CPC COOPERATIVE PATENT CLASSIFICATION

D TEXTILES; PAPER

TEXTILES OR FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

D06 TREATMENT OF TEXTILES OR THE LIKE; LAUNDERING; FLEXIBLE MATERIALS NOT OTHERWISE PROVIDED FOR

D06M TREATMENT, NOT PROVIDED FOR ELSEWHERE IN CLASS D06, OF FIBRES, THREADS, YARNS, FABRICS, FEATHERS OR FIBROUS GOODS MADE FROM SUCH MATERIALS

NOTES

1. In each of the groups D06M 11/00 - D06M 15/00, in the absence of an indication to the contrary, a substance is classified in the last appropriate place.
2. Within each one of main groups D06M 11/00 - D06M 15/00, a mixture of substances is classified at least according to the essential ingredient. If more than one ingredient is essential, the mixture is classified, in the absence of an indication to the contrary, according to the essential ingredient which belongs to the last appropriate place in the sequence of substances;
3. Treatment by mixtures of substances covered by two or more of main groups D06M 11/00 - D06M 15/00 is classified in each appropriate main group.
4. In this subclass, the treatment of textiles, not provided for elsewhere in class D06, is classified according to the following principles:
   • Treatment of textiles characterised by the treating agent in groups D06M 11/00 - D06M 16/00;
   • Treatment of textiles characterised by the process in group D06M 23/00.

WARNING

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

7/00 {Treating fibres, threads, yarns, fabrics, or fibrous goods made of other substances with subsequent freeing of the treated goods from the treating medium, e.g. swelling, e.g. polyolefins (D06M 10/00 takes precedence; treating fibres or filaments made of glass, mineral-, or slag wool C03C; carbon fibres D01F 11/10) }
7/005 . {made of asbestos}
10/00 Physical treatment of fibres, threads, yarns, fabrics, or fibrous goods made from such materials, e.g. ultrasonic, corona discharge, irradiation, electric currents, or magnetic fields; Physical treatment combined with treatment with chemical compounds or elements

10/001 . {Treatment with visible light, infra-red or ultraviolet, X-rays}
10/003 . {Treatment with radio-waves or microwaves}
10/005 . {Laser beam treatment}
10/006 . {Ultra-high-frequency heating}
10/008 . {Treatment with radioactive elements or with neutrons, alpha, beta or gamma rays}
10/02 . ultrasonic or sonic; Corona discharge
10/025 . . {Corona discharge or low temperature plasma}
10/04 . Physical treatment combined with treatment with chemical compounds or elements (graft polymerisation using wave energy or particle radiation D06M 14/18 ; treatment with radioactive elements D06M 10/008)}
10/06 . . Inorganic compounds or elements
10/08 . . Organic compounds
10/10 . . . Macromolecular compounds
11/00 Treating fibres, threads, yarns, fabrics or fibrous goods made from such materials, with inorganic substances or complexes thereof; Such treatment combined with mechanical treatment, e.g. mercerising (D06M 10/00 takes precedence)

