CPC COOPERATIVE PATENT CLASSIFICATION

C CHEMISTRY; METALLURGY

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( NOTES omitted

CHEMISTRY

C10 PETROLEUM, GAS OR COKE INDUSTRIES; TECHNICAL GASES CONTAINING CARBON MONOXIDE; FUELS; LUBRICANTS; PEAT

C10G CRACKING HYDROCARBON OILS; PRODUCTION OF LIQUID HYDROCARBON MIXTURES, e.g. BY DESTRUCTIVE HYDROGENATION, OLIGOMERISATION, POLYMERISATION (cracking to hydrogen or synthesis gas C01B; cracking or pyrolysis of hydrocarbon gases to individual hydrocarbons or mixtures thereof of definite or specific constitution C07C; cracking to cokes C10B); RECOVERY OF HYDROCARBON OILS FROM OIL-SHALE, OIL-SAND, OR GASES; REFINING MIXTURES MAINLY CONSISTING OF HYDROCARBONS; REFORMING OF NAPHTHA; MINERAL WAXES (inhibiting corrosion or incrustation in general C23F)

NOTES

1. In this subclass,
   • groups C10G 9/00 - C10G 49/00 are limited to one-step processes;
   • combined or multi-step processes are covered by groups C10G 51/00 - C10G 69/00;
   • refining or recovery of mineral waxes is covered by group C10G 73/00

2. In this subclass, the following terms or expressions are used with the meanings indicated:
   • “in the presence of hydrogen” or “in the absence of hydrogen” mean treatments in which hydrogen, in free form or as hydrogen generating compounds, is added, or not added, respectively;
   • “hydrotreatment” is used for conversion processes as defined in group C10G 45/00 or group C10G 47/00;
   • “hydrocarbon oils” covers mixtures of hydrocarbons such as tar oils or mineral oils.

3. In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place.

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   C10G 73/23 covered by C10G 73/06

2. 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 Production of liquid hydrocarbon mixtures from oil-shale, oil-sand, or non-melting solid carbonaceous or similar materials, e.g. wood, coal (mechanical winning of oil from oil-shales, oil-sand, or the like B03B)

1/002 . [in combination with oil conversion- or refining processes]
1/004 . [Inhibiting of corrosion]
1/006 . [Combinations of processes provided in groups C10G 1/02 - C10G 1/08]
1/008 . [Controlling or regulating of liquefaction processes (controlling or regulation in general G05)]
1/02 . by distillation (destructive distillation of oil-shale C10B 53/06)
1/04 . by extraction
1/042 . . [by the use of hydrogen-donor solvents]
1/045 . . [Separation of insoluble materials]
1/047 . . [Hot water or cold water extraction processes]
1/06 . by destructive hydrogenation
1/065 . . [in the presence of a solvent]

1/08 . with moving catalysts
1/083 . . [in the presence of a solvent]
1/086 . . [Characterised by the catalyst used]
1/10 . from rubber or rubber waste

2/00 Production of liquid hydrocarbon mixtures of undefined composition from oxides of carbon

2/30 . . [from carbon monoxide with hydrogen]
2/31 . . [thermal, non catalytic conversion]
2/32 . . . [with the use of catalysts]
2/33 . . . [characterised by the catalyst used]
2/331 . . . . [containing group VIII-metals]
2/332 . . . . . [of the iron-group]
2/333 . . . . . [of the platinum-group]
2/334 . . . . . [containing molecular sieve catalysts]
2/34 . . . . . [Apparatus, reactors]
2/341 . . . . . [with stationary catalyst bed]
2/342 . . . . . [with moving solid catalysts]
2/343 . . . . . [according to the “moving-bed” method]
Production of liquid hydrocarbon mixtures from oxygen-containing or organic materials, e.g. fatty oils, fatty acids (production from non-melting solid oxygen-containing carbonaceous materials C10G 3/40; preparation of individual hydrocarbons or mixtures thereof of definite or specified contribution C07C)

WARNING


Groups C10G 3/40-C10G 3/62 and C10G 3/00 should be considered in order to perform a complete search.

