

# CPC COOPERATIVE PATENT CLASSIFICATION

## C CHEMISTRY; METALLURGY

(NOTES omitted)

### CHEMISTRY

## C08 ORGANIC MACROMOLECULAR COMPOUNDS; THEIR PREPARATION OR CHEMICAL WORKING-UP; COMPOSITIONS BASED THEREON

### C08J WORKING-UP; GENERAL PROCESSES OF COMPOUNDING; AFTER-TREATMENT NOT COVERED BY SUBCLASSES [C08B](#), [C08C](#), [C08F](#), [C08G](#) (mechanical aspects [B29](#); layered products, manufacture thereof [B32B](#); treatment of macromolecular material specially adapted to enhance its filling properties in mortars, concrete or artificial stone [C04B 16/04](#), [C04B 18/20](#), [C04B 20/00](#); treatment of textiles [D06](#))

#### NOTES

1. This subclass covers processes, not covered by subclasses [C08B](#) - [C08H](#), for treating polymers.  
In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place.
2. When classifying in subclass [C08J](#), the treatment of specific polymers is indicated using indexing codes chosen from [C08J 2300/00](#) or subgroups thereof.  
Example:
  - Preparation of particles of polystyrene by impregnation of the particles with the blowing agent: [C08J 9/18](#) and [C08J 2325/06](#).
3. The use of a polymeric component in minority, e.g. masterbatch, coating, impregnating agent or thin binder is indicated using indexing codes chosen from [C08J 2400/00](#) or subgroups thereof.  
Examples:
  - Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/10](#)
  - Bonding of polystyrene by heating: [C08J 5/121](#) and [C08J 2325/06](#)
  - Coating of a polyethylene substrate with a polyurethane coating: [C08J 7/0427](#) and [C08J 2323/06](#) and [C08J 2475/04](#)
  - Use of ABS as an additive for foamed polyacrylamide : [C08J 9/0061](#) and [C08J 2333/26](#) and [C08J 2455/02](#)
4. In the following subgroups, the codes of [C08J 2300/00](#) - [C08J 2399/00](#) are used to specify:
  - [C08J 3/226](#): the polymeric material to which the masterbatch carrier is added.
  - [C08J 7/0427](#): the polymeric substrate to be coated.
  - [C08J 9/0061](#): the polymeric component in majority in a multicomponents foamable blend.
5. Group [C08J 2400/00](#) was introduced on January 1st, 2012. Patent documents are continuously being reclassified. As a consequence, documents published before 01/01/2012, and to which [C08J 2400/00](#) indexing codes were allocated, are indexed in the corresponding head group.  
Example:
  - Use of PMMA as masterbatch in a polystyrene composition: [C08J 3/226](#) and [C08J 2325/06](#) and [C08J 2433/00](#), instead of [C08J 2433/10](#).
6. In the following subgroups, the codes of [C08J 2400/00](#) - [C08J 2499/00](#) are used to specify:
  - [C08J 3/226](#): the polymeric carrier in a masterbatch.
  - [C08J 5/12](#): the chemical nature of the adhesive
  - [C08J 7/0427](#): the chemical nature of the coating(s).
  - [C08J 9/0061](#): the polymeric component in minority in a multicomponents foamable blend.
  - [C08J 9/224](#), [C08J 9/236](#), [C08J 9/36](#), [C08J 9/40](#) and [C08J 9/42](#): the polymer used for coating, binding, or impregnating the foam. [C08J 9/26](#): the polymer to be leached out.
  - [C08J 9/33](#) and [C08J 9/35](#): the foam fragments included in the (foamable) polymer matrix.
  - in all other subgroups, when the presence of a polymeric component in minority is of relevance.

#### WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
 

<a href="#">C08J 5/14</a>	covered by	<a href="#">B24D 3/22</a> , <a href="#">B24D 3/28</a> , <a href="#">F16D 69/02</a>
<a href="#">C08J 5/16</a>	covered by	<a href="#">C10N 2050/14</a>

