

SECTION C — CHEMISTRY; METALLURGY

C01 INORGANIC CHEMISTRY

C01G COMPOUNDS CONTAINING METALS NOT COVERED BY SUBCLASSES C01D OR C01F (metal hydrides C01B 6/00; salts of oxyacids of halogens C01B 11/00; peroxides, salts of 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; metal amides C01B 21/092; nitrites C01B 21/50; phosphides C01B 25/08; salts of oxyacids of phosphorus C01B 25/16; carbides C01B 32/90; 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 cyanic acid C01C 3/14; salts of cyanamide C01C 3/16; thiocyanates C01C 3/20; fermentation or enzyme-using processes for the preparation of elements or inorganic compounds except carbon dioxide C12P 3/00; obtaining metal compounds from mixtures, e.g. ores, which are intermediate compounds in a metallurgical process for obtaining a free metal C21B, C22B; production of non-metallic elements or inorganic compounds by electrolysis or electrophoresis C25B)

Note(s) [7, 2006.01]

1. Attention is drawn to Note (1) after class C01, which defines the last place priority rule applied in this class, i.e. in the range of subclasses C01B-C01G and within these subclasses.
2. Therapeutic activity of compounds is further classified in subclass A61P.

Subclass index

GENERAL METHODS OF PREPARATION.....	1/00
METALLIC COMPOUNDS, IN ALPHABETICAL ORDER OF THE SYMBOL FOR THE METAL	
Ag Silver.....	5/00
As Arsenic.....	28/00
Au Gold.....	7/00
Bi Bismuth.....	29/00
Cd Cadmium.....	11/00
Co Cobalt.....	51/00
Cr Chromium.....	37/00
Cu Copper.....	3/00
Fe Iron.....	49/00
Ga Gallium.....	15/00
Ge Germanium.....	17/00
Hf Hafnium.....	27/00
Hg Mercury.....	13/00
In Indium.....	15/00
Ir Iridium.....	55/00
Mn Manganese.....	45/00
Mo Molybdenum.....	39/00
Nb Niobium.....	33/00
Ni Nickel.....	53/00
Os Osmium.....	55/00
Pb Lead.....	21/00
Pd Palladium.....	55/00
Pt Platinum.....	55/00
Re Rhenium.....	47/00
Rh Rhodium.....	55/00
Ru Ruthenium.....	55/00
Sb Antimony.....	30/00
Sn Tin.....	19/00
Ta Tantalum.....	35/00
Ti Titanium.....	23/00
Tl Thallium.....	15/00
U Uranium.....	43/00
V Vanadium.....	31/00
W Tungsten.....	41/00
Zn Zinc.....	9/00
Zr Zirconium.....	25/00
COMPOUNDS OF TRANSURANIC ELEMENTS.....	56/00