3/00 Production of liquid hydrocarbon mixtures from oxygen-containing or organic materials, e.g. fatty oils, fatty acids (production from non-melting solid oxygen-containing carbonaceous materials C10G 3/40; preparation of individual hydrocarbons or mixtures thereof of definite or specified contribution C07C)

Cracking in the absence of hydrogen

9/00 Thermal non-catalytic cracking, in the absence of hydrogen, of hydrocarbon oils

9/002 . . Cooling of cracked gases

9/005 . . Coking (in order to produce liquid products mainly)

9/007 . . [Visbreaking]

9/02 . . in retorts

9/04 . . Retorts

9/06 . . by pressure distillation

9/08 . . Apparatus therefor

9/12 . . . Removing incrustation

9/14 . . . in pipes or coils with or without auxiliary means, e.g. digesters, soaking drums, expansion means

9/16 . . Preventing or removing incrustation

9/18 . . Apparatus

9/20 . . . Tube furnaces

9/203 . . . . [chemical composition of the tubes]

9/206 . . . . [controlling or regulating the tube furnaces]

9/24 . . by heating with electrical means

9/26 . . with discontinuously preheated non-moving solid material, e.g. blast and run

9/28 . . with preheated moving solid material

9/30 . . according to the “moving bed” method

9/32 . . according to the “fluidised-bed” technique

9/34 . . by direct contact with inert preheated fluids, e.g. with molten metals or salts

9/36 . . . with heated gases or vapours

9/38 . . . produced by partial combustion of the material to be cracked or by combustion of another hydrocarbon

9/40 . . by indirect contact with preheated fluid other than hot combustion gases

9/42 . . by passing the material to be cracked in thin streams or as spray on or near continuously heated surfaces

11/00 Catalytic cracking, in the absence of hydrogen, of hydrocarbon oils (cracking in direct contact with molten metals or salts C10G 9/34)

11/02 . . characterised by the catalyst used

11/04 . . Oxides

11/05 . . . Crystalline alumino-silicates, e.g. molecular sieves

11/06 . . . Sulfides

11/08 . . . Halides

11/10 . . with stationary catalyst bed

11/12 . . with discontinuously preheated non-moving solid catalysts, e.g. blast and run

11/14 . . with preheated moving solid catalysts

11/16 . . according to the “moving bed” method

11/18 . . according to the “fluidised-bed” technique

11/182 . . . [Regeneration]
Cracking in the absence of hydrogen

15/00 Cracking of hydrocarbon oils by electric means, electromagnetic or mechanical vibrations, by particle radiation or with gases superheated in electric arcs

15/08 . . . by electric means or by electromagnetic or mechanical vibrations

15/10 . . . by particle radiation

15/12 . . . with gases superheated in an electric arc, e.g. plasma

Refining in the absence of hydrogen

17/00 Refining of hydrocarbon oils in the absence of hydrogen, with acids, acid-forming compounds or acid-containing liquids, e.g. acid sludge

17/02 . . . with acids or acid-containing liquids, e.g. acid sludge

17/04 . . . Liquid-liquid treatment forming two immiscible phases

17/06 . . . using acids derived from sulfur or acid sludge thereof

17/07 . . . using halogen acids or oxyacids of halogen (acids generating halogen C10G 27/02)

17/08 . . . with acid-forming oxides (refining with CO₂ or SO₂ as a selective solvent C10G 21/06)

17/085 . . . with oleum

17/09 . . . with acid salts

17/095 . . . with "solid acids", e.g. phosphoric acid deposited on a carrier

17/10 . . . Recovery of used refining agents

19/00 Refining hydrocarbon oils in the absence of hydrogen, by alkaline treatment

19/02 . . . with aqueous alkaline solutions

19/04 . . . containing solubilisers, e.g. solutisers

19/06 . . . with plumbites or plumbates

19/067 . . . with molten alkaline material

19/073 . . . with solid alkaline material

19/08 . . . Recovery of used refining agents

21/00 Refining of hydrocarbon oils in the absence of hydrogen, by extraction with selective solvents

(C10G 17/00, C10G 19/00 take precedence; dewaxing oils C10G 73/02)

21/003 . . . [Solvent de-asphalting]