NOTES

1. If a compound used in the treatment is characterised by its cation, it is classified in group D06M 11/00; metallisation by treatment with a metal salt, followed by reduction, is classified in group D06M 11/83.
2. In this group, the following term is used with the meaning indicated:
   • "treatment" means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g. treatment with barium sulfate can mean treatment with barium chloride and with sulfuric acid in two separate steps
11/01 . with hydrogen, water or heavy water; with hydrides of metals or complexes thereof; with boranes, diboranes, silanes, disilanes, phosphines, diphosphines, stibines, distibines, arsines, or diarsines or complexes thereof
11/05 . . with water, e.g. steam; with heavy water
11/07 . with halogens; with halogen acids or salts thereof; with oxides or oxyacids of halogens or salts thereof
11/09 . with free halogens or interhalogen compounds
11/11 . with halogen acids or salts thereof
11/13 . Ammonium halides or halides of elements of Groups 11 or 11 of the Periodic System
11/15 . Halides of elements of Groups 2 or 12 of the Periodic System
11/17 . Halides of elements of Groups 3 or 13 of the Periodic System
11/20 . Halides of elements of Groups 4 or 14 of the Periodic System, e.g. zirconyl chloride
11/22 . Halides of elements of Groups 5 or 15 of the Periodic System
11/24 . Halides of elements of Groups 6 or 16 of the Periodic System, e.g. chromyl chloride
11/26 . Halides of elements of Group 7 of the Periodic System (interhalogen compounds D06M 11/09)
11/28 . Halides of elements of Groups 8, 9, 10 or 18 of the Periodic System
11/30 . with oxides of halogens, oxyacids of halogens or their salts, e.g. with perchlorates
11/32 . with oxygen, ozone, ozonides, oxides, hydroxides or peroxides; Salts derived from anions with an amphoteric element-oxygen bond (with water or heavy water D06M 11/05; with oxides or oxyacids of halogens D06M 11/30)
11/34 . with oxygen, ozone or ozonides
11/36 . with oxides, hydroxides or mixed oxides; with salts derived from anions with an amphoteric element-oxygen bond
11/38 . Oxides or hydroxides of elements of Groups 1 or 11 of the Periodic System
11/385 . . . . [Saponification of cellulose-acetate]
11/40 . . . . combined with, or in absence of, mechanical tension, e.g. slack mercerising
11/42 . . . . Oxides or hydroxides of copper, silver or gold
11/44 . . Oxides or hydroxides of elements of Groups 2 or 12 of the Periodic System; Zincates; Cadmates
11/45 . . Oxides or hydroxides of elements of Groups 3 or 13 of the Periodic System; Aluminates
11/46 . . Oxides or hydroxides of elements of Groups 4 or 14 of the Periodic System; Titanates; Zirconates; Stamates; Plumbates
11/47 . . Oxides or hydroxides of elements of Groups 5 or 15 of the Periodic System; Vanadates; Niobates; Tantalates; Arsenates; Antimonates; Bismuthates
11/48 . . Oxides or hydroxides of chromium, molybdenum or tungsten; Chromates; Dichromates; Molybdates; Tungstates
11/485 . . . . [Oxides or hydroxides of manganese; Manganates (permanganates D06M 11/50)]
11/49 . . Oxides or hydroxides of elements of Groups 8, 9, 10 or 18 of the Periodic System; Ferrates; Cobaltes; Nickelates; Ruthenates; Osmates; Rhodates; Iridates; Palladates; Platinites
11/50 . . with hydrogen peroxide or peroxides of metals; with persulfuric, permanganic, pernitric, percarbonic acids or their salts
11/51 . with sulfur, selenium, tellurium, polonium or compounds thereof (with persulfuric acids or their salts D06M 11/50)
11/52 . with selenium, tellurium, polonium or their compounds; with sulfur, dithionites or compounds containing sulfur and halogens, with or without oxygen; by sulfohalogenation with chlorosulfonic acid; by sulfohalogenation with a mixture of sulfur dioxide and free halogens
11/53 . with hydrogen sulfide or its salts; with polysulfides
11/54 . with sulfur dioxide; with sulfurous acid or its salts (D06M 11/52 takes precedence)
11/55 . with sulfur trioxide; with sulfuric acid or thiosulfuric acid or their salts
11/56 . . . Sulfates or thiosulfates other than of elements of Groups 3 or 13 of the Periodic System
11/57 . . . Sulfates or thiosulfates of elements of Groups 3 or 13 of the Periodic System, e.g. alums
11/58 . with nitrogen or compounds thereof, e.g. with nitrates (with ammonium halides D06M 11/13)
11/59 . . with ammonia; with complexes of organic amines with inorganic substances
11/60 . . . Ammonia as a gas or in solution
11/61 . . . Liquid ammonia
11/62 . . . Complexes of metal oxides or complexes of metal salts with ammonia or with organic amines
11/63 . . with hydroxylamine or hydrazine
11/64 . . with nitrogen oxides; with oxyacids of nitrogen or their salts (with pernitric acids or their salts D06M 11/50)
11/65 . . . Salts of oxynitrogen acid
11/66 . . . with sulfamic acid or its salts
11/67 . . . with cyanogen or compounds thereof, e.g. with cyanhydric acid, cyanic acid, isocyanic acid, thiocyanic acid, isothiocyanic acid or their salts, or with cyanamides; with carbamic acid or its salts (with dicyanamides D06M 13/3432)
11/68 . . with phosphorus or compounds thereof, e.g. with chlorophosphonic acid or salts thereof (with phosphines or diphosphenes D06M 11/01; with selenium or tellurium compounds D06M 11/52; with polyphosphazene or derivatives thereof D06M 15/673)
11/69 . . with phosphorus; with halides or oxyhalides of phosphorus; with chlorophosphonic acid or its salts
11/70 . . . with oxides of phosphorus; with hypophosphorous, phosphorus or phosphoric acids or their salts
11/71 . . . Salts of phosphoric acids
11/72 . . . with metaphosphoric acids or their salts; with polyphosphoric acids or their salts; with perphosphoric acids or their salts
11/73 . . with carbon or compounds thereof (D06M 11/67 takes precedence)
11/74 . . with carbon or graphite; with carbides; with graphic acids or their salts
11/75 . . with phosgene; with compounds containing both carbon and sulfur, e.g. thiophosgene (with thiocyanic acid D06M 11/67; with thiocarbamic acid D06M 13/425; with thiourea D06M 13/432)
NOTE
In this group the following term is used with the meaning indicated:

- "treatment" means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g. treatment with chloroacetic acid can mean treatment with chloroacetylcyanohydrin and saponification in two separate steps.