1/00	Methods of preparing compounds of metals not covered by subclasses C01B, C01C, C01D, C01F, in general (electrolytic production of inorganic compounds C25B 1/00) [1, 2, 2006.01]	21/14	• Carbonates [1, 2006.01]
1/02	• Oxides [1, 2006.01]	21/16	• Halides [1, 2006.01]
1/04	• Carbonyls [1, 2006.01]	21/18	• Nitrates [1, 2006.01]
1/06	• Halides [1, 2006.01]	21/20	• Sulfates [1, 2006.01]
1/08	• Nitrates [1, 2006.01]	21/21	• Sulfides [3, 2006.01]
1/10	• Sulfates [1, 2006.01]	21/22	• Plumbates; Plumbites [1, 2006.01]
1/12	• Sulfides [1, 2006.01]		
1/14	• Sulfites [1, 2006.01]		
3/00	Compounds of copper [1, 2006.01]	23/00	Compounds of titanium [1, 2006.01]
3/02	• Oxides; Hydroxides [1, 2006.01]	23/02	• Halides of titanium [1, 2006.01]
3/04	• Halides [1, 2006.01]	23/04	• Oxides; Hydroxides [1, 3, 2006.01]
3/05	• • Chlorides [3, 2006.01]	23/047	• • Titanium dioxide [3, 2006.01]
3/06	• • Oxychlorides [1, 2006.01]	23/053	• • • Producing by wet processes, e.g. hydrolysing titanium salts [3, 2006.01]
3/08	• Nitrates [1, 2006.01]	23/07	• • • Producing by vapour phase processes, e.g. halide oxidation [3, 2006.01]
3/10	• Sulfates [1, 2006.01]	23/08	• • • Drying; Calcining [1, 3, 2006.01]
3/12	• Sulfides [1, 2006.01]		
3/14	• Complexes with ammonia [1, 2006.01]	25/00	Compounds of zirconium [1, 2006.01]
5/00	Compounds of silver [1, 2006.01]	25/02	• Oxides [1, 2006.01]
5/02	• Halides [3, 2006.01]	25/04	• Halides [1, 2006.01]
7/00	Compounds of gold [1, 2006.01]	25/06	• Sulfates [1, 2006.01]
9/00	Compounds of zinc [1, 2006.01]	27/00	Compounds of hafnium [1, 2006.01]
9/02	• Oxides; Hydroxides [1, 3, 2006.01]	27/02	• Oxides [1, 2006.01]
9/03	• • Processes of production using dry methods, e.g. vapour phase processes [3, 2006.01]	27/04	• Halides [1, 2006.01]
9/04	• Halides [1, 2006.01]	27/06	• Sulfates [1, 2006.01]
9/06	• Sulfates [1, 2006.01]		
9/08	• Sulfides [1, 2006.01]	28/00	Compounds of arsenic [3, 2006.01]
11/00	Compounds of cadmium [1, 2006.01]	28/02	• Arsenates; Arsenites [3, 2006.01]
11/02	• Sulfides [3, 2006.01]	29/00	Compounds of bismuth [1, 2006.01]
13/00	Compounds of mercury [1, 2006.01]	30/00	Compounds of antimony [3, 2006.01]
13/02	• Oxides [1, 2006.01]	30/02	• Antimonates; Antimonites [3, 2006.01]
13/04	• Halides [1, 2006.01]	31/00	Compounds of vanadium [1, 2006.01]
15/00	Compounds of gallium, indium, or thallium [1, 2006.01]	31/02	• Oxides [3, 2006.01]
17/00	Compounds of germanium [1, 2006.01]	31/04	• Halides [3, 2006.01]
17/02	• Germanium dioxide [1, 2006.01]	33/00	Compounds of niobium [1, 2006.01]
17/04	• Halides of germanium [1, 2006.01]	35/00	Compounds of tantalum [1, 2006.01]
19/00	Compounds of tin [1, 2006.01]	35/02	• Halides [3, 2006.01]
19/02	• Oxides [1, 2006.01]	37/00	Compounds of chromium [1, 2006.01]
19/04	• Halides [1, 2006.01]	37/02	• Oxides or hydrates thereof [1, 2006.01]
19/06	• • Stannous chloride [1, 2006.01]	37/027	• • Chromium dioxide [3, 2006.01]
19/08	• • Stannic chloride [1, 2006.01]	37/033	• • Chromium trioxide; Chromic acid [3, 2006.01]
21/00	Compounds of lead [1, 2006.01]	37/04	• Chromium halides [1, 2006.01]
21/02	• Oxides [1, 2006.01]	37/06	• • Chromylhalides [1, 2006.01]
21/04	• • Lead suboxide [Pb ₂ O] [1, 2006.01]	37/08	• Chromium sulfates [1, 2006.01]
21/06	• • Lead monoxide [PbO] [1, 2006.01]	37/10	• • Chrome alum [1, 2006.01]
21/08	• • Lead dioxide [PbO ₂] [1, 2006.01]	37/14	• Chromates; Bichromates [1, 2006.01]
21/10	• • Red lead [Pb ₃ O ₄] [1, 2006.01]	39/00	Compounds of molybdenum [1, 2006.01]
21/12	• Hydroxides [1, 2006.01]	39/02	• Oxides; Hydroxides [3, 2006.01]
		39/04	• Halides [3, 2006.01]
		39/06	• Sulfides [3, 2006.01]
		41/00	Compounds of tungsten [1, 2006.01]
		41/02	• Oxides; Hydroxides [3, 2006.01]
		41/04	• Halides [3, 2006.01]