21/006 . . . [of waste oils, e.g. PCB's containing oils]

21/02 . . . with two or more solvents, which are introduced or withdrawn separately

21/04 . . . by introducing simultaneously at least two immiscible solvents counter-current to each other

21/06 . . . characterised by the solvent used

21/08 . . . Inorganic compounds only

21/10 . . . Sulfur dioxide

21/12 . . . Organic compounds only

21/14 . . . Hydrocarbons

21/16 . . . Oxygen-containing compounds

21/18 . . . Halogen-containing compounds

21/20 . . . Nitrogen-containing compounds

21/22 . . . Compounds containing sulfur, selenium, or tellurium

21/24 . . . Phosphorus-containing compounds

21/26 . . . Silicon-containing compounds

21/27 . . . Organic compounds not provided for in a single one of groups C10G 21/14 - C10G 21/26

21/28 . . . Recovery of used solvent

21/30 . . . Controlling or regulating (controlling or regulating in general G05)

25/00 Refining of hydrocarbon oils in the absence of hydrogen, with solid sorbents

NOTE

When classifying in this group, classification is also made in group B01D 15/08 insofar as subject matter of general interest relating to chromatography is concerned.

25/003 . . . [Specific sorbent material, not covered by C10G 25/02 or C10G 25/03]

25/006 . . . [of waste oils, e.g. PCB's containing oils]

25/02 . . . with ion-exchange material

25/03 . . . with crystalline alumino-silicates, e.g. molecular sieves

25/05 . . . Removal of non-hydrocarbon compounds, e.g. sulfur compounds

25/06 . . . with moving sorbents or sorbents dispersed in the oil

25/08 . . . according to the "moving bed" method

25/09 . . . according to the "fluidised bed" technique

25/11 . . . Distillation in the presence of moving sorbents

25/12 . . . Recovery of used adsorbent

27/00 Refining of hydrocarbon oils in the absence of hydrogen, by oxidation

27/02 . . . with halogen or compounds generating halogen; Hypochlorous acid or salts thereof

27/04 . . . with oxygen or compounds generating oxygen

27/06 . . . in the presence of alkaline solutions

27/08 . . . in the presence of copper chloride

27/09 . . . in the presence of metal-containing organic complexes, e.g. chelates, or cationic ion-exchange resins

27/12 . . . with oxygen-generating compounds, e.g. per-compounds, chronic acid, chromates (plumbites or plumbates C10G 19/06)

27/14 . . . with ozone-containing gases

29/00 Refining of hydrocarbon oils in the absence of hydrogen, with other chemicals

29/02 . . . Non-metals

29/04 . . . Metals, or metals deposited on a carrier

29/06 . . . Metal salts, or metal salts deposited on a carrier

29/08 . . . containing the metal in the lower valency

29/10 . . . Sulphides

29/12 . . . Halides

29/16 . . . Metal oxides

29/20 . . . Organic compounds not containing metal atoms

29/205 . . . [by reaction with hydrocarbons added to the hydrocarbon oil]
Refining in the absence of hydrogen

NOTE

By refining is meant the treatment of naphtha, in order to improve the octane number or its aromatic content.

Hydrotreatment processes (refining of naphtha C10G 35/00)

45/00 Refining of hydrocarbon oils using hydrogen or hydrogen-generating compounds

NOTE

Treatment of hydrocarbon oils in the presence of hydrogen-generating compounds not provided for in a single one of groups C10G 45/02.

C10G 45/32, C10G 45/44 or C10G 45/58 is provided for in group C10G 49/00.

