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 11/101)}
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 1 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; Cobaltates; Nickelates; Ruthenates; Osmates; Rhodates; Iridates; Palladates; Platinumates
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 sulfahalogenation with chlorosulfonic acid; by sulfahalogenation 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 oxyacids of nitrogen
11/66 . . with sulfamic acid or its salts
11/67 . . with cyanogen or compounds thereof, e.g. with cyanohydric acid, cyanic acid, isocyanic acid, thiocyanic acid, isothiocyanic acid or their salts, or with cyanamides; with carbamic acid or its salts (with dicyanamides D06M 13/432)
11/68 . . with phosphorus or compounds thereof, e.g. with chlorophosphonic acid or salts thereof (with phosphines or diphosphines 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 oxylhalides 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 carbidies; with graphitic 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 chloroacetylchloride and saponification in two separate steps
13/313 . . . Unsaturated compounds containing phosphorus atoms, e.g. vinylphosphonium compounds
13/322 . . . with compounds containing nitrogen
13/325 . . . Amines
13/3255 . . . (Vinylamine; Allylamine)
13/329 . . . 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 . . . Hydroxyalkylamines; Derivatives thereof, e.g. Kritchevsky bases
13/372 . . . containing etherified or esterified hydroxy groups (Polyethers of low molecular weight)
13/376 . . . Oximes
13/382 . . . Aminoaldehydes
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 (imidic, 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 thiacarbamic 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; [Carboximidamides;] 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 amin-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
13/493 . . . perfluorinated
13/50 . . . with organometalic 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 . . . (Fullylling)
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 . . . Polymesters
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 with 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])

**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 with formaldehyde in two separate steps

15/01 with natural macromolecular compounds or derivatives thereof (with natural rubber or derivatives thereof D06M 15/693)
15/03 Polysaccharides or derivatives thereof
15/035 [Polymeric alcohol xanthates]
15/05 Cellulose or derivatives thereof
15/055 with the residual liquors derived of the sulfatic process for the preparation of cellulose
15/07 Cellulose esters
15/09 Cellulose ethers
15/11 Starch or derivatives thereof
15/13 Alginic acid or derivatives thereof
15/15 Proteins or derivatives thereof
15/155 [Treatment in the presence of salts derived from amphoteric metal hydroxides]
15/17 Natural resins, resinous alcohols, resinous acids, or derivatives thereof
15/19 with synthetic macromolecular compounds (with synthetic rubber D06M 15/693)
15/195 [sulfated or sulfonated]
15/21 Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
15/227 of hydrocarbons, or reaction products thereof, e.g. afterhalogenated or sulfochlorinated
15/233 aromatic, e.g. styrene
15/244 of halogenated hydrocarbons (afterhalogenated hydrocarbons D06M 15/227)
15/248 containing chlorine
15/252 containing bromine
15/256 containing fluorine
15/263 of unsaturated carboxylic acids; Salts or esters thereof
15/267 of unsaturated carboxylic esters having amino or quaternary ammonium groups
15/27 of alkylpolyalkylene glycol esters of unsaturated carboxylic acids
15/273 of unsaturated carboxylic esters of epoxy groups
15/2735 [of unsaturated carboxylic esters having mercapto groups]
15/277 containing fluoride
15/285 of unsaturated carboxylic acid amides or imides
15/29 containing a N-methylol group or an etherified N-methylol group; containing a N-aminomethylene group; containing a N-sulfonatedmethylenegroup
15/295 containing fluoride
15/31 of unsaturated nitriles
15/327 of unsaturated alcohols or esters thereof
15/33 Esters containing fluoride
15/333 of vinyl acetate; Polyvinylalcohol
15/3335 [fluorinated]
15/347 of unsaturated ethers, acetal, hemiacetals, ketones or aldehydes
15/353 containing fluoride
15/356 of other unsaturated compounds containing nitrogen, sulfur, silicon or phosphorus atoms
15/3562 [containing nitrogen]
15/3564 [containing phosphorus]
15/3566 [containing sulfur]
15/3568 [containing silicon]
15/37 Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
15/39 Aldehyde resins; Ketone resins; Polycetals
15/41 Phenol-aldehyde or phenol-ketone resins
15/412 [sulfonated]
15/415 modified by compounds containing phosphorus
15/423 Amino-aldehyde resins
15/427 modified by alkoxylated compounds or alkylene oxides
15/429 modified by compounds containing sulfur
15/43 modified by phosphorus compounds
15/431 by phosphines or phosphine oxides; by oxides or salts of the phosphonium radical
15/432 by phosphonic acids or derivatives thereof
15/433 by phosphoric acids
15/437 containing fluoride
15/45 Use of special catalysts
15/507 Polymers
15/5075 [containing sulfonic groups]
15/51 Unsaturated polymerisable polymers
15/513 Polycarbonates
15/53 Polymers (polycetals D06M 15/39)
15/535 Polymers
15/55 Epoxy resins
15/555 modified by compounds containing phosphorus
15/564 Polyureas, polyurethanes or other polymers having ureide or urethane links; Precondensation products forming them
15/568 Reaction products of isocyanates with polyethers
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 13/32 // D06M 2101/06
- the treatment of polyester fibres with polyester is classified and indexed in D06M 15/00 // 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.

2101/00 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 13/32 // D06M 2101/06
- the treatment of polyester fibres with polyester is classified and indexed in D06M 15/00 // 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.

2101/005 [Asbestos fibres]

NOTE
Blends of fibres are indexed according to each constituent fibre

2101/02 Natural fibres, other than mineral fibres
2101/04 Vegetal fibres
2101/06 cellulose
2101/08 . . . . . Esters or ethers of cellulose
2101/10 . . . . . Animal fibres
2101/12 . . . . Keratin fibres or silk
2101/14 . . . . . Collagen fibres
2101/16 . . . . Synthetic fibres, other than mineral fibres
Synthetic fibres consisting of macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds

Polyalkenes, polymers or copolymers of compounds with alkenyl groups bonded to aromatic groups

Polymers or copolymers of halogenated monolefins

Polymers or copolymers of alkenylalcohols or esters thereof; Polymers or copolymers of alkenylethers, acetals or ketones

Polymers or copolymers of unsaturated carboxylic acids or derivatives thereof

Acrylonitrile; Methacrylonitrile

Synthetic polymers consisting of macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds

Polyesters

Polyamides

Aromatic polyamides

Polyurethanes

Fibres of carbon

Functionality of the treatment composition and/or properties imparted to the textile material

Stain or soil resistance

Lotus effect

Repellency against liquids

Oleophobic properties

Hydrophobic properties

Treatment influencing the crease behaviour, the wrinkle resistance, the crease recovery or the ironing ease

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

Flame or heat resistance, fire retardancy properties

Abrasion, pilling or fibrillation resistance

Reduced friction resistance, lubricant properties; Sizing compositions

Shrinking resistance, anti-felting properties

Modified hand or grip properties; Softening compositions

Specific information on the treatment or the process itself not provided in D06M 23/00-D06M 23/18

Creating covalent bondings between the treating agent and the fibre

Treating compositions in the form of solgel or aerogel