13/207 . . . Substituted carboxylic acids, e.g. by hydroxy or keto groups; Anhydrides, halides or salts thereof
13/221 . . . Halogenated carboxylic acids; Anhydrides, halides or salts thereof
13/217 . . . Polyoxyalkylene glycol ethers with a terminal carboxyl group; Anhydrides, halides or salts thereof
13/224 . . . Esters of carboxylic acids; Esters of carboxylic acid
13/2243 . . . [Mono-, di-, or triglycerides]
13/2246 . . . [Esters of unsaturated carboxylic acids]
13/228 . . . Cyclic esters, e.g. lactones
13/232 . . . Organic carbonates
13/236 . . . containing halogen atoms
13/238 . . . Tannins, e.g. gallotannic acids
13/244 . . . with compounds containing sulfur or phosphorus
13/248 . . . with compounds containing sulfur
13/352 . . . Mercaptans, thiophenols, sulfides or polysulfides, e.g. mercapto acetic acid; Sulfonium compounds
13/256 . . . Sulfonated compounds {esters thereof, e.g. sulfoates}
13/262 . . . Sulfated compounds {thiosulfates}
13/265 . . . containing halogen atoms
13/268 . . . Sulfones
13/272 . . . Unsaturated compounds containing sulfur atoms
13/275 . . . Vinylthioethers
13/278 . . . Vinylsulfonium compounds; Vinylsulfone or vinylsulfoxide compounds
13/282 . . . with compounds containing phosphorus
13/285 . . . Phosphines; Phosphine oxides; Phosphine sulfides; Phosphinic or phosphinous acids or derivatives thereof
13/288 . . . Phosphonic or phosphonous acids or derivatives thereof
13/29 . . . containing halogen atoms
13/292 . . . Mono-, di- or triesters of phosphoric or phosphorous acids; Salts thereof
13/295 . . . containing polyglycol moieties; containing neopentyl moieties
13/298 . . . containing halogen atoms

