

Symbol	Typ	Titel
B	Sektion	SECTION B — PERFORMING OPERATIONS; TRANSPORTING
B01	Untersektion	SEPARATING; MIXING
B01	Klasse	PHYSICAL OR CHEMICAL PROCESSES OR APPARATUS IN GENERAL (furnaces, kilns, ovens, retorts, in general F27)
B01J	Unterklasse	CHEMICAL OR PHYSICAL PROCESSES, e.g. CATALYSIS, COLLOID CHEMISTRY; THEIR RELEVANT APPARATUS (processes or apparatus for specific applications, <u>see</u> the relevant places for these processes or apparatus, e.g. F26B 3/08) [2]
B01J 2/00	Hauptgruppe	Processes or devices for granulating materials, in general (granulating metals B22F 9/00, slag C04B 5/02, ores or scrap C22B 1/14; mechanical aspects of working of plastics or substances in a plastic state to make granules B29B 9/00; processes for granulating fertilisers characterised by their chemical constitution, <u>see</u> the relevant groups in C05B-C05G; chemical aspects of powdering or granulating of macromolecular substances C08J 3/12); Rendering particulate materials free flowing in general, e.g. making them hydrophobic [4]
B01J 2/02	1-Punkt Untergruppe	. by dividing the liquid material into drops, e.g. by spraying, and solidifying the drops (evaporating by spraying B01D 1/16)
B01J 2/04	2-Punkt Untergruppe	. . in a gaseous medium
B01J 2/06	2-Punkt Untergruppe	. . in a liquid medium
B01J 2/08	3-Punkt Untergruppe	. . . Gelation of a colloidal solution
B01J 2/10	1-Punkt Untergruppe	. in stationary drums or troughs, provided with kneading or mixing appliances
B01J 2/12	1-Punkt Untergruppe	. in rotating drums
B01J 2/14	1-Punkt Untergruppe	. in rotating dishes or pans
B01J 2/16	1-Punkt Untergruppe	. by suspending the powder material in a gas, e.g. in fluidised beds or as a falling curtain
B01J 2/18	1-Punkt Untergruppe	. using a vibrating apparatus
B01J 2/20	1-Punkt Untergruppe	. by expressing the material, e.g. through sieves and fragmenting the extruded length
B01J 2/22	1-Punkt Untergruppe	. by pressing in moulds or between rollers
B01J 2/24	1-Punkt Untergruppe	. Obtaining flakes by scraping a solid layer from a surface
B01J 2/26	1-Punkt Untergruppe	. on endless conveyer belts
B01J 2/28	1-Punkt Untergruppe	. using special binding agents
B01J 2/30	1-Punkt Untergruppe	. using agents to prevent the granules sticking together; Rendering particulate materials free flowing in general, e.g. making them hydrophobic [4]
B01J 3/00	Hauptgruppe	Processes of utilising sub-atmospheric or super-atmospheric pressure to effect chemical or physical change of matter; Apparatus therefor (apparatus for compacting or sintering of metal powders B22F 3/00; pressure vessels in general F16J 12/00; pressure vessels for containing or storing compressed, liquefied or solidified gases F17C; pressure vessels for nuclear reactors G21C) [2]
B01J 3/02	1-Punkt Untergruppe	. Feed or outlet devices therefor
B01J 3/03	1-Punkt Untergruppe	. Pressure vessels, or vacuum vessels, having closure members or seals specially adapted therefor [3]
B01J 3/04	1-Punkt Untergruppe	. Pressure vessels, e.g. autoclaves [2]

Symbol	Typ	Titel
B01J 3/06	1-Punkt Untergruppe	. Processes using ultra-high pressure, e.g. for the formation of diamonds; Apparatus therefor, e.g. moulds, dies (B01J 3/04 takes precedence; presses in general B30B) [2]
B01J 3/08	2-Punkt Untergruppe	. . Application of shock waves for chemical reactions or for modifying the crystal structure of substances (blasting F42D) [3]
B01J 4/00	Hauptgruppe	Feed devices; Feed or outlet regulating devices (feed or outlet devices for pressure vessels B01J 3/02)
B01J 4/02	1-Punkt Untergruppe	. for feeding measured quantities of reagents
B01J 4/04	1-Punkt Untergruppe	. using osmotic pressure [4]
B01J 6/00	Hauptgruppe	Calcining; Fusing
B01J 7/00	Hauptgruppe	Apparatus for generating gases (production of inert gas mixtures B01J 19/14; for generating specific gases, <u>see</u> the relevant subclasses, e.g. C01B, C10J)
B01J 7/02	1-Punkt Untergruppe	. by wet methods
B01J 8/00	Hauptgruppe	Chemical or physical processes in general, conducted in the presence of fluids and solid particles; Apparatus for such processes (processes or devices for granulating material B01J 2/00; furnaces F27B) [2]
B01J 8/02	1-Punkt Untergruppe	. with stationary particles, e.g. in fixed beds [2]
B01J 8/04	2-Punkt Untergruppe	. . the fluid passing successively through two or more beds [2]
B01J 8/06	2-Punkt Untergruppe	. . in tube reactors; the solid particles being arranged in tubes [2]
B01J 8/08	1-Punkt Untergruppe	. with moving particles (with fluidised particles B01J 8/18) [2]
B01J 8/10	2-Punkt Untergruppe	. . moved by stirrers or by rotary drums or rotary receptacles [2]
B01J 8/12	2-Punkt Untergruppe	. . moved by gravity in a downward flow [2]
B01J 8/14	2-Punkt Untergruppe	. . moving in free vortex flow apparatus (free vortex flow apparatus in general B04C) [2]
B01J 8/16	1-Punkt Untergruppe	. with particles being subjected to vibrations or pulsations (B01J 8/40 takes precedence) [2]
B01J 8/18	1-Punkt Untergruppe	. with fluidised particles [2]
B01J 8/20	2-Punkt Untergruppe	. . with liquid as a fluidising medium [2]
B01J 8/22	3-Punkt Untergruppe	. . . gas being introduced into the liquid [2]
B01J 8/24	2-Punkt Untergruppe	. . according to "fluidised-bed" technique (B01J 8/20 takes precedence; combustion apparatus in which combustion takes place in a fluidised bed of fuel or other particles F23C 10/00) [2]
B01J 8/26	3-Punkt Untergruppe	. . . with two or more fluidised beds, e.g. reactor and regeneration installations [2]
B01J 8/28	4-Punkt Untergruppe	 the one above the other [2]
B01J 8/30	5-Punkt Untergruppe	 the edge of a lower bed projecting beyond the edge of the superjacent bed [2]
B01J 8/32	3-Punkt Untergruppe	. . . with introduction into the fluidised bed of more than one kind of moving particles [2]
B01J 8/34	3-Punkt Untergruppe	. . . with stationary packing material in the fluidised bed, e.g. bricks, wire rings, baffles [2]
B01J 8/36	3-Punkt Untergruppe	. . . with fluidised bed through which there is an essentially horizontal flow of particles [2]
B01J 8/38	3-Punkt Untergruppe	. . . with fluidised bed containing a rotatable device or being subject to rotation [2]
B01J 8/40	3-Punkt Untergruppe	. . . with fluidised bed subjected to vibrations or pulsations [2]
B01J 8/42	3-Punkt Untergruppe	. . . with fluidised bed subjected to electric current or to radiations [2]

