COOPERATIVE PATENT CLASSIFICATION

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 (surface treatment of fibres or filaments from glass, minerals or slags {also in the form of fabrics if the chemical aspects of the treatment are important} C03C 25/00; treatment of textiles by mechanical means, see D06B - D06J

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 treatment 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 ultra-violet, 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; decorating textiles by local treatment D06Q 1/00)

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
### D06M 11/00

#### continued

<table>
<thead>
<tr>
<th>Class 11/01</th>
<th>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</th>
</tr>
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<tbody>
<tr>
<td>Class 11/05</td>
<td>with water, e.g. steam; with heavy water</td>
</tr>
<tr>
<td>Class 11/07</td>
<td>with halogens; with halogen acids or salts thereof; with oxides or oxyacids of halogens or salts thereof</td>
</tr>
<tr>
<td>Class 11/09</td>
<td>with free halogens or interhalogen compounds</td>
</tr>
<tr>
<td>Class 11/11</td>
<td>with halogen acids or salts thereof</td>
</tr>
<tr>
<td>Class 11/13</td>
<td>Ammonium halides or halides of elements of Groups 1 or 11 of the Periodic System</td>
</tr>
<tr>
<td>Class 11/155</td>
<td>Halides of elements of Groups 2 or 12 of the Periodic System</td>
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<tr>
<td>Class 11/17</td>
<td>Halides of elements of Groups 3 or 13 of the Periodic System</td>
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<tr>
<td>Class 11/20</td>
<td>Halides of elements of Groups 4 or 14 of the Periodic System; e.g. zirconyl chloride</td>
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<tr>
<td>Class 11/22</td>
<td>Halides of elements of Groups 5 or 15 of the Periodic System</td>
</tr>
<tr>
<td>Class 11/24</td>
<td>Halides of elements of Groups 6 or 16 of the Periodic System; e.g. chromyl chloride</td>
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<tr>
<td>Class 11/26</td>
<td>Halides of elements of Group 7 of the Periodic System (interhalogen compounds D06M 11/09)</td>
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<tr>
<td>Class 11/28</td>
<td>Halides of elements of Groups 8, 9, 10 or 18 of the Periodic System</td>
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<tr>
<td>Class 11/30</td>
<td>with oxides of halogens, oxyacids of halogens or their salts, e.g. with perchlorates</td>
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<tr>
<td>Class 11/32</td>
<td>with oxygen, ozone, ozonides, oxides, hydroxides or percompounds; 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; bleaching D06L)</td>
</tr>
<tr>
<td>Class 11/34</td>
<td>with oxygen, ozone or ozonides</td>
</tr>
<tr>
<td>Class 11/36</td>
<td>with oxides, hydroxides or mixed oxides; with salts derived from anions with an amphoteric element-oxygen bond</td>
</tr>
<tr>
<td>Class 11/38</td>
<td>Oxides or hydroxides of elements of Groups 1 or 11 of the Periodic System (producing patterns by locally destroying or modifying the fibres by chemical action D06Q 1/02)</td>
</tr>
<tr>
<td>Class 11/385</td>
<td>Saponification of cellulose-acetate</td>
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<tr>
<td>Class 11/40</td>
<td>combined with, or in absence of, mechanical tension, e.g. slack mercerising</td>
</tr>
<tr>
<td>Class 11/42</td>
<td>Oxides or hydroxides of copper, silver or gold</td>
</tr>
<tr>
<td>Class 11/44</td>
<td>Oxides or hydroxides of elements of Groups 2 or 12 of the Periodic System; Zincates; Cadmates</td>
</tr>
<tr>
<td>Class 11/45</td>
<td>Oxides or hydroxides of elements of Groups 3 or 13 of the Periodic System; Aluminates</td>
</tr>
<tr>
<td>Class 11/46</td>
<td>Oxides or hydroxides of elements of Groups 4 or 14 of the Periodic System; Titanates; Zirconates; Stannates; Plumbates</td>
</tr>
<tr>
<td>Class 11/47</td>
<td>Oxides or hydroxides of elements of Groups 5 or 15 of the Periodic System; Vanadates; Niobates; Tantalates; Arsenates; Antimonates; Bismuthates</td>
</tr>
<tr>
<td>Class 11/48</td>
<td>Oxides or hydroxides of chromium, molybdenum or tungsten; Chromates; Dichromates; Molybdates; Tungstates</td>
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</tbody>
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#### Chloride and with sulfuric acid in two separate steps

