CPC - 2020.05

COOPERATIVE PATENT CLASSIFICATION

CHEMISTRY

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PETROLEUM, GAS OR COKE INDUSTRIES; TECHNICAL GASES CONTAINING CARBON MONOXIDE; FUELS; LUBRICANTS; PEAT

PURIFYING OR MODIFYING THE CHEMICAL COMPOSITION OF COMBUSTIBLE GASES CONTAINING CARBON MONOXIDE

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 Purifying combustible gases containing carbon monoxide (isolation of hydrogen from mixtures containing hydrogen and carbon monoxide

C01B 3/50)

1/001 . [working-up the condensates (recovering of NH3 and NH4 salts C01C 1/00; working-up or purifying tars and tar-oils C10C 1/00)]

1/002 . [Removal of contaminants]

1/003 . . [of acid contaminants, e.g. acid gas removal]

1/004 . . [Sulfur containing contaminants, e.g. hydrogen sulfide]

1/005 . . [Carbon dioxide]

1/006 . . [Hydrogen cyanide]

1/007 . . [of metal compounds]

1/008 . . [Alkali metal compounds]

1/02 . Dust removal

1/022 . . [by baffle plates]

1/024 . . [by filtration]

1/026 . . [by centrifugal forces (cyclones B04C)]

1/028 . . [by electrostatic precipitation (separating dispersed particles from gases or vapour by electrostatic effect in general B03C 3/00)]

1/04 . by cooling to condense non-gaseous materials

(C10K 1/001 takes precedence)

1/043 . . [adding solvents as vapour to prevent naphthalene- or resin deposits]

1/046 . . [Reducing the tar content]

1/06 . . [combined with spraying with water (C10K 1/001 takes precedence)]

1/08 . by washing with liquids; Reviving the used wash liquors (gas washers B01D)

1/085 . . [two direct washing treatments, one with an aqueous liquid and one with a non-aqueous liquid]

1/10 . . [with aqueous liquids (alkaline reacting aqueous liquids C10K 1/12)]

1/101 . . . [with water only]

1/102 . . . [containing free acid]

1/103 . . . [alkali- or earth-alkali- or NH4 salts or inorganic acids derived from sulfur]

1/105 . . . [containing metal compounds other than alkali- or earth-alkali carbonates, -hydroxides, oxides, or salts of inorganic acids derived from sulfur]

1/106 . . . [containing Fe compounds]

1/107 . . . [containing As-, Sb-, Sn compounds]

1/108 . . . [containing Cu compounds]

1/12 . . . [alkaline-reacting (including the revival of the used wash liquors)]

1/121 . . . [containing NH3 only (possibly in combination with NH4 salts)]

1/122 . . . [containing only carbones, bicarbonates, hydroxides or oxides of alkali-metals (including Mg)]

1/123 . . . [containing alkali-, earth-alkali- or NH4 salts of inorganic acids derived from sulfur]

1/124 . . . [containing metal compounds other than alkali- or earth-alkali carbonates, hydroxides- or oxides- or salts of inorganic acids derived from sulfur]

1/125 . . . . [containing Fe compounds]

1/126 . . . . [containing As-, Sb-, Sn compounds]

1/127 . . . . [containing Cu compounds]

1/128 . . . . [containing organic oxygen transferring compounds, e.g. sulfoxides]

1/14 . . . . [organic]

1/143 . . . . [containing amino groups]

1/146 . . . . [alkali-, earth-alkali- or NH4 salts]

1/16 . . . . [with non-aqueous liquids]

1/165 . . . . [at temperatures below zero degrees Celsius]

1/18 . . . . [hydrocarbon oils (C10K 1/165 takes precedence)]

1/20 . . . . [by treating with solids; Regenerating spent purifying masses (separation by adsorption B01D 53/02; separation by chemical reaction B01D 53/34; refining of hydrocarbon oils with acids C10G 17/02, C10G 27/02, C10G 29/12)]

1/205 . . . . [Methods and apparatus for treating the purifying masses without their regeneration (recovering of sulfur C01B 17/00; recovering of cyanide compounds C01C 3/00)]

1/22 . . . . [Apparatus, e.g. dry box purifiers]

1/24 . . . . [Supporting means for the purifying material]
Regeneration of the purifying material {contains also apparatus for the regeneration of the purifying material}

Controlling the gas flow through the purifiers

with moving purifying masses

with selectively adsorptive solids, e.g. active carbon

by catalytic conversion of impurities to more readily removable materials

Modifying the chemical composition of combustible gases containing carbon monoxide to produce an improved fuel, e.g. one of different calorific value, which may be free from carbon monoxide

{ by thermal treatment }

Reducing the tar content

{ by partial oxidation }

{ by steam reforming }

{ by cracking }

by catalytic treatment

Reducing the tar content

Increasing the carbon monoxide content, e.g. reverse water-gas shift [RWGS]

reducing the carbon monoxide content , e.g. water-gas shift [WGS]

by mixing with gases