Symbol	Typ	Titel
B01J 8/44	3-Punkt Untergruppe	. . . Fluidisation grids [2]
B01J 8/46	3-Punkt Untergruppe	. . . for treatment of endless filamentary, band or sheet material [2]
B01J 10/00	Hauptgruppe	Chemical processes in general for reacting liquid with gaseous media other than in the presence of solid particles, or apparatus specially adapted therefor (B01J 19/08 takes precedence; separation, e.g. distillation, also combined with chemical reactions B01D) [3]
B01J 10/02	1-Punkt Untergruppe	. of the thin-film type [3]
B01J 12/00	Hauptgruppe	Chemical processes in general for reacting gaseous media with gaseous media; Apparatus specially adapted therefor (B01J 3/08, B01J 8/00, B01J 19/08 take precedence) [3]
B01J 12/02	1-Punkt Untergruppe	. for obtaining at least one reaction product which, at normal temperature, is in the solid state [3]
B01J 13/00	Hauptgruppe	Colloid chemistry, e.g. the production of colloidal materials or their solutions, not otherwise provided for; Making microcapsules or microballoons (use of substances as emulsifying, wetting, dispersing or foam producing agents B01F 17/00)
B01J 13/02	1-Punkt Untergruppe	. Making microcapsules or microballoons
B01J 13/04	2-Punkt Untergruppe	. . by physical processes, e.g. drying, spraying [5]
B01J 13/06	2-Punkt Untergruppe	. . by phase separation [5]
B01J 13/08	3-Punkt Untergruppe	. . . Simple coacervation, i.e. addition of highly hydrophilic material [5]
B01J 13/10	3-Punkt Untergruppe	. . . Complex coacervation, i.e. interaction of oppositely charged particles [5]
B01J 13/12	3-Punkt Untergruppe	. . . removing solvent from the wall-forming material solution [5]
B01J 13/14	3-Punkt Untergruppe	. . . Polymerisation, crosslinking [5]
B01J 13/16	4-Punkt Untergruppe	 Interfacial polymerisation [5]
B01J 13/18	4-Punkt Untergruppe	 <u>In situ</u> polymerisation with all reactants being present in the same phase [5]
B01J 13/20	2-Punkt Untergruppe	. . After-treatment of capsule walls, e.g. hardening [5]
B01J 13/22	3-Punkt Untergruppe	. . . Coating [5]
B01J 14/00	Hauptgruppe	Chemical processes in general for reacting liquids with liquids; Apparatus specially adapted therefor (B01J 8/00, B01J 19/08 take precedence) [3]
B01J 15/00	Hauptgruppe	Chemical processes in general for reacting gaseous media with non-particulate solids, e.g. sheet material; Apparatus specially adapted therefor (B01J 19/08 takes precedence) [3]
B01J 16/00	Hauptgruppe	Chemical processes in general for reacting liquids with non-particulate solids, e.g. sheet material; Apparatus specially adapted therefor (B01J 19/08 takes precedence) [3]
B01J 19/00	Hauptgruppe	Chemical, physical, or physico-chemical processes in general (physical treatment of fibres, threads, yarns, fabrics, feathers or fibrous goods made from such materials, <u>see</u> the relevant places for such treatment, e.g. D06M 10/00); Their relevant apparatus (packings, fillings or grids specially adapted for biological treatment of water, waste water or sewage C02F 3/10; splashing boards or grids specially adapted for trickle coolers F28F 25/08) [3]
B01J 19/02	1-Punkt Untergruppe	. Apparatus characterised by being constructed of material selected for its chemically-resistant properties (refractory details of furnaces F27D) [3]
B01J 19/06	1-Punkt Untergruppe	. Solidifying liquids (making micro-capsules B01J 13/02) [3]
B01J 19/08	1-Punkt Untergruppe	. Processes employing the direct application of electric or wave energy, or particle radiation; Apparatus therefor (application of shock waves B01J 3/08; generating or handling plasma H05H 1/00) [3]
B01J 19/10	2-Punkt Untergruppe	. . employing sonic or ultrasonic vibrations (for auxiliary pretreatment of gases or vapours to be cleaned B01D 51/08; for cleaning B08B 3/12) [3]

