type  $[\text{Mn}_2\text{O}_7]_n^-$  ] [N1111]
- C01G53/62 . . . . [N: of the type  $[\text{Mn}_2\text{O}_5]_n^-$  ] [N1111]
- C01G53/64 . . . . [N: of the type  $[\text{Mn}_5\text{O}_{12}]_n^-$  ] [N1111]
- C01G53/66 . . [N: containing alkaline earth metals, e.g.  $\text{SrNiO}_3$ ,  $\text{SrNiO}_2$  ] [N1111]
- C01G53/68 . . . [N: containing rare earth, e.g.  $\text{La}_{1.62}\text{Sr}_{0.38}\text{NiO}_4$ ] [N1111]
- C01G53/70 . . [N: containing rare earth, e.g.  $\text{LaNiO}_3$  ([C01G53/68](#) takes precedence)] [N1111]

**C01G55/00****Compounds of ruthenium, rhodium, palladium, osmium, iridium, or platinum**

- C01G55/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G55/00D . [N: Compounds containing, besides ruthenium, rhodium, palladium, osmium, iridium, or platinum, two or more other elements, with the exception of oxygen or hydrogen ([C01G55/00M](#) takes precedence)]
- C01G55/00F . [N: Oxides; Hydroxides]
- C01G55/00K . [N: Halides]
- C01G55/00M . [N: Compounds containing at least one carbonyl group]
- C01G55/00M2 . . [N: Carbonyls]
  
- C01G56/00** **Compounds of transuranic elements**
- C01G56/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange]
- C01G56/00B2 . . [N: by adsorption or by ion-exchange on a solid support]
- C01G56/00D . [N: Compounds comprising, besides transuranic elements, two or more other elements, with the exception of oxygen or hydrogen ([C01G56/00B](#) takes precedence)]
- C01G56/00F . [N: Compounds of plutonium ([C01G56/00B](#) takes precedence)]
- C01G56/00F2 . . [N: Oxides; Hydroxides]
- C01G56/00F4 . . [N: Halides]
- C01G56/00H . [N: Compounds of transuranic elements ([C01G56/00B](#) and [C01G56/00F](#) take precedence)]
- C01G56/00H2 . . [N: Compounds of neptunium]
- C01G56/00H4 . . [N: Compounds of americium]
  
- C01G99/00** **Subject matter not provided for in other groups of this subclass [N1105]**
- C01G99/00B . [N: Preparation involving a liquid-liquid extraction, an adsorption or an ion-exchange] [N1105]
- C01G99/00D . [N: Compounds containing, besides a metal not provided for elsewhere in this subclass, two or more other elements other than oxygen or hydrogen ([C01G99/00B](#) takes precedence)] [N1105]