

## SECTION C — CHEMISTRY; METALLURGY

## C01 INORGANIC CHEMISTRY

**C01F COMPOUNDS OF THE METALS BERYLLIUM, MAGNESIUM, ALUMINIUM, CALCIUM, STRONTIUM, BARIUM, RADIUM, THORIUM, OR OF THE RARE-EARTH METALS** (metal hydrides C01B 6/00; salts of oxyacids of halogens C01B 11/00; peroxides, salts of peroxyacids C01B 15/00; sulfides or polysulfides of magnesium, calcium, strontium, or barium C01B 17/42; 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 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 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 C22B; production of non-metallic elements or inorganic compounds by electrolysis or electrophoresis C25B)

Note(s)

- 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.
- Therapeutic activity of compounds is further classified in subclass A61P.

**1/00 Methods of preparing compounds of the metals beryllium, magnesium, aluminium, calcium, strontium, barium, radium, thorium, or the rare earths, in general**

**3/00 Compounds of beryllium**

- 3/02 • Oxides; Hydroxides [3]

**5/00 Compounds of magnesium**

- 5/02 • Magnesia
- 5/04 • • by oxidation of metallic magnesium
- 5/06 • • by thermal decomposition of magnesium compounds (calcining magnesite or dolomite C04B 2/10)
- 5/08 • • • by calcining magnesium hydroxide
- 5/10 • • • by thermal decomposition of magnesium chloride with water vapour
- 5/12 • • • by thermal decomposition of magnesium sulfate, with or without reduction
- 5/14 • Magnesium hydroxide
- 5/16 • • by treating magnesia, e.g. calcined dolomite, with water or solutions of salts not containing magnesium
- 5/20 • • by precipitation from solutions of magnesium salts with ammonia
- 5/22 • • from magnesium compounds with alkali hydroxides or alkaline earth oxides or hydroxides
- 5/24 • Magnesium carbonates
- 5/26 • Magnesium halides
- 5/28 • • Fluorides
- 5/30 • • Chlorides
- 5/32 • • • Preparation of anhydrous magnesium chloride by chlorinating magnesium compounds
- 5/34 • • • Dehydrating magnesium chloride containing water of crystallisation
- 5/36 • • Bromides

5/38 • Magnesium nitrates

5/40 • Magnesium sulfates (double sulfates of magnesium with sodium or potassium C01D 5/12, with other alkali metals C01D 15/06, C01D 17/00) [3]

5/42 • Magnesium sulfites

**7/00 Compounds of aluminium**

- 7/02 • Aluminium oxide; Aluminium hydroxide; Aluminates
- 7/04 • • Preparation of alkali metal aluminates; Aluminium oxide or hydroxide therefrom
- 7/06 • • • by treating aluminous minerals with alkali hydroxide
- 7/08 • • • by treating aluminous minerals with sodium carbonate
- 7/10 • • • by treating aluminous minerals with alkali sulfates and reducing agents
- 7/12 • • • Alkali metal aluminates from alkaline earth metal aluminates
- 7/14 • • • Aluminium oxide or hydroxide from alkali metal aluminates
- 7/16 • • Preparation of alkaline earth metal aluminates; Aluminium oxide or hydroxide therefrom
- 7/18 • • • Aluminium oxide or hydroxide from alkaline earth metal aluminates
- 7/20 • • Preparation of aluminium oxide or hydroxide from aluminous ores with acids or salts
- 7/22 • • • with halides
- 7/24 • • • with nitric acid or nitrogen oxides
- 7/26 • • • with sulfuric acids or sulfates
- 7/28 • • • with sulfurous acid
- 7/30 • • Preparation of aluminium oxide or hydroxide by thermal decomposition of aluminium compounds
- 7/32 • • • of sulfates
- 7/34 • • Preparation of aluminium hydroxide by precipitation from solutions containing aluminium salts

**C01F**

- 7/36 • • • from organic aluminium salts
- 7/38 • • Preparation of aluminium oxide by thermal reduction of aluminous minerals
- 7/40 • • • in the presence of aluminium sulfide
- 7/42 • • Preparation of aluminium oxide or hydroxide from metallic aluminium, e.g. by oxidation
- 7/44 • • Dehydration of aluminium hydroxide
- 7/46 • • Purification of aluminium oxide, aluminium hydroxide or aluminates [5]
- 7/47 • • • of aluminates [5]
- 7/48 • Aluminium halides
- 7/50 • • Fluorides
- 7/52 • • • Double compounds containing both fluorine and other acid groups
- 7/54 • • • Double compounds containing both aluminium and alkali metals or alkaline earth metals
- 7/56 • • Chlorides (containing fluorine C01F 7/52) [3]
- 7/58 • • • Preparation of anhydrous aluminium chloride
- 7/60 • • • • from oxygen-containing aluminium compounds
- 7/62 • • • Purification
- 7/64 • • Bromides (containing fluorine C01F 7/52) [3]
- 7/66 • Aluminium nitrates (containing fluorine C01F 7/52) [3]
- 7/68 • Aluminium compounds containing sulfur (containing fluorine C01F 7/52) [3]
- 7/70 • • Sulfides
- 7/72 • • Sulfites
- 7/74 • • Sulfates
- 7/76 • • • Double salts, e.g. alums

**11/00 Compounds of calcium, strontium, or barium**  
(C01F 7/00 takes precedence) [3]

- 11/02 • Oxides or hydroxides (production of lime C04B 2/00)
- 11/04 • • by thermal decomposition
- 11/06 • • • of carbonates
- 11/08 • • by reduction of sulfates
- 11/10 • • from sulfides
- 11/12 • • from silicates
- 11/16 • • Purification
- 11/18 • Carbonates
- 11/20 • Halides
- 11/22 • • Fluorides
- 11/24 • • Chlorides
- 11/26 • • • from sulfides
- 11/28 • • • by chlorination of alkaline earth metal compounds
- 11/30 • • • Concentrating; Dehydrating; Preventing the absorption of moisture or caking
- 11/32 • • • Purification
- 11/34 • • Bromides
- 11/36 • Nitrates
- 11/38 • • Preparation with nitric acid or nitrogen oxides
- 11/40 • • Preparation by double decomposition with nitrates
- 11/42 • • Double salts (with magnesium C01F 5/38)
- 11/44 • • Concentrating; Crystallising; Dehydrating; Preventing the absorption of moisture or caking
- 11/46 • Sulfates (dehydration of gypsum C04B 11/02)
- 11/48 • Sulfites

**13/00 Compounds of radium**

**15/00 Compounds of thorium**

**17/00 Compounds of the rare-earth metals, i.e. scandium, yttrium, lanthanum, or the group of the lanthanides**