45/02 to eliminate hetero atoms without changing the skeleton of the hydrocarbon involved and without cracking into lower boiling hydrocarbons; Hydrofinishing

45/04 characterised by the catalyst used

45/06 containing nickel or cobalt metal, or compounds thereof

45/08 in combination with chromium, molybdenum, or tungsten metals, or compounds thereof

45/10 containing platinum group metals or compounds thereof

45/12 containing crystalline alumino-silicates, e.g. molecular sieves

45/14 with moving solid particles

45/16 suspended in the oil, e.g. slurries

45/18 according to the "moving-bed" technique

45/22 according to the "fluidised-bed" technique

45/24 with hydrogen dissolved or suspended in the oil

45/26 with hydrogen-generating compounds

45/28 Steam or water

45/30 Organic compounds; Autofinishing

45/32 Selective hydrogenation of the diolefin or acetylene compounds

45/34 characterised by the catalyst used

45/36 containing nickel or cobalt metal, or compounds thereof

45/38 in combination with chromium, molybdenum or tungsten metals, or compounds thereof

45/40 containing platinum group metals or compounds thereof

45/42 with moving solid particles

45/44 Hydrogenation of the aromatic hydrocarbons

45/46 characterised by the catalyst used

45/48 containing nickel or cobalt metal, or compounds thereof

45/50 in combination with chromium, molybdenum or tungsten metal, or compounds thereof

45/52 containing platinum group metals or compounds thereof

45/54 containing crystalline alumino-silicates, e.g. molecular sieves

45/56 with moving solid particles

45/58 to change the structural skeleton of some of the hydrocarbon content without cracking the other hydrocarbons present, e.g. lowering pour point; Selective hydrocracking of normal paraffins (C10G 32/00 takes precedence; improving or increasing the octane number or aromatic content of naphtha C10G 35/00)

45/60 characterised by the catalyst used

45/62 containing platinum group metals or compounds thereof

45/64 containing crystalline alumino-silicates, e.g. molecular sieves

45/66 with moving solid particles

45/68 Aromatisation of hydrocarbon oil fractions (of naphtha C10G 35/00)

45/70 with catalysts containing platinum group metals or compounds thereof
Hydrotreatment processes

45/72 Controlling or regulating (controlling or regulating in general G05)
47/00 Cracking of hydrocarbon oils in the presence of hydrogen or hydrogen generating compounds, to obtain lower boiling fractions, (C10G 15/00) takes precedence; destructive hydrogenation of non-melting solid carbonaceous or similar materials C10G 1/06
47/02 characterised by the catalyst used
47/04 Oxides
47/06 Sulfides
47/08 Halides
47/10 with catalysts deposited on a carrier
47/12 Inorganic carriers
47/14 the catalyst containing platinum group metals or compounds thereof
47/16 Crystalline alumino-silicate carriers
47/18 the catalyst containing platinum group metals or compounds thereof
47/20 the catalyst containing other metals or compounds thereof
47/22 Non-catalytic cracking in the presence of hydrogen
47/24 with moving solid particles
47/26 suspended in the oil, e.g. slurries
47/28 according to the "moving-bed" technique
47/30 according to the "fluidised-bed" technique
47/32 in the presence of hydrogen-generating compounds
47/34 Organic compounds, e.g. hydrogenated hydrocarbons
47/36 Controlling or regulating (controlling or regulating in general G05)
49/00 Treatment of hydrocarbon oils in the presence of hydrogen or hydrogen-generating compounds, not provided for in a single one of the groups C10G 45/02, C10G 45/32, C10G 45/44, C10G 45/58 or C10G 47/00
49/00/2 Apparatus for fixed bed hydrotreatment processes
49/00/5 Inhibiting corrosion in hydrotreatment processes
49/00/7 in the presence of hydrogen from a special source or of a special composition or having been purified by a special treatment
49/02 characterised by the catalyst used
49/04 containing nickel, cobalt, chromium, molybdenum, or tungsten metals, or compounds thereof
49/06 containing platinum group metals or compounds thereof
49/08 containing crystalline alumino-silicates, e.g. molecular sieves
49/10 with moving solid particles
49/12 suspended in the oil, e.g. slurries
49/14 according to the "moving-bed" technique
49/16 according to the "fluidised-bed" technique
49/18 in the presence of hydrogen-generating compounds, e.g. ammonia, water, hydrogen sulfide
49/20 Organic compounds
49/22 Separation of effluents
49/24 Starting-up hydrotreatment operations
49/26 Controlling or regulating (controlling or regulating in general G05)
50/00 Production of liquid hydrocarbon mixtures from lower carbon number hydrocarbons, e.g. by oligomerisation (preparation of individual hydrocarbons or mixtures thereof of definite or specified constitution C07C)
50/02 of hydrocarbon oils for lubricating purposes