Symbol	Typ	Titel
B01J 19/12	2-Punkt Untergruppe	. . employing electromagnetic waves [3]
B01J 19/14	1-Punkt Untergruppe	. Production of inert gas mixtures; Use of inert gases in general (apparatus for generating gases B01J 7/00; separation of gases or vapours B01D 53/00) [3]
B01J 19/16	1-Punkt Untergruppe	. Preventing evaporation or oxidation of non-metallic liquids by applying a floating layer, e.g. of micro-balloons [3]
B01J 19/18	1-Punkt Untergruppe	. Stationary reactors having moving elements inside (B01J 19/08, B01J 19/26 take precedence) [3]
B01J 19/20	2-Punkt Untergruppe	. . in the form of helices, e.g. screw reactors (thin-film reactors B01J 10/02) [3]
B01J 19/22	2-Punkt Untergruppe	. . in the form of endless belts [3]
B01J 19/24	1-Punkt Untergruppe	. Stationary reactors without moving elements inside (B01J 19/08, B01J 19/26 take precedence; with stationary particles B01J 8/02) [3]
B01J 19/26	1-Punkt Untergruppe	. Nozzle-type reactors, i.e. the distribution of the initial reactants within the reactor is effected by their introduction or injection through nozzles [3]
B01J 19/28	1-Punkt Untergruppe	. Moving reactors, e.g. rotary drums (B01J 19/08 takes precedence; centrifuges B04B; rotary drum furnaces F27B 7/00) [3]
B01J 19/30	1-Punkt Untergruppe	. Loose or shaped packing elements, e.g. Raschig rings or Berl saddles, for pouring into the apparatus for mass or heat transfer [5]
B01J 19/32	1-Punkt Untergruppe	. Packing elements in the form of grids or built-up elements for forming a unit or module inside the apparatus for mass or heat transfer [5]
		<u>Solid sorbent compositions; Filter aid compositions; Sorbents for chromatography; Catalysts [3]</u>
B01J 20/00	Hauptgruppe	<i>Solid sorbent compositions or filter aid compositions ; Sorbents for chromatography ; Processes for preparing, regenerating or reactivating thereof (use of solid sorbent compositions in liquid separation B01D 15/00 ; use of filter aid compositions B01D 37/02 ; use of sorbent compositions in gas separation B01D 53/02 , B01D 53/14) [3, 2006.01]</i>
B01J 20/02	1-Punkt Untergruppe	. comprising inorganic material [3]
B01J 20/04	2-Punkt Untergruppe	. . comprising compounds of alkali metals, alkaline earth metals or magnesium [3]
B01J 20/06	2-Punkt Untergruppe	. . comprising oxides or hydroxides of metals not provided for in group B01J 20/04 [3]
B01J 20/08	3-Punkt Untergruppe	. . . comprising aluminium oxide or hydroxide; comprising bauxite [3]
B01J 20/10	2-Punkt Untergruppe	. . comprising silica or silicate [3]
B01J 20/12	3-Punkt Untergruppe	. . . Naturally occurring clays or bleaching earth [3]
B01J 20/14	3-Punkt Untergruppe	. . . Diatomaceous earth [3]
B01J 20/16	3-Punkt Untergruppe	. . . Alumino-silicates (B01J 20/12 takes precedence) [3]
B01J 20/18	4-Punkt Untergruppe	 Synthetic zeolitic molecular sieves [3]
B01J 20/20	2-Punkt Untergruppe	. . comprising free carbon; comprising carbon obtained by carbonising processes (active carbon C01B 31/08) [3]
B01J 20/22	1-Punkt Untergruppe	. comprising organic material [3]
B01J 20/24	2-Punkt Untergruppe	. . Naturally occurring macromolecular compounds, e.g. humic acids or their derivatives [3]
B01J 20/26	2-Punkt Untergruppe	. . Synthetic macromolecular compounds [3]
B01J 20/28	1-Punkt Untergruppe	. characterised by their form or physical properties [3]

Symbol	Typ	Titel
B01J 20/281	1-Punkt Untergruppe	. Sorbents specially adapted for preparative, analytical or investigative chromatography [2006.01]
B01J 20/282	2-Punkt Untergruppe	. . Porous sorbents (ion exchange B01J 39/00-B01J 41/00) [2006.01]
B01J 20/283	3-Punkt Untergruppe	. . . based on silica [2006.01]
B01J 20/284	3-Punkt Untergruppe	. . . based on alumina [2006.01]
B01J 20/285	3-Punkt Untergruppe	. . . based on polymers [2006.01]
B01J 20/286	2-Punkt Untergruppe	. . Phases chemically bonded to a substrate, e.g. to silica or to polymers [2006.01]
B01J 20/287	3-Punkt Untergruppe	. . . Non-polar phases ; Reversed phases [2006.01]
B01J 20/288	3-Punkt Untergruppe	. . . Polar phases [2006.01]
B01J 20/289	3-Punkt Untergruppe	. . . bonded via a spacer [2006.01]
B01J 20/29	2-Punkt Untergruppe	. . Chiral phases [2006.01]
B01J 20/291	2-Punkt Untergruppe	. . Gel sorbents [2006.01]
B01J 20/292	2-Punkt Untergruppe	. . Liquid sorbents [2006.01]
B01J 20/30	1-Punkt Untergruppe	. Processes for preparing, regenerating or reactivating [3]
B01J 20/32	2-Punkt Untergruppe	. . Impregnating or coating [3]
B01J 20/34	2-Punkt Untergruppe	. . Regenerating or reactivating [3]
B01J 21/00	Hauptgruppe	Catalysts comprising the elements, oxides or hydroxides of magnesium, boron, aluminium, carbon, silicon, titanium, zirconium or hafnium [2]
B01J 21/02	1-Punkt Untergruppe	. Boron or aluminium; Oxides or hydroxides thereof [2]
B01J 21/04	2-Punkt Untergruppe	. . Alumina [2]
B01J 21/06	1-Punkt Untergruppe	. Silicon, titanium, zirconium or hafnium; Oxides or hydroxides thereof [2]
B01J 21/08	2-Punkt Untergruppe	. . Silica [2]
B01J 21/10	1-Punkt Untergruppe	. Magnesium; Oxides or hydroxides thereof [2]
B01J 21/12	1-Punkt Untergruppe	. Silica and alumina [2]
B01J 21/14	1-Punkt Untergruppe	. Silica and magnesia [2]
B01J 21/16	1-Punkt Untergruppe	. Clays or other mineral silicates [2]
B01J 21/18	1-Punkt Untergruppe	. Carbon [2]
B01J 21/20	1-Punkt Untergruppe	. Regeneration or reactivation [2]
B01J 23/00	Hauptgruppe	Catalysts comprising metals or metal oxides or hydroxides, not provided for in group B01J 21/00 (B01J 21/16 takes precedence) [2]
B01J 23/02	1-Punkt Untergruppe	. of the alkali- or alkaline earth metals or beryllium [2]
B01J 23/04	2-Punkt Untergruppe	. . Alkali metals [2]
B01J 23/06	1-Punkt Untergruppe	. of zinc, cadmium or mercury [2]
B01J 23/08	1-Punkt Untergruppe	. of gallium, indium or thallium [2]
B01J 23/10	1-Punkt Untergruppe	. of rare earths [2]