NOTE: With mechanical treatment

- A treatment means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g. treatment with chloroacetic acid can mean treatment with chloroacetylcyanohydrin and saponification in two separate steps.
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13/313 . . . Unsaturated compounds containing phosphorus atoms, e.g. vinylphosphonium compounds
13/322 . . . with compounds containing nitrogen
13/325 . . . Amines
13/3255 . . [Vinylamine; Allylamine]
13/328 . . . the amino group being bound to an acyclic or cycloaliphatic carbon atom
13/33 . . . containing halogen atoms
13/332 . . . Di- or polyamines
13/335 . . . having an amino group bound to a carbon atom of a six-membered aromatic ring
13/338 . . . Organic hydrazines; Hydrazinium compounds
13/342 . . . Amino-carboxylic acids; Betaines; Aminosulfonic acids; Sulfo-betaines
13/345 . . . Nitriles
13/348 . . . unsaturated, e.g. acrylonitrile
13/35 . . . Heterocyclic compounds
13/352 . . . having five-membered heterocyclic rings
13/355 . . . having six-membered heterocyclic rings
13/358 . . . Triazines
13/364 . . . Cyanuric acid; Isocyanuric acid; Derivatives thereof
13/368 . . . Hydroxylalkylamines; Derivatives thereof, e.g. Kritchevsky bases
13/372 . . . containing etherified or esterified hydroxy groups
[Polymers of low molecular weight]
13/376 . . . Oximes
13/382 . . . Aminooaldehydes
13/385 . . . containing epoxy groups
13/388 . . . Amine oxides
13/392 . . . Nitroso compounds; Nitro compounds
13/395 . . . Isocyanates
13/398 . . . containing fluorine atoms
13/402 . . . Amides [imides, sulfamic acids]
13/405 . . . Acylated polyalkylene polyamines
13/408 . . . Acylated amines containing fluorine atoms; Amides of perfluoro carboxylic acids
13/41 . . . Amides derived from unsaturated carboxylic acids, e.g. acrylamide
13/412 . . . N-methylolacrylamides
13/415 . . . Amides of aromatic carboxylic acids; Acylated aromatic amines
13/418 . . . Cyclic amides, e.g. lactams; Amides of oxalic acid
13/419 . . . Amides having nitrogen atoms of amide groups substituted by hydroxyalkyl or by etherified or esterified hydroxyalkyl groups
13/422 . . . Hydrazides
13/425 . . . Carbamic or thiocarbamic acids or derivatives thereof, e.g. urethanes (unsubstituted carbamic acid D06M 11/67)
13/428 . . . containing fluorine atoms
13/432 . . . Urea, thiourea or derivatives thereof, e.g. biurets; Urea-inclusion compounds; Dicyanamides; [Carbodiimides;] Guanidines, e.g. dicyandiamides
13/435 . . . Semicarbazides
13/438 . . . Sulfonamides [Sulfamic acids]
13/44 . . . containing nitrogen and phosphorus
13/447 . . . Phosphonates or phosphinates containing nitrogen atoms
13/453 . . . Phosphates or phosphites containing nitrogen atoms
13/46 . . . Compounds containing quaternary nitrogen atoms (hydrazinium compounds D06M 13/338; betaines, sulfo-betaines D06M 13/342)
13/461 . . . [Quaternised am-amides from polyamines or heterocyclic compounds or polyamino-acids]
13/463 . . . derived from monoamines
13/467 . . . derived from polyamines
13/47 . . . derived from heterocyclic compounds
13/473 . . . having five-membered heterocyclic rings
13/477 . . . having six-membered heterocyclic rings
13/48 . . . containing the ethylene imine ring
13/487 . . . Aziridinylphosphines; Aziridinylphosphine-oxides or sulfides; Carbonylaziridinyl or carbonylbisaziridinyl compounds; Sulfonylaziridinyl or sulfonylbisaziridinyl compounds
13/493 . . . perfluorinated
13/50 . . . with organometallic compounds; with organic compounds containing boron, silicon, selenium or tellurium atoms
13/503 . . . without bond between a carbon atom and a metal or a boron, silicon, selenium or tellurium atom
13/507 . . . Organic silicon compounds without carbon-silicon bond
13/51 . . . Compounds with at least one carbon-metal or carbon-boron, carbon-silicon, carbon-selenium, or carbon-tellurium bond
13/513 . . . with at least one carbon-silicon bond
13/515 . . . [Unsaturated compounds containing silicon atoms]
13/517 . . . containing silicon-halogen bonds
13/52 . . . combined with mechanical treatment
13/522 . . . [Fulling]
13/525 . . . Embossing; Calendering; Pressing
13/53 . . . Cooling; Steaming or heating, e.g. in fluidised beds; with molten metals
13/535 . . . Suction; Vacuum treatment; Degassing; Blowing

14/00 Graft polymerisation of monomers containing carbon-to-carbon unsaturated bonds on to fibres, threads, yarns, fabrics, or fibrous goods made from such materials (on to unshaped polymers C08F 251/00 - C08F 292/00)

14/02 . . . on to materials of natural origin (D06M 14/18 takes precedence)
14/04 . . . of vegetal origin, e.g. cellulose or derivatives thereof
14/06 . . . of animal origin, e.g. wool or silk
14/08 . . . on to materials of synthetic origin (D06M 14/18 takes precedence)
14/10 . . . of macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
14/12 . . . of macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
14/14 . . . Polymers
14/16 . . . Polymides
14/18 . . . using wave energy or particle radiation
14/20 . . . on to materials of natural origin
14/22 . . . of vegetal origin, e.g. cellulose or derivatives thereof
14/24 . . . of animal origin, e.g. wool or silk
14/26 . . . on to materials of synthetic origin
NOTE

In this group, the following term is used with the meaning indicated:

- "treatment" means, in the absence of an indication to the contrary, the treatment which leads to the end product, e.g.,
  - a. treatment with polyvinylalcohol can mean treatment with polyvinylacetate and subsequent saponification in a separate step
  - b. treatment with aminoplast can mean the delayed cure process or the treatment with precondensation products, or with e.g. urea and formaldehyde in two separate steps