| Class 11/45 | Oxides or hydroxides of elements of Groups 8, 9, 10 or 18 of the Periodic System; Ferrates; Cobalates; Nickelates; Ruthenates; Osmates; Rhodates; Iridates; Palladates; Platinites |
| Class 11/50 | with hydrogen peroxide or peroxides of metals; with persulfuric, permanganic, permiritic, percarbonylic or their salts |
| Class 11/51 | with sulfur, selenium, tellurium, polonium or their compounds thereof (with persulfuric acids or their salts D06M 11/50) |
| Class 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 chromosulfonic acid; by sulfurization with a mixture of sulfur dioxide and free halogens |
| Class 11/53 | with hydrogen sulfide or its salts; with polysulfides |
| Class 11/54 | with sulfur dioxide; with sulfurous acid or its salts (D06M 11/52 takes precedence) |
| Class 11/55 | with sulfur trioxide; with sulfuric acid or thiosulfuric acid or their salts |
| Class 11/56 | Sulfates or thiosulfates other than of elements of Groups 3 or 13 of the Periodic System |
| Class 11/57 | Sulfates or thiosulfates of elements of Groups 3 or 13 of the Periodic System; e.g. alums |
| Class 11/58 | with nitrogen or compounds thereof, e.g. with nitrates (with ammonium halides D06M 11/13) |
| Class 11/59 | with ammonia; with complexes of organic amines with inorganic substances |
| Class 11/60 | Ammonia as a gas or in solution |
| Class 11/61 | Liquid ammonia |
| Class 11/62 | Complexes of metal oxides or complexes of metal salts with ammonia or with organic amines |
| Class 11/63 | with hydroxylamine or hydrazine |
| Class 11/64 | with nitrogen oxides; with oxyacids of nitrogen or their salts (with pernitric acids or their salts D06M 11/50) |
| Class 11/65 | Salts of oxycydrates of nitrogen |
| Class 11/66 | with sulfamic acid or its salts |
| Class 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) |
| Class 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) |
| Class 11/69 | with phosphorus; with halides or oxysalts of phosphorus; with chlorophosphonic acid or its salts |
| Class 11/70 | with oxides of phosphorus; with hypophosphorous, phosphorous or phosphoric acids or their salts |
| Class 11/71 | Salts of phosphoric acid |
| Class 11/72 | with metaphosphoric acids or their salts; with polyphosphoric acids or their salts; with perphosphoric acids or their salts |
with mechanical treatment
substances D06M 11/59
D06M 14/00
macromolecular organic compounds
goods made from such materials, with non-
Treating fibres, threads, yarns, fabrics or fibrous
) take precedence; treatment with
.
with compounds containing
sulfur or phosphorus
containing halogen atoms
containing halogen atoms
with carbon or compounds thereof (D06M 11/67
takes precedence)
with carbon or graphite; with carbides; with
graphitic acids or their salts
with phosphene; with compounds containing
both carbon and sulfur, e.g. thiophosphene (with
thiocyanic acid D06M 11/67; with thiocarbamic
acid D06M 13/425; with thiourea D06M 13/432)
with carbon oxides or carbonates (D06M 11/75
takes precedence; with percarbonic acids or their
salts D06M 11/50: with urea D06M 13/432)
with silicon or compounds thereof (with silanes or
disilanes D06M 11/01)
with silicon; with halides or oxyhalides of silicon;
with fluorosilicates
with silicon dioxide, silicic acids or their salts
with boron or compounds thereof, e.g. borides (with
boranes or diboranes D06M 11/01; with boron
carbides D06M 11/74)
with boron; with boron halides; with
fluoroborates
with boron oxides; with boron; with boron halides;
with boronic acids or their salts, e.g. with borax
with metals; with metal-generating compounds, e.g.
metal carboxyls; Reduction of metal compounds on
textiles (decorating textiles by locally metallising
D06Q 1/04)
combined with mechanical treatment (combined
with mechanical tension, e.g. mercerising
D06M 11/40)

13/00 Treating fibres, threads, yarns, fabrics or fibrous
goods made from such materials, with non-
macromolecular organic compounds (D06M 10/00,
D06M 14/00 take precedence; treatment with
complexes of organic amines with inorganic
substances D06M 11/59); Such treatment combined
with mechanical treatment

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
chloroacetychloride and saponification in two
separate steps