Multi-step processes

NOTE
Groups C10G 51/00 - C10G 69/00 cover only those combined treating operations where the interest is directed to the relationship between the steps.
51/00 Treatment of hydrocarbon oils in the absence of hydrogen, by two or more refining processes only
51/02 plural serial stages only
51/023 only thermal cracking steps
51/026 only catalytic cracking steps
51/04 including only thermal and catalytic cracking steps
51/06 plural parallel stages only
53/00 Treatment of hydrocarbon oils in the absence of hydrogen, by two or more refining processes
53/02 plural serial stages only
53/04 including at least one extraction step
53/06 including only extraction steps, e.g. deasphalting by solvent treatment followed by extraction of aromatics (refining in one step with two or more solvents which are introduced or withdrawn separately C10G 21/02)
53/08 including at least one sorption step
53/10 including at least one acid-treatment step
53/12 including at least one alkaline treatment step
53/14 including at least one oxidation step
53/16 plural parallel stages only
55/00 Treatment of hydrocarbon oils in the absence of hydrogen, by at least one refining process and at least one cracking process
55/02 plural serial stages only
55/04 including at least one thermal cracking step
55/06 including at least one catalytic cracking step
55/08 plural parallel stages only
57/00 Treatment of hydrocarbon oils in the absence of the hydrogen, by at least one cracking process or refining process and at least one other conversion process
57/00/5 with alkylation
57/02 with polymerisation
59/00 Treatment of naphtha by two or more reforming processes only or by at least one reforming process and at least one process which does not substantially change the boiling range of the naphtha
59/02 plural serial stages only
59/04 including at least one catalytic and at least one non-catalytic reforming step
59/06 plural parallel stages only
61/00 Treatment of naphtha by at least one reforming process and at least one process of refining in the absence of hydrogen
61/02 plural serial stages only
Multi-step processes