15/00 Treating fibres, threads, yarns, fabrics, or fibrous goods made from such materials, with macromolecular compounds; Such treatment combined with mechanical treatment ([D06M 10/00, D06M 14/00 take precedence; [treatment with inorganic polyphosphates D06M 11/72])
Characterised by the process or fibrous goods made from such materials, Treatment of fibres, threads, yarns, fabrics. Producing multi-layer textile fabrics. Biochemical treatment of fibres, threads, yarns, fabrics, or fibrous goods made from such materials, e.g. enzymatic. Sugar containing polymers, Phosphorus containing polysaccharides. Polymers containing phosphorus in the main chain. Polymers containing nitrogen in the main chain. Synthetic fibres, other than mineral fibres. Natural fibres, other than mineral fibres. \[23/06\] Processes in which the treating agent is dispersed in a gas, e.g. aerosols (aerosol compositions C09K 3/30) \[23/08\] Processes in which the treating agent is applied in powder or granular form (adhesives for multi-layer textile fabrics D06M 17/00) \[23/10\] Processes in which the treating agent is dissolved or dispersed in organic solvents; Processes for the recovery of organic solvents thereof \[23/105\] (Processes in which the solvent is in a supercritical state) \[23/12\] Processes in which the treating agent is incorporated in microcapsules (making microcapsules B01J 13/02) \[23/14\] Processes for the fixation or treatment of textile materials in three-dimensional forms \[23/16\] Processes for the non-uniform application of treating agents, e.g. one-sided treatment; Differential treatment \[23/18\] for the chemical treatment of borders of fabrics or knittings; for the thermal or chemical fixation of cuttings, seams or fibre ends

**2010/00** Chemical constitution of the fibres, threads, yarns, fabrics or fibrous goods made from such materials, to be treated

**NOTES**

1. This subclass constitutes an internal scheme for indexing only.
2. The indexing codes relate to the fibres to be treated and are to be used with the groups D06M 11/00, D06M 13/00, D06M 15/00, D06M 16/00 and D06M 23/00

**Examples:**
- the swelling of cellulose with alkaline hydroxides is classified and indexed in D06M 11/38 // D06M 2101/06
- the treatment of cellulose with amines is classified and indexed in D06M 13/325 // D06M 2101/06
- the treatment of polyester fibres with polyester is classified and indexed in D06M 15/507 // D06M 2101/32
- the treatment of wool with pepsin is classified and indexed in D06M 1600 // D06M 2101/12
- the treatment of cellulose with silicon tetrachloride in the form of a foam is classified and indexed in D06M 11/78, D06M 23/04 // D06M 2101/06

**NOTE**

Blends of fibres are indexed according to each constituent fibre

**2010/005** [Asbestos fibres]
| 2101/18 | Synthetic fibres consisting of macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds |
| 2101/20 | Polyalkenes, polymers or copolymers of compounds with alkenyl groups bonded to aromatic groups |
| 2101/22 | Polymers or copolymers of halogenated monolefins |
| 2101/24 | Polymers or copolymers of alkenylalcohols or esters thereof; Polymers or copolymers of alkenylethers, acetals or ketones |
| 2101/26 | Polymers or copolymers of unsaturated carboxylic acids or derivatives thereof |
| 2101/28 | Acrylonitrile; Methacrylonitrile |
| 2101/30 | Synthetic polymers consisting of macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds |
| 2101/32 | Polymers |
| 2101/34 | Polyamides |
| 2101/36 | Aromatic polyamides |
| 2101/38 | Polyurethanes |
| 2101/40 | Fibres of carbon |

2200/00 | Functionality of the treatment composition and/or properties imparted to the textile material |
| 2200/01 | Stain or soil resistance |
| 2200/05 | Lotus effect |
| 2200/10 | Repellency against liquids |
| 2200/11 | Oleophobic properties |
| 2200/12 | Hydrophobic properties |
| 2200/20 | Treatment influencing the crease behaviour, the wrinkle resistance, the crease recovery or the ironing ease |
| 2200/25 | Resistance to light or sun, i.e. protection of the textile itself as well as UV shielding materials or treatment compositions therefor; Anti-yellowing treatments |
| 2200/30 | Flame or heat resistance, fire retardancy properties |
| 2200/35 | Abrasion, pilling or fibrillation resistance |
| 2200/40 | Reduced friction resistance, lubricant properties; Sizing compositions |
| 2200/45 | Shrinking resistance, anti-felting properties |
| 2200/50 | Modified hand or grip properties; Softening compositions |

2400/00 | Specific information on the treatment or the process itself not provided in D06M 23/00-D06M 23/18 |
| 2400/01 | Creating covalent bondings between the treating agent and the fibre |
| 2400/02 | Treating compositions in the form of solgel or aerogel |