CPC  COOPERATIVE PATENT CLASSIFICATION

C  CHEMISTRY; METALLURGY
   (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.

**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 alumi-no-silicates, e.g. molecular sieves]

11/06 Sulphides

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

Refining 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 oxoacids 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

27/10 . . . 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-comounds, 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 . . . Sulfides

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

C10G

35/00 Refining of hydrocarbon oils in the absence of hydrogen, by methods not otherwise provided for (by distillation C10G 7/00)

35/02 . . . by heating, cooling, or pressure treatment
35/04 . . . by treating with water
35/06 . . . by filtration
35/08 . . . with the aid of centrifugal force
35/10 . . . by dialysis

33/00 Dewatering or demulsification of hydrocarbon oils (by distillation C10G 7/04)

33/02 . . . with electrical or magnetic means
33/04 . . . with chemical means
33/06 . . . with mechanical means, e.g. by filtration
33/08 . . . Controlling or regulating (controlling or regulating in general G05)

35/00 Reforming of naphtha

NOTE

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

35/02 . . . Thermal reforming
35/04 . . . Catalytic reforming
35/06 . . . characterised by the catalyst used
35/065 . . . [containing crystalline zeolitic molecular sieves, other than aluminosilicates]
35/085 . . . containing platinum group metals or compounds thereof
35/09 . . . Bimetallic catalysts in which at least one of the metals is a platinum group metal
35/095 . . . containing crystalline alumino-silicates, e.g. molecular sieves ([C10G 35/065 takes precedence])
35/10 . . . with moving catalysts
35/12 . . . according to the "moving-bed" method
35/14 . . . according to the "fluidised-bed" technique
35/16 . . . with electric, electromagnetic, or mechanical vibrations; by particle radiation
35/22 . . . Starting-up reforming operations
35/24 . . . Controlling or regulating of reforming operations (controlling or regulating in general G05)

Hydrotreatment processes (reforming 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
45/20 . . . according to the "fluidised-bed" technique
45/22 . . . with hydrogen dissolved or suspended in the oil
45/24 . . . with hydrogen-generating compounds
45/26 . . . Steam or water
45/28 . . . Organic compounds; Autofining
45/30 . . . characterised by the catalyst used
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 . Sulphides 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 49/002 . (Apparatus for fixed bed hydrotreatment processes) 49/005 . (Inhibiting corrosion in hydrotreatment processes) 49/007 . (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 cracking 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)

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 57/005 . (with alkylation) 57/002 . 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

61/04 . . . the refining step being an extraction
61/06 . . . the refining step being a sorption process
61/08 . . plural parallel stages only
61/10 . . processes also including other conversion steps

63/00 Treatment of naphtha by at least one reforming process and at least one other conversion process (C10G 59/00, C10G 61/00 take precedence)
63/02 . . plural serial stages only
63/04 . . including at least one cracking step
63/06 . . plural parallel stages only
63/08 . . including at least one cracking step

65/00 Treatment of hydrocarbon oils by two or more hydrotreatment processes only
65/02 . . plural serial stages only
65/04 . . including only refining steps
65/043 . . . [at least one step being a change in the structural skeleton]
65/046 . . . [at least one step being an aromatisation step]
65/06 . . . at least one step being a selective hydrogenation of the diolefins
65/08 . . . at least one step being a hydrogenation of the aromatic hydrocarbons
65/10 . . . including only cracking steps
65/12 . . . including cracking steps and other hydrotreatment steps
65/14 . . plural parallel stages only
65/16 . . including only refining steps
65/18 . . 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
67/0409 . . . [Extraction of unsaturated hydrocarbons]
67/0418 . . . [The hydrotreatment being a hydrefining]
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 hydrofining]
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 a 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

69/00 Treatment of hydrocarbon oils by at least one hydrotreatment process and at least one other conversion process (C10G 67/00 takes precedence)
69/02 . . plural serial stages only
69/04 . . including at least one step of catalytic cracking in the absence of hydrogen
69/06 . . including at least one step of thermal cracking in the absence of hydrogen
69/08 . . including at least one step of reforming naphtha
69/10 . . . hydrocracking of higher boiling fractions into naphtha and reforming the naphtha obtained
69/12 . . . including at least one polymerisation or alkylation step
69/123 . . . [alkylation]
69/126 . . . [polymerisation, e.g. oligomisation]
69/14 . . plural parallel stages only

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 . . [by forming adducts or complexes]
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

Aspects relating to hydrocarbon processing covered by groups C10G 1/00 - C10G 99/00

2300/00

2300/02 . . . . Heteroatoms content, i.e. S, N, O, P
2300/03 . . . . Naphthenic acids, TAN
2300/05 . . . . Metal content
2300/06 . . . . Asphaltenes
2300/07 . . . . Acid gases, e.g. H₂S, COS, SO₂, HCN
2300/08 . . . . Sediments, e.g. bottom sediment and water or BSW
2300/20 . . . . Physical properties of feedstocks or products
2300/30 . . . . Boiling range
2300/31 . . . . Boiling range
2300/32 . . . . Viscosity
2300/34 . . . . Pour point, cloud point, cold flow properties
2300/35 . . . . Octane number, e.g. motor octane number [MON], research octane number [RON]
2300/37 . . . . In-situ processes
2300/4033 . . . . 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
2300/71 . . . . Use of spent catalysts
2300/73 . . . . Activation
2300/75 . . . . Passivation
2300/76 . . . . Catalytic metal recovery
2300/78 . . . . Coking aspect, coke content and composition of deposits
2300/80 . . . . Additives
2300/82 . . . . Diluents
2300/85 . . . . Water
2300/87 . . . . Steam

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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<tr>
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<td>2400/24</td>
<td>Acetylene and homologues</td>
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<td>2400/28</td>
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