67/00 Treatment of hydrocarbon oils by at least one hydrotreatment process and at least one other conversion process (C10G 67/00) takes precedence
67/02 plural serial stages only
67/04 . . . including at least one step of catalytic cracking in the absence of hydrogen
67/06 . . . including at least one step of thermal cracking in the absence of hydrogen
67/08 . . . including at least one step of reforming naphtha
67/10 . . . hydrocracking of higher boiling fractions into naphtha and reforming the naphtha obtained
67/12 . . . including at least one polymerisation or alkylation step
67/14 plural parallel stages only
67/02 . plural serial stages only
67/04 . . . including only refining steps
67/043 . . . [at least one step being a change in the structural skeleton]
67/046 . . . [at least one step being an aromatisation step]
67/06 . . . at least one step being a selective hydrogenation of the diolefins
67/08 . . . at least one step being a hydrogenation of the aromatic hydrocarbons
67/10 . . . including only cracking steps
67/12 . . . including cracking steps and other hydrotreatment steps
67/14 plural parallel stages only
67/16 . . . including only refining steps
67/18 . . . including only cracking steps
67/00 Treatment of hydrocarbon oils by at least one hydrotreatment process and at least one process for refining in the absence of hydrogen only
67/02 . plural serial stages only
67/04 . . . including solvent extraction as the refining step in the absence of hydrogen
67/049 . . . [Extraction of unsaturated hydrocarbons]
67/0418 . . . [The hydrotreatment being a hydorefining]
67/0427 . . . [The hydrotreatment being a selective hydrogenation of diolefins or acetylenes]
67/0436 . . . [The hydrotreatment being an aromatic saturation]
67/0445 . . . [The hydrotreatment being a hydrocracking]
67/0454 . . . [Solvent desasphalting]
67/0463 . . . [The hydrotreatment being a hydrefining]
67/0472 . . . [The hydrotreatment being a selective hydrogenation of diolefins or acetylenes]
67/0481 . . . [The hydrotreatment being an aromatics saturation]
67/049 . . . [The hydrotreatment being a hydrocracking]
67/06 . . . including sorption process as the refining step in the absence of hydrogen
67/08 . . . including acid treatment as the refining step in the absence of hydrogen
67/10 . . . including alkaline treatment as the refining step in the absence of hydrogen
67/12 . . . including oxidation as the refining step in the absence of hydrogen
67/14 . . . including at least two different refining steps in the absence of hydrogen
67/16 plural parallel stages only
67/00 Treatment of hydrocarbon oils by two or more hydrotreatment processes only
67/02 . plural serial stages only
67/04 . . . including only refining steps
67/118 . . . [at least one step being a change in the structural skeleton]
67/046 . . . [at least one step being an aromatisation step]
67/06 . . . at least one step being a selective hydrogenation of the diolefins
67/10 . . . including only hydrocarbon oils for lubricating purposes
67/12 . . . including cracking steps and other hydrotreatment steps
67/14 plural parallel stages only
67/16 . . . including only cracking steps
70/00 Working-up undefined normally gaseous mixtures obtained by processes covered by groups C10G 9/00, C10G 11/00, C10G 15/00, C10G 47/00, C10G 51/00
70/002 plural serial stages only
70/004 . . . [with solutions of copper salts]
70/006 . . . [with the use of acids or sulfur oxides]
70/008 . . . [with the use of organometallic compounds]
70/02 by hydrogenation
70/04 by physical processes
70/041 . . . (by distillation)
70/042 . . . [with the use of auxiliary compounds]
70/043 . . . [by fractional condensation]
70/044 . . . [by crystallisation]
70/045 . . . [using membranes, e.g. selective permeation]
70/046 . . . [by adsorption, i.e. with the use of solids]
70/047 . . . [by molecular sieve technique]
70/048 . . . [by liquid-liquid extraction]
70/06 by gas-liquid contact
71/00 Treatment by methods not otherwise provided for of hydrocarbon oils or fatty oils for lubricating purposes (by Fischer-Tropsch C07C 1/00: lubricating compositions C10M)
71/02 . Thickening by voltolising (chemical modification of drying oils by voltolising C09F 7/04)
73/00 Recovery or refining of mineral waxes, e.g. montan wax (compositions essentially based on waxes C08L 91/00)
73/02 . Recovery of petroleum waxes from hydrocarbon oils; Dewaxing of hydrocarbon oils
73/025 . . . (by filtration)
73/04 . . . with the use of filter aids
73/06 . . . with the use of solvents
73/08 . . . Organic compounds
73/10 . . . Hydrocarbons
73/12 . . . Oxygen-containing compounds
73/14 . . . Halogen-containing compounds
73/16 . . . Nitrogen-containing compounds
73/18 . . . containing sulfur, selenium or tellurium
73/20 . . . containing phosphorus
73/22 . . . Mixtures or organic compounds
73/24 . . . by formation of adducts
73/26 . . . by flotation
73/28 . . . by centrifugal force
73/30 . . . with electric means
Multi-step processes

73/32 . . Methods of cooling during dewaxing
73/34 . . Controlling or regulating (controlling or regulating in general G05)
73/36 . . Recovery of petroleum waxes from other compositions containing oil in minor proportions, from concentrates or from residues; De-oiling, sweating
73/38 . . Chemical modification of petroleum
73/40 . . Physical treatment of waxes or modified waxes, e.g. granulation, dispersion, emulsion, irradiation
73/42 . . Refining of petroleum waxes
73/44 . . in the presence of hydrogen or hydrogen-generating compounds

75/00 Inhibiting corrosion or fouling in apparatus for treatment or conversion of hydrocarbon oils, in general (C10G 7/10, C10G 9/16 take precedence; protection of pipes against corrosion or incrustation F16L 58/00)

75/02 . . by addition of corrosion inhibitors
75/04 . . by addition of antifouling agents

99/00 Subject matter not provided for in other groups of this subclass

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2300/00 Aspects relating to hydrocarbon processing covered by groups C10G 100/0 - C10G 99/00

