CPC  COOPERATIVE PATENT CLASSIFICATION

C  CHEMISTRY; METALLURGY (NOTES omitted)

CHEMISTRY

C01  INORGANIC CHEMISTRY (NOTES omitted)

C01C  AMMONIA; CYANOGEN; COMPOUNDS THEREOF {{metal hydrides, monoborane, diborane or addition complexes thereof 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; azides C01B 21/08; {compounds other than ammonia or cyanogen, containing nitrogen, non-metals and optionally metals C01B 21/082}; metal imides or 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; compounds containing silicon C01B 33/00; compounds containing boron C01B 35/00)

WARNING
In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00  Ammonia; Compounds thereof {{C01C 3/08, C01C 3/14, C01C 3/16, C01C 3/20 take precedence}}

NOTE
Complex ammine salts, e.g. [Pd(NH₃)₄]Cl₂, are {also} classified in the relevant groups of subclasses C01D - C01G, according to the metal

1/003 . . {Storage or handling of ammonia}
1/006 . . {making use of solid ammonia storage materials, e.g. complex ammine salts}
1/02 . . Preparation, {purification} or separation of ammonia
1/022 . . {Preparation of aqueous ammonia solutions, i.e. ammonia water}
1/024 . . {Purification}
1/026 . . {Preparation of ammonia from inorganic compounds}
1/028 . . {from ammonium sulfate or sulfite}
1/04 . . Preparation of ammonia by synthesis {in the gas phase} (preparation or purification of gas mixtures for ammonia synthesis (C01B 3/025))
1/0405 . . {from N₂ and H₂ in presence of a catalyst}
1/0411 . . {characterised by the catalyst}
1/0417 . . {characterised by the synthesis reactor, e.g. arrangement of catalyst beds and heat exchangers in the reactor (arrangement of several reactors C01C 1/0405; fixed-bed reactors in general B01J 8/02)}
1/0423 . . . . {Cold wall reactors}
1/0429 . . . . {Fluidized or moving bed reactors}
1/0435 . . . . {Horizontal reactors}
1/0441 . . . . {Reactors with the catalyst arranged in tubes}
1/0447 . . . . {Apparatus other than synthesis reactors}
1/0452 . . . . {Heat exchangers}
1/0458 . . . . {Separation of NH₃ (during purge gas treatment C01C 1/0476)}
1/0464 . . . . {by absorption in liquids, e.g. water}
1/047 . . . . {by condensation}
1/0476 . . . . {Purge gas treatment, e.g. for removal of inert gases or recovery of H₂}
1/0482 . . . . {Process control; Start-up or cooling-down procedures}
1/0488 . . . . {Processes integrated with preparations of other compounds, e.g. methanol, urea or with processes for power generation}
1/0494 . . . . {using plasma or electric discharge}
1/08 . . Preparation of ammonia from nitrogenous organic substances
1/083 . . . . {from molasses (treatment of molasses in general C13B 50/006)}
1/086 . . . . {from urea}
1/10 . . Separation of ammonia from ammonia liquors, e.g. gas liquors {{as part of the ammonia synthesis process C01C 1/04}}
1/12 . . . . {Separation of ammonia from gases and vapours {as part of the ammonia synthesis process C01C 1/04}}
1/14 . . . . Saturators
1/16 . . Halides of ammonium
1/162 . . {Ammonium fluoride}
1/164 . . {Ammonium chloride}
1/166 . . {Ammonium bromide}
1/168 . . {Ammonium iodide}
1/18 . . Nitrates of ammonium
1/185 . . . . {Preparation}
1/20 . . Sulfides; Polysulfides
1/22 . . Sulfites of ammonium
1/24 . . Sulfates of ammonium {C01C 1/14 takes precedence}
Preparation from ammonia and sulfuric acid or sulfur trioxide

Preparation by double decomposition of ammonium salts with sulfates

Preparation from compounds containing nitrogen and sulfur

from sulfur-containing ammonium compounds

Preventing coalescing or controlling form or size of the crystals

Deacidifying (or drying) the crystals

Methods of preparing ammonium salts in general

NOTES
1. This group does not cover ammonium salts of complex acids (other than complex cyanides) containing a metal in the anion, which are covered by the relevant groups of subclasses C01D - C01G, according to the metal.
2. Salts of polybasic acids with ammonium and a metal as cations are classified as though the ammonium were hydrogen.

3/00 Cyanogen; Compounds thereof
3/001 [Preparation by decomposing nitrogen-containing organic compounds, e.g. molasse waste or urea (by distillation of carbamates C01C 3/02, C01C 3/08, C01C 3/14, C01C 3/16; by decomposing formamide or ammonium formate C01C 3/20d)]
3/002 [Synthesis of metal cyanides or metal cyanamides from elementary nitrogen and carbides]
3/003 [Cyanogen]
3/004 [Halogenides of cyanogen]
3/005 [Thiocyanogen]
3/006 [Sulfurdicyanide]
3/007 [Ammonium cyanide]
3/008 [Cyanazide]
3/02 Preparation, [separation or purification] of hydrogen cyanide ([C01C 3/001 takes precedence])
3/0204 [from formamide or from ammonium formate]
3/0208 [Preparation in gaseous phase]
3/0212 [from hydrocarbons and ammonia in the presence of oxygen, e.g. the Andrussow-process]
3/0216 [characterised by the catalyst used]
3/022 [Apparatus therefor]
3/0225 [characterised by the synthesis reactor]
3/0229 [from hydrocarbons and ammonia in the absence of oxygen, e.g. HMA-process]
3/0233 [making use of fluidised beds, e.g. the Shawinigan-process]
3/0237 [from carbon monoxide and ammonia]
3/0241 [from alcohols or aldehydes]
3/0245 [from organic nitriles, e.g. acetonitrile]
3/025 [by using a plasma]
3/0254 [from cyanates or from thiocyanates]
3/0258 [from cyanamides or derivatives thereof]
3/0262 [from cyanides]
3/0266 [from simple alkali or alkaline earth metal cyanides]
3/027 [Alkali metal cyanides]
3/0275 [Alkaline earth metal cyanides]
3/0279 [from ammonium cyanide]

3/0283 [from simple or complex cyanides of the noble metals]
3/0287 [from simple or complex cyanides of other transition metals, e.g. from iron cyanides]
3/0291 [from simple or complex cyanides of other metals]
3/0295 [Purification]
3/04 Separation from gases
3/06 Stabilisation of hydrogen cyanide
3/08 Simple or complex cyanides of metals ([C01C 3/001, C01C 3/002 take precedence])
3/10 Simple alkali metal cyanides
3/11 Complex cyanides
3/12 Simple or complex iron cyanides
3/14 Cyanic [or isocyanic] acid; Salts thereof ([C01C 3/001 takes precedence])
3/145 [Isocyanic acid; Salts thereof]
3/16 Cyanamide; Salts thereof ([C01C 3/001, C01C 3/002 takes precedence]; dicyandiamide C07C 279/28)
3/18 Calcium cyanamide
3/20 Thiocyanic acid; Salts thereof ([C01C 3/001 takes precedence])