Symbol	Typ	Titel
B01J 23/12	1-Punkt Untergruppe	. of actinides [2]
B01J 23/14	1-Punkt Untergruppe	. of germanium, tin or lead [2]
B01J 23/16	1-Punkt Untergruppe	. of arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [2]
B01J 23/18	2-Punkt Untergruppe	. . Arsenic, antimony or bismuth [2]
B01J 23/20	2-Punkt Untergruppe	. . Vanadium, niobium or tantalum [2]
B01J 23/22	3-Punkt Untergruppe	. . . Vanadium [2]
B01J 23/24	2-Punkt Untergruppe	. . Chromium, molybdenum or tungsten [2]
B01J 23/26	3-Punkt Untergruppe	. . . Chromium [2]
B01J 23/28	3-Punkt Untergruppe	. . . Molybdenum [2]
B01J 23/30	3-Punkt Untergruppe	. . . Tungsten [2]
B01J 23/31	3-Punkt Untergruppe	. . . combined with bismuth [3]
B01J 23/32	2-Punkt Untergruppe	. . Manganese, technetium or rhenium [2]
B01J 23/34	3-Punkt Untergruppe	. . . Manganese [2]
B01J 23/36	3-Punkt Untergruppe	. . . Rhenium [2]
B01J 23/38	1-Punkt Untergruppe	. of noble metals [2]
B01J 23/40	2-Punkt Untergruppe	. . of the platinum group metals [2]
B01J 23/42	3-Punkt Untergruppe	. . . Platinum [2]
B01J 23/44	3-Punkt Untergruppe	. . . Palladium [2]
B01J 23/46	3-Punkt Untergruppe	. . . Ruthenium, rhodium, osmium or iridium [2]
B01J 23/48	2-Punkt Untergruppe	. . Silver or gold [2]
B01J 23/50	3-Punkt Untergruppe	. . . Silver [2]
B01J 23/52	3-Punkt Untergruppe	. . . Gold [2]
B01J 23/54	2-Punkt Untergruppe	. . combined with metals, oxides or hydroxides provided for in groups B01J 23/02-B01J 23/36 [2]
B01J 23/56	3-Punkt Untergruppe	. . . Platinum group metals [2]
B01J 23/58	4-Punkt Untergruppe	 with alkali- or alkaline earth metals or beryllium [2, 6]
B01J 23/60	4-Punkt Untergruppe	 with zinc, cadmium or mercury [2]
B01J 23/62	4-Punkt Untergruppe	 with gallium, indium, thallium, germanium, tin or lead [2]
B01J 23/63	4-Punkt Untergruppe	 with rare earths or actinides [6]
B01J 23/64	4-Punkt Untergruppe	 with arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [2]
B01J 23/644	5-Punkt Untergruppe	 Arsenic, antimony or bismuth [6]
B01J 23/648	5-Punkt Untergruppe	 Vanadium, niobium or tantalum [6]

Symbol	Typ	Titel
B01J 23/652	5-Punkt Untergruppe	 Chromium, molybdenum or tungsten [6]
B01J 23/656	5-Punkt Untergruppe	 Manganese, technetium or rhenium [6]
B01J 23/66	3-Punkt Untergruppe	. . . Silver or gold [2]
B01J 23/68	4-Punkt Untergruppe	 with arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [2]
B01J 23/70	1-Punkt Untergruppe	. of the iron group metals or copper [2]
B01J 23/72	2-Punkt Untergruppe	. . Copper [2]
B01J 23/74	2-Punkt Untergruppe	. . Iron group metals [2]
B01J 23/745	3-Punkt Untergruppe	. . . Iron [6]
B01J 23/75	3-Punkt Untergruppe	. . . Cobalt [6]
B01J 23/755	3-Punkt Untergruppe	. . . Nickel [6]
B01J 23/76	2-Punkt Untergruppe	. . combined with metals, oxides or hydroxides provided for in groups B01J 23/02-B01J 23/36 [2]
B01J 23/78	3-Punkt Untergruppe	. . . with alkali- or alkaline earth metals or beryllium [2, 6]
B01J 23/80	3-Punkt Untergruppe	. . . with zinc, cadmium or mercury [2]
B01J 23/825	3-Punkt Untergruppe	. . . with gallium, indium or thallium [6]
B01J 23/83	3-Punkt Untergruppe	. . . with rare earths or actinides [6]
B01J 23/835	3-Punkt Untergruppe	. . . with germanium, tin or lead [6]
B01J 23/84	3-Punkt Untergruppe	. . . with arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [2]
B01J 23/843	4-Punkt Untergruppe	 Arsenic, antimony or bismuth [6]
B01J 23/847	4-Punkt Untergruppe	 Vanadium, niobium or tantalum [6]
B01J 23/85	4-Punkt Untergruppe	 Chromium, molybdenum, or tungsten [3]
B01J 23/86	5-Punkt Untergruppe	 Chromium [2, 3]
B01J 23/88	5-Punkt Untergruppe	 Molybdenum [2, 3]
B01J 23/881	6-Punkt Untergruppe	 and iron [6]
B01J 23/882	6-Punkt Untergruppe	 and cobalt [6]
B01J 23/883	6-Punkt Untergruppe	 and nickel [6]
B01J 23/885	6-Punkt Untergruppe	 and copper [6]
B01J 23/887	6-Punkt Untergruppe	 containing in addition other metals, oxides or hydroxides provided for in groups B01J 23/02-B01J 23/36 [6]
B01J 23/888	5-Punkt Untergruppe	 Tungsten [6]
B01J 23/889	4-Punkt Untergruppe	 Manganese, technetium or rhenium [6]
B01J 23/89	2-Punkt Untergruppe	. . combined with noble metals [3]