- 43/00 Compounds of uranium [1, 2006.01]**
- 43/01 • Oxides; Hydroxides [3, 2006.01]
- 43/025 • • Uranium dioxide [3, 2006.01]
- 43/04 • Halides of uranium [1, 2006.01]
- 43/06 • • Fluorides [1, 2006.01]
- 43/08 • • Chlorides [1, 2006.01]
- 43/10 • • Bromides [1, 2006.01]
- 43/12 • • Iodides [1, 2006.01]
- 45/00 Compounds of manganese [1, 2006.01, 2025.01]**
- 45/01 • Preparation or separation involving a liquid-liquid extraction, an adsorption or an ion-exchange [2025.01]
- 45/02 • Oxides [1, 2006.01, 2025.01]
- 45/022 • • Manganese monoxide [2025.01]
- 45/024 • • Manganese dioxide [2025.01]
- 45/026 • • Dimanganese trioxide [2025.01]
- 45/028 • • Trimanganese tetroxide [2025.01]
- 45/03 • Hydroxides; Oxyhydroxides [2025.01]
- 45/04 • Carbonyls [1, 2006.01]
- 45/05 • Carbonates [2025.01]
- 45/06 • Halides; Oxyhalides [1, 2006.01, 2025.01]
- 45/07 • • Chlorides; Oxychlorides [2025.01]
- 45/08 • Nitrates [1, 2006.01]
- 45/10 • Sulfates [1, 2006.01]
- 45/12 • Complex oxides containing manganese and at least one other metal element [1, 2006.01, 2025.01]
- 45/1207 • • Permanganates [(MnO₄)-] or manganates [(MnO₄)²⁻] [2025.01]
- 45/1214 • • • containing alkali metals [2025.01]
- 45/1221 • • Manganates or manganites with trivalent manganese, tetravalent manganese or mixtures thereof [2025.01]
- 45/1228 • • • of the type (MnO₂)-, e.g. LiMnO₂ or Li(M_xMn_{1-x})O₂ [2025.01]
- 45/1235 • • • of the type (Mn₂O₄)²⁻, e.g. Li₂Mn₂O₄ or Li₂(M_xMn_{2-x})O₄ [2025.01]
- 45/1242 • • • of the type (Mn₂O₄)-, e.g. LiMn₂O₄ or Li(M_xMn_{2-x})O₄ [2025.01]
- 45/125 • • • of the type (MnO₃)ⁿ⁻, e.g. CaMnO₃ [2025.01]
- 45/1257 • • • containing lithium, e.g. Li₂MnO₃ or Li₂(M_xMn_{1-x})O₃ [2025.01]
- 45/1264 • • • containing rare earths, e.g. (La_{1-x}Ca_x)MnO₃ or LaMnO₃ [2025.01]
- 45/20 • Compounds containing manganese, with or without oxygen or hydrogen, and containing one or more other elements (C01G 45/04-C01G 45/12 take precedence) [2025.01]
- 45/22 • • Compounds containing manganese, with or without oxygen or hydrogen, and containing two or more other elements [2025.01]
- 45/24 • • Hydroxides [2025.01]
- 47/00 Compounds of rhenium [1, 2006.01]**
- 49/00 Compounds of iron [1, 2006.01]**
- 49/02 • Oxides; Hydroxides [1, 2006.01]
- 49/04 • • Ferrous oxide [FeO] [1, 2006.01]
- 49/06 • • Ferric oxide [Fe₂O₃] [1, 2006.01]
- 49/08 • • Ferroso-ferric oxide [Fe₃O₄] [1, 2006.01]
- 49/10 • Halides [1, 2006.01]
- 49/12 • Sulfides [1, 2006.01]
- 49/14 • Sulfates [1, 2006.01]
- 49/16 • Carbonyls [1, 2006.01]
- 51/00 Compounds of cobalt [1, 2006.01, 2025.01]**
- 51/01 • Preparation or separation involving a liquid-liquid extraction, an adsorption or an ion-exchange [2025.01]
- 51/02 • Carbonyls [1, 2006.01]
- 51/04 • Oxides [1, 2006.01, 2025.01]
- 51/05 • Hydroxides; Oxyhydroxides [2025.01]
- 51/06 • Carbonates [1, 2006.01]
- 51/08 • Halides; Oxyhalides [1, 2006.01]
- 51/10 • Sulfates [1, 2006.01]
- 51/15 • Sulfides; Oxyulfides [2025.01]
- 51/20 • Complexes with ammonia [2025.01]
- 51/40 • Complex oxides containing cobalt and at least one other metal element [2025.01]
- 51/42 • • containing alkali metals, e.g. LiCoO₂ [2025.01]
- 51/44 • • • containing manganese [2025.01]
- 51/50 • • • of the type (MnO₂)ⁿ⁻, e.g. Li(Co_xMn_{1-x})O₂ or Li(M_yCo_xMn_{1-x-y})O₂ [2025.01]
- 51/52 • • • of the type (Mn₂O₄)²⁻, e.g. Li₂(Co_xMn_{2-x})O₄ or Li₂(M_yCo_xMn_{2-x-y})O₄ [2025.01]
- 51/54 • • • of the type (Mn₂O₄)-, e.g. Li(Co_xMn_{2-x})O₄ or Li(M_yCo_xMn_{2-x-y})O₄ [2025.01]
- 51/56 • • • of the type (MnO₃)²⁻, e.g. Li₂(Co_xMn_{1-x})O₃ or Li₂(M_yCo_xMn_{1-x-y})O₃ [2025.01]
- 51/66 • • containing alkaline earth metals, e.g. SrCoO₃ [2025.01]
- 51/68 • • • containing rare earths, e.g. (La_{0.3}Sr_{0.7})CoO₃ [2025.01]
- 51/70 • • containing rare earths, e.g. LaCoO₃ (C01G 51/68 takes precedence) [2025.01]
- 51/80 • Compounds containing cobalt, with or without oxygen or hydrogen, and containing one or more other elements (C01G 51/02, C01G 51/06-C01G 51/40 take precedence) [2025.01]
- 51/82 • • Compounds containing cobalt, with or without oxygen or hydrogen, and containing two or more other elements [2025.01]
- 51/84 • • Hydroxides [2025.01]
- 53/00 Compounds of nickel [1, 2006.01, 2025.01]**
- 53/01 • Preparation or separation involving a liquid-liquid extraction, an adsorption or an ion-exchange [2025.01]
- 53/02 • Carbonyls [1, 2006.01]
- 53/04 • Oxides [1, 2006.01, 2025.01]
- 53/05 • Hydroxides; Oxyhydroxides [2025.01]
- 53/06 • Carbonates [1, 2006.01]
- 53/08 • Halides; Oxyhalides [1, 2006.01]
- 53/09 • • Chlorides; Oxychlorides [3, 2006.01]
- 53/10 • Sulfates [1, 2006.01]
- 53/11 • Sulfides; Oxyulfides [3, 2006.01]
- 53/12 • Complexes with ammonia [1, 2006.01]
- 53/40 • Complex oxides containing nickel and at least one other metal element [2025.01]
- 53/42 • • containing alkali metals, e.g. LiNiO₂ [2025.01]
- 53/44 • • • containing manganese [2025.01]
- 53/50 • • • of the type (MnO₂)ⁿ⁻, e.g. Li(Ni_xMn_{1-x})O₂ or Li(M_yNi_xMn_{1-x-y})O₂ [2025.01]
- 53/502 • • • containing lithium and cobalt [2025.01]
- 53/504 • • • with the molar ratio of nickel with respect to all the metals other than alkali metals higher than or equal to 0.5, e.g. Li(M₂Ni_xCo_yMn_{1-x-y-z})O₂ with $x \geq 0.5$ [2025.01]