2300/10 . . Feedstock materials
2300/1003 . . Waste materials
2300/1007 . . Used oils
2300/1011 . . Biomass
2300/1014 . . of vegetal origin
2300/1018 . . of animal origin
2300/1022 . . Fischer-Tropsch products
2300/1025 . . Natural gas
2300/1029 . . Gas hydrates
2300/1033 . . Oil well production fluids
2300/1037 . . Hydrocarbon fractions
2300/104 . . Light gasoline having a boiling range of about 20 - 100 °C
2300/1044 . . Heavy gasoline or naphtha having a boiling range of about 100 - 180 °C
2300/1048 . . Middle distillates
2300/1051 . . Kerosene having a boiling range of about 180 - 230 °C
2300/1055 . . Diesel having a boiling range of about 230 - 330 °C
2300/1059 . . Gasoil having a boiling range of about 330 - 427 °C
2300/1062 . . Lubricating oils
2300/1066 . . Special oils
2300/107 . . Atmospheric residues having a boiling point of at least about 538 °C
2300/1074 . . Vacuum distillates
2300/1077 . . Vacuum residues
2300/1081 . . Alkanes
2300/1085 . . Solid paraffins
2300/1088 . . Olefins
2300/1092 . . C2-C4 olefins
2300/1096 . . Aromatics or polyaromatics
2300/20 . . Characteristics of the feedstock or the products
2300/201 . . Impurities

2300/202 . . . Heteroatoms content, i.e. S, N, O, P
2300/203 . . . Naphthenic acids, TAN
2300/205 . . . Metal content
2300/206 . . . Asphaltenes
2300/207 . . . Acid gases, e.g. H₂S, COS, SO₂, HCN
2300/208 . . . Sediments, e.g. bottom sediment and water or BSW
2300/30 . . . Physical properties of feedstocks or products
2300/301 . . . Boiling range
2300/302 . . . Viscosity
2300/304 . . . Pour point, cloud point, cold flow properties
2300/305 . . . Octane number, e.g. motor octane number [MON], research octane number [RON]
2300/307 . . . Cetane number, cetane index
2300/308 . . . Gravity, density, e.g. API
2300/40 . . . Characteristics of the process deviating from typical ways of processing
2300/4006 . . . Temperature
2300/4012 . . . Pressure
2300/4018 . . . Spatial velocity, e.g. LHSV, WHSV
2300/4025 . . . Yield
2300/4031 . . . Start up or shut down operations
2300/4037 . . . In-situ processes
2300/4043 . . . Limiting CO₂ emissions
2300/405 . . . Limiting CO, NOx or SOx emissions
2300/4056 . . . Retrofitting operations
2300/4062 . . . Geographical aspects, e.g. different process units form a combination process at different geographical locations
2300/4068 . . . Moveable devices or units, e.g. on trucks, barges
2300/4075 . . . Limiting deterioration of equipment
2300/4081 . . . Recycling aspects
2300/4087 . . . Catalytic distillation
2300/4093 . . . Catalyst stripping
2300/42 . . . Hydrogen of special source or of special composition
2300/44 . . . Solvents
2300/70 . . . Catalyst aspects
2300/701 . . . Use of spent catalysts
2300/703 . . . Activation
2300/705 . . . Passivation
2300/706 . . . Catalytic metal recovery
2300/708 . . . Coking aspect, coke content and composition of deposits
2300/80 . . . Additives
2300/802 . . . Diluents
2300/805 . . . Water
2300/807 . . . Steam

2400/00 Products obtained by processes covered by groups C10G 9/00 - C10G 69/14

2400/02 . . . Gasoline
2400/04 . . . Diesel oil
2400/06 . . . Gasoil
2400/08 . . . Jet fuel
2400/10 . . . Lubricating oil
2400/12 . . . Electrical isolation oil
2400/14 . . . White oil, eating oil
2400/16 . . . Residues
2400/18 . . . Solvents
2400/20 . . . C2-C4 olefins
2400/22 . . . Higher olefins
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<td>2400/24</td>
<td>Acetylene and homologues</td>
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<tr>
<td>2400/26</td>
<td>Fuel gas</td>
</tr>
<tr>
<td>2400/28</td>
<td>Propane and butane</td>
</tr>
<tr>
<td>2400/30</td>
<td>Aromatics</td>
</tr>
</tbody>
</table>