Symbol	Typ	Titel
B01J 23/90	1-Punkt Untergruppe	. Regeneration or reactivation [2]
B01J 23/92	2-Punkt Untergruppe	. . of catalysts comprising metals, oxides or hydroxides provided for in groups B01J 23/02-B01J 23/36 [2]
B01J 23/94	2-Punkt Untergruppe	. . of catalysts comprising metals, oxides or hydroxides of the iron group metals or copper [2]
B01J 23/96	2-Punkt Untergruppe	. . of catalysts comprising metals, oxides or hydroxides of the noble metals [2]
B01J 25/00	Hauptgruppe	Catalysts of the Raney type [2]
B01J 25/02	1-Punkt Untergruppe	. Raney nickel [2]
B01J 25/04	1-Punkt Untergruppe	. Regeneration or reactivation [2]
B01J 27/00	Hauptgruppe	Catalysts comprising the elements or compounds of halogens, sulfur, selenium, tellurium, phosphorus or nitrogen; Catalysts comprising carbon compounds [4]
B01J 27/02	1-Punkt Untergruppe	. Sulfur, selenium or tellurium; Compounds thereof [4]
B01J 27/04	2-Punkt Untergruppe	. . Sulfides [2]
B01J 27/043	3-Punkt Untergruppe	. . . with iron group metals or platinum group metals [4]
B01J 27/045	4-Punkt Untergruppe	 Platinum group metals [4]
B01J 27/047	3-Punkt Untergruppe	. . . with chromium, molybdenum, tungsten or polonium [4]
B01J 27/049	4-Punkt Untergruppe	 with iron group metals or platinum group metals [4]
B01J 27/051	4-Punkt Untergruppe	 Molybdenum [4]
B01J 27/053	2-Punkt Untergruppe	. . Sulfates [4]
B01J 27/055	3-Punkt Untergruppe	. . . with alkali metals, copper, gold or silver [4]
B01J 27/057	2-Punkt Untergruppe	. . Selenium or tellurium; Compounds thereof [4]
B01J 27/06	1-Punkt Untergruppe	. Halogens; Compounds thereof [4]
B01J 27/08	2-Punkt Untergruppe	. . Halides [2]
B01J 27/10	3-Punkt Untergruppe	. . . Chlorides [2]
B01J 27/12	3-Punkt Untergruppe	. . . Fluorides [2]
B01J 27/122	3-Punkt Untergruppe	. . . of copper [4]
B01J 27/125	2-Punkt Untergruppe	. . with scandium, yttrium, aluminium, gallium, indium or thallium [4]
B01J 27/128	2-Punkt Untergruppe	. . with iron group metals or platinum group metals [4]
B01J 27/13	3-Punkt Untergruppe	. . . Platinum group metals [4]
B01J 27/132	2-Punkt Untergruppe	. . with chromium, molybdenum, tungsten or polonium [4]
B01J 27/135	2-Punkt Untergruppe	. . with titanium, zirconium, hafnium, germanium, tin or lead [4]
B01J 27/138	2-Punkt Untergruppe	. . with alkaline earth metals, magnesium, beryllium, zinc, cadmium or mercury [4]
B01J 27/14	1-Punkt Untergruppe	. Phosphorus; Compounds thereof [4]
B01J 27/16	2-Punkt Untergruppe	. . containing oxygen [2]
B01J 27/18	3-Punkt Untergruppe	. . . with metals [2]

Symbol	Typ	Titel
B01J 27/182	2-Punkt Untergruppe	. . with silicon [4]
B01J 27/185	2-Punkt Untergruppe	. . with iron group metals or platinum group metals [4]
B01J 27/186	2-Punkt Untergruppe	. . with arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [5]
B01J 27/187	3-Punkt Untergruppe	. . . with manganese, technetium or rhenium [5]
B01J 27/188	3-Punkt Untergruppe	. . . with chromium, molybdenum, tungsten or polonium [4, 5]
B01J 27/19	4-Punkt Untergruppe	 Molybdenum [4, 5]
B01J 27/192	5-Punkt Untergruppe	 with bismuth [4, 5]
B01J 27/195	3-Punkt Untergruppe	. . . with vanadium, niobium or tantalum [4, 5]
B01J 27/198	4-Punkt Untergruppe	 Vanadium [4, 5]
B01J 27/199	5-Punkt Untergruppe	 with chromium, molybdenum, tungsten or polonium [5]
B01J 27/20	1-Punkt Untergruppe	. Carbon compounds [2]
B01J 27/22	2-Punkt Untergruppe	. . Carbides [2]
B01J 27/224	3-Punkt Untergruppe	. . . Silicon carbide [4]
B01J 27/228	4-Punkt Untergruppe	 with phosphorus, arsenic, antimony or bismuth [4]
B01J 27/232	2-Punkt Untergruppe	. . Carbonates [4]
B01J 27/236	3-Punkt Untergruppe	. . . Hydroxy carbonates [4]
B01J 27/24	1-Punkt Untergruppe	. Nitrogen compounds [2]
B01J 27/25	2-Punkt Untergruppe	. . Nitrates [4]
B01J 27/26	2-Punkt Untergruppe	. . Cyanides [2]
B01J 27/28	1-Punkt Untergruppe	. Regeneration or reactivation [2]
B01J 27/30	2-Punkt Untergruppe	. . of catalysts comprising compounds of sulfur, selenium or tellurium [2]
B01J 27/32	2-Punkt Untergruppe	. . of catalysts comprising compounds of halogens [2]
B01J 29/00	Hauptgruppe	Catalysts comprising molecular sieves [2]
B01J 29/03	1-Punkt Untergruppe	. not having base-exchange properties [6]
B01J 29/035	2-Punkt Untergruppe	. . Crystalline silica polymorphs, e.g. silicalites [6]
B01J 29/04	1-Punkt Untergruppe	. having base-exchange properties, e.g. crystalline zeolites, pillared clays [2, 6]
B01J 29/06	2-Punkt Untergruppe	. . Crystalline aluminosilicate zeolites; Isomorphous compounds thereof [2]
B01J 29/064	3-Punkt Untergruppe	. . . containing iron group metals, noble metals or copper [6]
B01J 29/068	4-Punkt Untergruppe	 Noble metals [6]
B01J 29/072	4-Punkt Untergruppe	 Iron group metals or copper [6]
B01J 29/076	3-Punkt Untergruppe	. . . containing arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [6]