13/005 • [Compositions containing perfumes; Compositions
containing deodorants]
13/02 • with hydrocarbons
13/03 • with unsaturated hydrocarbons, e.g. alkenes, or
alkynes
13/07 • Aromatic hydrocarbons
13/08 • with halogenated hydrocarbons
13/085 • [cycloaliphatic]
13/10 • with compounds containing oxygen
13/11 • Compounds containing epoxy groups or
precursors thereof
13/12 • Aldehydes; Ketones
13/123 • Polyaldehydes; Polyketones
13/127 • Mono-aldehydes, e.g. formaldehyde;
Monoketones
13/13 • Unsaturated aldehydes, e.g. acrolein;
Unsaturated ketones; Ketenes {; Diketenes}
13/133 • Halogenated aldehydes; Halogenated ketones {;
Halogenated ketenes}
13/137 • Acetals, e.g. formals, or ketals
13/144 • Alcohols; Metal alcoholates (D06M 13/11 takes
precedence)
13/148 • Polyalcohols, e.g. glycerol [or glucose]
13/152 • having a hydroxy group bound to a carbon atom
of a six-membered aromatic ring
13/156 • containing halogen atoms
13/165 • Ethers (D06M 13/1 takes precedence)
13/17 • Polyoxymethylene glycols ethers
13/175 • Unsatuated ethers, e.g. vinyl ethers
13/184 • Carboxylic acids; Anhydrides, halides or salts
thereof
13/1845 • [Aromatic mono- or polycarboxylic acids]
13/188 • Monocarboxylic acids; Anhydrides, halides
or salts thereof (D06M 13/1845 takes
precedence]}
13/192 • Polycarboxylic acids; Anhydrides, halides or
salts thereof (D06M 13/1845 takes
precedence]}
13/196 • Percarboxylic acids; Anhydrides, halides or
salts thereof
13/203 • Unsatuated carboxylic acids; Anhydrides,
halides or salts thereof
13/2035 • [Aromatic acids]
13/207 • Substituted carboxylic acids, e.g. by hydroxy
or keto groups; Anhydrides, halides or salts
thereof
13/21 • Halogenated carboxylic acids; Anhydrides,
halides or salts thereof
13/213 • [Perfluoroalkyl carboxylic acids;
Anhydrides, halides or salts thereof
13/217 • Polyoxymethylene glycols ethers with a terminal
carbonyl 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
13/252 • Mercaptans, thiophenols, sulfides or
poly sulfides, e.g. mercapto acetic acid;
Sulfonium compounds
13/256 • Sulfonated compounds [esters thereof, e.g.
sultones]
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
with compounds containing nitrogen atoms

- Nitroso compounds; Nitro compounds
- Amines
- Amino-carboxylic acids; Betaines; Aminosulfonic acids; Sulfo-betaines
- Nitriles

- unsaturated, e.g. acrylonitrile

- Heterocyclic compounds
- having five-membered heterocyclic rings
- having six-membered heterocyclic rings
- Triazoles
- Cyanuric acid; Isocyanuric acid; Derivatives thereof
- Hydroxyalkylamines; Derivatives thereof, e.g. Kritchevsky bases

- containing etherified or esterified hydroxy groups (Polyethers of low molecular weight)

- Oximes
- Aminoaldehydes
- containing epoxy groups
- Amine oxides
- Nitroso compounds; Nitro compounds
- Isocyanates

- containing fluorne atoms

- Amides (imides, sulfamic acids)
- Acylated polyalkylene polyamines
- Acylated amines containing fluorne atoms; Amides of perfluoro carboxylic acids

- Amides derived from unsaturated carboxylic acids, e.g. acrylamide
- N-methylolacrylamides
- Amides of aromatic carboxylic acids; Acylated aromatic amines

- Cyclic amides, e.g. lactams; Amides of oxalic acid

- Amides having nitrogen atoms of amide groups substituted by hydroxalkyl or by etherified or esterified hydroxalkyl groups

- Hydrazides

- Carbamic or thiocarbamic acids or derivatives thereof, e.g. urethanes (unsubstituted carbamic acid D06M 11/67)

- containing fluorne atoms
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)

15/01 with natural macromolecular compounds or derivatives thereof (with natural rubber or derivatives thereof D06M 15/693)

15/03 Polysaccharides or derivatives thereof

15/05 Cellulose or derivatives thereof

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)
Producing multi-layer textile fabrics
by applying cellulose derivatives as adhesives

19/00 Treatment of feathers

23/00 Treatment of fibres, threads, yarns, fabrics
or fibrous goods made from such materials,
characterised by the process

23/005 . [Applying monomolecular films on textile products
like fibres, threads or fabrics]
23/02 . Processes in which the treating agent is releasably
affixed or incorporated into a dispensing means
23/04 . Processes in which the treating agent is applied in
the form of a foam
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; decorating
textiles D06Q)
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 (decorating textiles D06Q)
23/18 . (for the chemical treatment of borders of fabrics or
knittings; for the thermal or chemical fixation of
cuttings, seams or fibre ends

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 13/22 //
D06M 2101/06
• the treatment of polyester fibres with polyester
is classified and indexed in D06M 15/807 //
D06M 2101/32
• the treatment of wool with pepsin is classified
and indexed in D06M 16/00 // D06M 2101/12
• the treatment of cellulose with silicobenzoyl
chloride in the form of a foam is classified
NOTES

Blends of fibres are indexed according to each constituent fibre

2101/02 . Natural fibres, other than mineral fibres
2101/06 . . . cellulosic
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
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 alkanyl groups bonded to aromatic groups
2101/22 . . . Polymers or copolymers of halogenated monomolesins
2101/24 . . . Polymers or copolymers of alkenealcohols 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 . . . Polysters
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