- 53/506 • • • • • with the molar ratio of nickel with respect to all the metals other than alkali metals higher than or equal to 0.8, e.g. $\text{Li}(\text{M}_z\text{Ni}_x\text{Co}_y\text{Mn}_{1-x-y-z})\text{O}_2$ with $x \geq 0.8$ [2025.01]
- 53/51 • • • • • containing sodium [2025.01]
- 53/52 • • • • of the type $(\text{Mn}_2\text{O}_4)^{2-}$, e.g. $\text{Li}_2(\text{Ni}_x\text{Mn}_{2-x})\text{O}_4$ or $\text{Li}_2(\text{M}_y\text{Ni}_x\text{Mn}_{2-x-y})\text{O}_4$ [2025.01]
- 53/54 • • • • of the type $(\text{Mn}_2\text{O}_4)^-$, e.g. $\text{Li}(\text{Ni}_x\text{Mn}_{2-x})\text{O}_4$ or $\text{Li}(\text{M}_y\text{Ni}_x\text{Mn}_{2-x-y})\text{O}_4$ [2025.01]
- 53/56 • • • • of the type $(\text{MnO}_3)^{2-}$, e.g. $\text{Li}_2(\text{Ni}_x\text{Mn}_{1-x})\text{O}_3$ or $\text{Li}_2(\text{M}_y\text{Ni}_x\text{Mn}_{1-x-y})\text{O}_3$ [2025.01]
- 53/66 • • containing alkaline earth metals, e.g. SrNiO_3 or SrNiO_2 [2025.01]
- 53/68 • • • containing rare earths, e.g. $(\text{La}_{1.62}\text{Sr}_{0.38})\text{NiO}_4$ [2025.01]
- 53/70 • • containing rare earths, e.g. LaNiO_3 (C01G 53/68 takes precedence) [2025.01]
- 53/80 • Compounds containing nickel, with or without oxygen or hydrogen, and containing one or more other elements (C01G 53/02, C01G 53/06-C01G 53/40 take precedence) [2025.01]
- 53/82 • • Compounds containing nickel, with or without oxygen or hydrogen, and containing two or more other elements [2025.01]
- 53/84 • • Hydroxides [2025.01]
- 55/00 **Compounds of ruthenium, rhodium, palladium, osmium, iridium, or platinum [1, 2006.01]**
- 56/00 **Compounds of transuranic elements [1, 2006.01]**
- 99/00 **Subject matter not provided for in other groups of this subclass [2010.01]**