Symbol	Typ	Titel
B01J 29/08	3-Punkt Untergruppe	. . . of the faujasite type, e.g. type X or Y [2]
B01J 29/10	4-Punkt Untergruppe	 containing iron group metals, noble metals or copper [2]
B01J 29/12	5-Punkt Untergruppe	 Noble metals [2]
B01J 29/14	5-Punkt Untergruppe	 Iron group metals or copper [2]
B01J 29/16	4-Punkt Untergruppe	 containing arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [2]
B01J 29/18	3-Punkt Untergruppe	. . . of the mordenite type [2]
B01J 29/20	4-Punkt Untergruppe	 containing iron group metals, noble metals or copper [2]
B01J 29/22	5-Punkt Untergruppe	 Noble metals [2]
B01J 29/24	5-Punkt Untergruppe	 Iron group metals or copper [2]
B01J 29/26	4-Punkt Untergruppe	 containing arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [2]
B01J 29/40	3-Punkt Untergruppe	. . . of the pentasil type, e.g. types ZSM-5, ZSM-8 or ZSM-11, as exemplified by patent documents US A 3,702,886, GB A 1,334,243 and US A 3,709,979, respectively [6]
B01J 29/42	4-Punkt Untergruppe	 containing iron group metals, noble metals or copper [6]
B01J 29/44	5-Punkt Untergruppe	 Noble metals [6]
B01J 29/46	5-Punkt Untergruppe	 Iron group metals or copper [6]
B01J 29/48	4-Punkt Untergruppe	 containing arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [6]
B01J 29/50	3-Punkt Untergruppe	. . . of the erionite or offretite type, e.g. zeolite T, as exemplified by patent document US A 2,950,952 [6]
B01J 29/52	4-Punkt Untergruppe	 containing iron group metals, noble metals or copper [6]
B01J 29/54	5-Punkt Untergruppe	 Noble metals [6]
B01J 29/56	5-Punkt Untergruppe	 Iron group metals or copper [6]
B01J 29/58	4-Punkt Untergruppe	 containing arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [6]
B01J 29/60	3-Punkt Untergruppe	. . . of the type L, as exemplified by patent document US A 3,216,789 [6]
B01J 29/61	4-Punkt Untergruppe	 containing iron group metals, noble metals or copper [6]
B01J 29/62	5-Punkt Untergruppe	 Noble metals [6]
B01J 29/63	5-Punkt Untergruppe	 Iron group metals or copper [6]
B01J 29/64	4-Punkt Untergruppe	 containing arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [6]
B01J 29/65	3-Punkt Untergruppe	. . . of the ferrierite type, e.g. types ZSM-21, ZSM-35 or ZSM-38, as exemplified by patent documents US A 4,046,859, US A 4,016,245 and US A 4,046,859, respectively [6]
B01J 29/66	4-Punkt Untergruppe	 containing iron group metals, noble metals or copper [6]
B01J 29/67	5-Punkt Untergruppe	 Noble metals [6]

Symbol	Typ	Titel
B01J 29/68	5-Punkt Untergruppe	 Iron group metals or copper [6]
B01J 29/69	4-Punkt Untergruppe	 containing arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [6]
B01J 29/70	3-Punkt Untergruppe	. . . of types characterised by their specific structure not provided for in groups B01J 29/08-B01J 29/65 [6]
B01J 29/72	4-Punkt Untergruppe	 containing iron group metals, noble metals or copper [6]
B01J 29/74	5-Punkt Untergruppe	 Noble metals [6]
B01J 29/76	5-Punkt Untergruppe	 Iron group metals or copper [6]
B01J 29/78	4-Punkt Untergruppe	 containing arsenic, antimony, bismuth, vanadium, niobium, tantalum, polonium, chromium, molybdenum, tungsten, manganese, technetium or rhenium [6]
B01J 29/80	3-Punkt Untergruppe	. . . Mixtures of different zeolites [6]
B01J 29/82	1-Punkt Untergruppe	. Phosphates [6]
B01J 29/83	2-Punkt Untergruppe	. . Aluminophosphates (APO compounds) [6]
B01J 29/84	2-Punkt Untergruppe	. . Aluminophosphates containing other elements, e.g. metals, boron [6]
B01J 29/85	3-Punkt Untergruppe	. . . Silicoaluminophosphates (SAPO compounds) [6]
B01J 29/86	1-Punkt Untergruppe	. Borosilicates; Aluminoborosilicates [6]
B01J 29/87	1-Punkt Untergruppe	. Gallosilicates; Aluminogallosilicates; Galloborosilicates [6]
B01J 29/88	1-Punkt Untergruppe	. Ferrosilicates; Ferroaluminosilicates [6]
B01J 29/89	1-Punkt Untergruppe	. Silicates, aluminosilicates or borosilicates of titanium, zirconium or hafnium [6]
B01J 29/90	1-Punkt Untergruppe	. Regeneration or reactivation [6]
B01J 31/00	Hauptgruppe	Catalysts comprising hydrides, coordination complexes or organic compounds (catalyst compositions used only in polymerisation reactions C08) [2]
B01J 31/02	1-Punkt Untergruppe	. containing organic compounds or metal hydrides [2]
B01J 31/04	2-Punkt Untergruppe	. . containing carboxylic acids or their salts [2]
B01J 31/06	2-Punkt Untergruppe	. . containing polymers [2]
B01J 31/08	3-Punkt Untergruppe	. . . Ion-exchange resins [2]
B01J 31/10	4-Punkt Untergruppe	 sulfonated [2]
B01J 31/12	2-Punkt Untergruppe	. . containing organo-metallic compounds or metal hydrides [2]
B01J 31/14	3-Punkt Untergruppe	. . . of aluminium or boron [2]
B01J 31/16	1-Punkt Untergruppe	. containing coordination complexes [2]
B01J 31/18	2-Punkt Untergruppe	. . containing nitrogen, phosphorus, arsenic or antimony [2]
B01J 31/20	2-Punkt Untergruppe	. . Carbonyls [2]
B01J 31/22	2-Punkt Untergruppe	. . Organic complexes [2]
B01J 31/24	2-Punkt Untergruppe	. . Phosphines [2]
B01J 31/26	1-Punkt Untergruppe	. containing in addition, inorganic metal compounds not provided for in groups B01J 31/02-B01J 31/24 [2]

Symbol	Typ	Titel
B01J 31/28	2-Punkt Untergruppe	. . of the platinum group metals, iron group metals or copper [2]
B01J 31/30	3-Punkt Untergruppe	. . . Halides [2]
B01J 31/32	2-Punkt Untergruppe	. . of manganese, technetium or rhenium [2]
B01J 31/34	2-Punkt Untergruppe	. . of chromium, molybdenum or tungsten [2]
B01J 31/36	2-Punkt Untergruppe	. . of vanadium, niobium or tantalum [2]
B01J 31/38	2-Punkt Untergruppe	. . of titanium, zirconium or hafnium [2]
B01J 31/40	1-Punkt Untergruppe	. Regeneration or reactivation [2]
B01J 32/00	Hauptgruppe	Catalyst carriers in general [4]
B01J 33/00	Hauptgruppe	Protection of catalysts, e.g. by coating [2]
B01J 35/00	Hauptgruppe	Catalysts, in general, characterised by their form or physical properties [2]
B01J 35/02	1-Punkt Untergruppe	. Solids [2]
B01J 35/04	2-Punkt Untergruppe	. . Foraminous structures, sieves, grids, honeycombs [2]
B01J 35/06	2-Punkt Untergruppe	. . Fabrics or filaments [2]
B01J 35/08	2-Punkt Untergruppe	. . Spheres [2]
B01J 35/10	2-Punkt Untergruppe	. . characterised by their surface properties or porosity [2]
B01J 35/12	1-Punkt Untergruppe	. Liquids or melts [2]
B01J 37/00	Hauptgruppe	Processes, in general, for preparing catalysts; Processes, in general, for activation of catalysts [4]
B01J 37/02	1-Punkt Untergruppe	. Impregnation, coating or precipitation (protecting by coating B01J 33/00) [2]
B01J 37/025	2-Punkt Untergruppe	. . using a distinct intermediate layer, e.g. substrate-support-active layer [6]
B01J 37/03	2-Punkt Untergruppe	. . Precipitation; Co-precipitation [4]
B01J 37/04	1-Punkt Untergruppe	. Mixing [2]
B01J 37/06	1-Punkt Untergruppe	. Washing [2]
B01J 37/08	1-Punkt Untergruppe	. Heat treatment [2]
B01J 37/10	2-Punkt Untergruppe	. . in the presence of water, e.g. steam [2]
B01J 37/12	1-Punkt Untergruppe	. Oxidising [2]
B01J 37/14	2-Punkt Untergruppe	. . with gases containing free oxygen [2]
B01J 37/16	1-Punkt Untergruppe	. Reducing [2]
B01J 37/18	2-Punkt Untergruppe	. . with gases containing free hydrogen [2]
B01J 37/20	1-Punkt Untergruppe	. Sulfiding [2]
B01J 37/22	1-Punkt Untergruppe	. Halogenating [2]
B01J 37/24	2-Punkt Untergruppe	. . Chlorinating [2]
B01J 37/26	2-Punkt Untergruppe	. . Fluorinating [2]
B01J 37/28	1-Punkt Untergruppe	. Phosphorising [2]

Symbol	Typ	Titel
B01J 37/30	1-Punkt Untergruppe	. Ion-exchange [2]
B01J 37/32	1-Punkt Untergruppe	. Freeze drying, i.e. lyophilisation [2]
B01J 37/34	1-Punkt Untergruppe	. Irradiation by, or application of, electric, magnetic or wave energy, e.g. ultrasonic waves [2]
B01J 37/36	1-Punkt Untergruppe	. Biochemical methods [2]
B01J 38/00	Hauptgruppe	Regeneration or reactivation of catalysts, in general [4]
B01J 38/02	1-Punkt Untergruppe	. Heat treatment [4]
B01J 38/04	1-Punkt Untergruppe	. Gas or vapour treating; Treating by using liquids vaporisable upon contacting spent catalyst [4]
B01J 38/06	2-Punkt Untergruppe	. . using steam [4]
B01J 38/08	2-Punkt Untergruppe	. . using ammonia or derivatives thereof [4]
B01J 38/10	2-Punkt Untergruppe	. . using elemental hydrogen [4]
B01J 38/12	2-Punkt Untergruppe	. . Treating with free oxygen-containing gas [4]
B01J 38/14	3-Punkt Untergruppe	. . . with control of oxygen content in oxidation gas [4]
B01J 38/16	3-Punkt Untergruppe	. . . Oxidation gas comprising essentially steam and oxygen [4]
B01J 38/18	3-Punkt Untergruppe	. . . with subsequent reactive gas treating [4]
B01J 38/20	3-Punkt Untergruppe	. . . Plural distinct oxidation stages [4]
B01J 38/22	3-Punkt Untergruppe	. . . Moving bed, e.g. vertically or horizontally moving bulk [4]
B01J 38/24	4-Punkt Untergruppe	 having mainly transverse, i.e. lateral, flow of oxygen-containing gas and material [4]
B01J 38/26	4-Punkt Untergruppe	 having mainly counter-current flow of oxygen-containing gas and material [4]
B01J 38/28	4-Punkt Untergruppe	 having mainly concurrent flow of oxygen-containing gas and material [4]
B01J 38/30	3-Punkt Untergruppe	. . . in gaseous suspension, e.g. fluidised bed [4]
B01J 38/32	4-Punkt Untergruppe	 Indirectly heating or cooling material within regeneration zone or prior to entry into regeneration zone [4]
B01J 38/34	4-Punkt Untergruppe	 with plural distinct serial combustion stages [4]
B01J 38/36	4-Punkt Untergruppe	 and with substantially complete oxidation of carbon monoxide to carbon dioxide within regeneration zone [4]
B01J 38/38	3-Punkt Untergruppe	. . . and adding heat by solid heat carrier [4]
B01J 38/40	3-Punkt Untergruppe	. . . and forming useful by-products [4]
B01J 38/42	2-Punkt Untergruppe	. . using halogen-containing material [4]
B01J 38/44	3-Punkt Untergruppe	. . . and adding simultaneously or subsequently free oxygen; using oxyhalogen compound [4]
B01J 38/46	3-Punkt Untergruppe	. . . fluorine-containing [4]
B01J 38/48	1-Punkt Untergruppe	. Liquid treating or treating in liquid phase, e.g. dissolved or suspended [4]
B01J 38/50	2-Punkt Untergruppe	. . using organic liquids [4]
B01J 38/52	3-Punkt Untergruppe	. . . oxygen-containing [4]

Symbol	Typ	Titel
B01J 38/54	3-Punkt Untergruppe	. . . halogen-containing [4]
B01J 38/56	3-Punkt Untergruppe	. . . Hydrocarbons [4]
B01J 38/58	3-Punkt Untergruppe	. . . and gas addition thereto [4]
B01J 38/60	2-Punkt Untergruppe	. . using acids [4]
B01J 38/62	3-Punkt Untergruppe	. . . organic [4]
B01J 38/64	2-Punkt Untergruppe	. . using alkaline material; using salts [4]
B01J 38/66	3-Punkt Untergruppe	. . . using ammonia or derivatives thereof [4]
B01J 38/68	2-Punkt Untergruppe	. . including substantial dissolution or chemical precipitation of a catalyst component in the ultimate reconstitution of the catalyst [4]
B01J 38/70	2-Punkt Untergruppe	. . Wet oxidation of material submerged in liquid [4]
B01J 38/72	1-Punkt Untergruppe	. including segregation of diverse particles [4]
B01J 38/74	1-Punkt Untergruppe	. utilising ion-exchange [4]
		<u>Ion-exchange (treatment of milk A23C 9/14; separation by ion-exchangers B01D, e.g. separation of liquids by ion-exchange adsorbents B01D 15/04, chromatography involving ion-exchange B01D 15/36; separation of isotopes B01D 59/00; compounds per se, see the relevant classes, e.g. C01, C07, C08; treatment of water C02F 1/42; refining of hydrocarbon oils, in the absence of hydrogen, with solid sorbents C10G 25/00; purification of sugar juices C13D 3/14; extraction of sugar from molasses C13J 1/06; extraction of metal compounds from ores or concentrates by wet processes C22B 3/00; using ion-exchange for investigating or analysing materials G01N 30/96; treating radioactively contaminated material G21F 9/12) [3]</u>
B01J 39/00	Hauptgruppe	<i>Cation exchange ; Use of material as cation exchangers ; Treatment of material for improving the cation exchange properties (ion-exchange chromatography processes B01D 15/36) [3, 2006.01]</i>
B01J 39/02	1-Punkt Untergruppe	. Processes using inorganic exchangers [3]
B01J 39/04	1-Punkt Untergruppe	. Processes using organic exchangers [3]
B01J 39/06	Gelöscht	(transferred to B01J 39/26)
B01J 39/08	1-Punkt Untergruppe	. Use of material as cation exchangers; Treatment of material for improving the cation exchange properties [3]
B01J 39/10	2-Punkt Untergruppe	. . Oxides or hydroxides [3]
B01J 39/12	2-Punkt Untergruppe	. . Compounds containing phosphorus [3]
B01J 39/14	2-Punkt Untergruppe	. . Base exchange silicates, e.g. zeolites [3]
B01J 39/16	2-Punkt Untergruppe	. . Organic material [3]
B01J 39/18	3-Punkt Untergruppe	. . . Macromolecular compounds [3]
B01J 39/20	4-Punkt Untergruppe	 Macromolecular compounds obtained by reactions only involving unsaturated carbon-to-carbon bonds [3]
B01J 39/22	4-Punkt Untergruppe	 Cellulose or wood; Derivatives thereof [3]
B01J 39/24	2-Punkt Untergruppe	. . Carbon, coal or tar [3]
B01J 39/26	1-Punkt Untergruppe	. Cation exchangers for chromatographic processes [2006.01]
B01J 41/00	Hauptgruppe	<i>Anion exchange ; Use of material as anion exchangers ; Treatment of material for improving the anion exchange properties (ion-exchange chromatography processes B01D 15/36) [3, 2006.01]</i>

Symbol	Typ	Titel
B01J 41/02	1-Punkt Untergruppe	. Processes using inorganic exchangers [3]
B01J 41/04	1-Punkt Untergruppe	. Processes using organic exchangers [3]
B01J 41/06	Gelöscht	(transferred to B01J 41/20)
B01J 41/08	1-Punkt Untergruppe	. Use of material as anion exchangers; Treatment of material for improving the anion exchange properties [3]
B01J 41/10	2-Punkt Untergruppe	. . Inorganic material (carbon, coal or tar B01J 41/18) [3]
B01J 41/12	2-Punkt Untergruppe	. . Macromolecular compounds [3]
B01J 41/14	3-Punkt Untergruppe	. . . Macromolecular compounds obtained by reactions only involving unsaturated carbon-to-carbon bonds [3]
B01J 41/16	3-Punkt Untergruppe	. . . Cellulose or wood; Derivatives thereof [3]
B01J 41/18	2-Punkt Untergruppe	. . Carbon, coal or tar [3]
<i>B01J 41/20</i>	<i>1-Punkt Untergruppe</i>	<i>. Anion exchangers for chromatographic processes [2006.01]</i>
B01J 43/00	Hauptgruppe	<i>Amphoteric ion-exchange, i.e. using ion-exchangers having cationic and anionic groups ; Use of material as amphoteric ion-exchangers ; Treatment of material for improving their amphoteric ion-exchange properties (ion-exchange chromatography processes B01D 15/36) [3, 2006.01]</i>
B01J 45/00	Hauptgruppe	<i>Ion-exchange in which a complex or a chelate is formed ; Use of material as complex or chelate forming ion-exchangers ; Treatment of material for improving the complex or chelate forming ion-exchange properties (ion-exchange chromatography processes B01D 15/36) [3, 2006.01]</i>
B01J 47/00	Hauptgruppe	<i>Ion-exchange processes in general ; Apparatus therefor (ion-exchange chromatography processes or apparatus B01D 15/08) [3, 2006.01]</i>
B01J 47/02	1-Punkt Untergruppe	. Column or bed processes [3]
B01J 47/04	2-Punkt Untergruppe	. . Mixed-bed processes [3]
B01J 47/06	2-Punkt Untergruppe	. . during which the ion-exchange material is subjected to a physical treatment, e.g. heat, electric current, irradiation, vibration (electrodialysis, electro-osmosis B01D 61/42) [3]
B01J 47/08	3-Punkt Untergruppe	. . . subjected to a direct electric current [3]
B01J 47/10	1-Punkt Untergruppe	. with moving ion-exchange material; with ion-exchange material in suspension or in fluidised-bed form [3]
B01J 47/12	1-Punkt Untergruppe	. characterised by the use of ion-exchange material in the form of sheets, ribbons or filaments, e.g. membranes (electrodialysis, electro-osmosis B01D 61/42) [3]
B01J 47/14	1-Punkt Untergruppe	. Controlling or regulating [3]
B01J 49/00	Hauptgruppe	<i>Regeneration or reactivation of ion-exchangers ; Apparatus therefor (ion-exchange chromatography processes or apparatus B01D 15/08) [3, 2006.01]</i>
B01J 49/02	1-Punkt Untergruppe	. having devices which prevent back-flow of the ion-exchange mass during regenerating [3]