C08J  
(continued) 2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

- 3/00 Processes of treating or compounding macromolecular substances**
- 3/005 . {Processes for mixing polymers}
  - 3/02 . Making solutions, dispersions or lattices by other methods than by solution, emulsion or suspension polymerisation techniques
    - 3/03 . . in aqueous media
    - 3/05 . . . from solid polymers
    - 3/07 . . . from polymer solutions
    - 3/075 . . . Macromolecular gels
    - 3/09 . . in organic liquids
    - 3/091 . . . {characterised by the chemical constitution of the organic liquid}
    - 3/092 . . . . {Hydrocarbons}
    - 3/093 . . . . {Halogenated hydrocarbons}
    - 3/095 . . . . {Oxygen containing compounds}
    - 3/096 . . . . {Nitrogen containing compounds}
    - 3/097 . . . . {Sulfur containing compounds}
    - 3/098 . . . . {Other compounds}
    - 3/11 . . . from solid polymers
    - 3/12 . Powdering or granulating {(preparation of active ingredients, e.g. medical preparations in form of capsules [A61K 9/51](#); making granules [B29B 9/00](#))}
    - 3/122 . . {Pulverisation by spraying}
    - 3/124 . . {Treatment for improving the free-flowing characteristics (agglomerates, granulates or microbeadlets [A61K 9/16](#); process or devices for granulating material, e.g. non-sticking properties [B01J 2/30](#); auxiliary treatment of particle [B29B 9/16](#))}
    - 3/126 . . {Polymer particles coated by polymer, e.g. core shell structures (process or devices for granulating material, e.g. coating [B01J 2/003](#))}
    - 3/128 . . {Polymer particles coated by inorganic and organic compounds (macromolecules [C08J 3/126](#))}
    - 3/14 . . by precipitation from solutions {([C08J 3/122](#) takes precedence)}
    - 3/16 . . by coagulating dispersions {([C08J 3/122](#) takes precedence; treatment of polymer emulsion, e.g. coagulation [C08F 6/22](#))}
    - 3/18 . Plasticising macromolecular compounds (plasticisers [C08K](#))
    - 3/20 . Compounding polymers with additives, e.g. colouring
      - 3/201 . . {Pre-melted polymers}
      - 3/203 . . {Solid polymers with solid and/or liquid additives}
      - 3/205 . . in the presence of a {continuous} liquid phase
      - 3/2053 . . . {the additives only being premixed with a liquid phase}
      - 3/2056 . . . . {the polymer being pre-melted}
      - 3/21 . . . the polymer being premixed with a liquid phase
      - 3/212 . . . . {and solid additives}
      - 3/215 . . . . at least one additive being also premixed with a liquid phase
      - 3/22 . . using masterbatch techniques
      - 3/223 . . . {Packed additives}
      - 3/226 . . . {using a polymer as a carrier}
    - 3/24 . Crosslinking, e.g. vulcanising, of macromolecules (mechanical aspects [B29C 35/00](#); crosslinking agents [C08K](#) ; crosslinking aspects not classifiable in [C08G](#), [C08F](#), [C08K](#); compounding [C08J 3/20](#))}
    - 3/241 . . {Preventing premature crosslinking by physical separation of components, e.g. encapsulation (of other ingredients [C08K 9/00](#))}
    - 3/242 . . {Applying crosslinking or accelerating agent onto compounding ingredients such as fillers, reinforcements}
    - 3/243 . . {Two or more independent types of crosslinking for one or more polymers}
    - 3/244 . . {Stepwise homogeneous crosslinking of one polymer with one crosslinking system, e.g. partial curing}
    - 3/245 . . {Differential crosslinking of one polymer with one crosslinking type, e.g. surface crosslinking}
    - 3/246 . . {Intercrosslinking of at least two polymers}
    - 3/247 . . {Heating methods}
    - 3/248 . . {Measuring crosslinking reactions}
    - 3/26 . . of latex
    - 3/28 . Treatment by wave energy or particle radiation

**5/00 Manufacture of articles or shaped materials containing macromolecular substances (shaping of foodstuffs [A23P](#); manufacture of semi-permeable membranes [B01D 67/00](#) - [B01D 71/00](#); mechanical features, see the relevant classes, e.g. [B29](#))**

    - 5/005 . {Reinforced macromolecular compounds with nanosized materials, e.g. nanoparticles, nanofibres, nanotubes, nanowires, nanorods or nanolayered materials (use of ingredients characterised by shape [C08K 7/00](#); nanotechnology for materials and surface science [B82Y 30/00](#))}
    - 5/02 . Direct processing of dispersions, e.g. latex, to articles
    - 5/04 . Reinforcing macromolecular compounds with loose or coherent fibrous material (after-treatment of threads during manufacture [D01F](#); {finishing of textiles [D06M](#)})
      - 5/041 . . {with metal fibres}
      - 5/042 . . {with carbon fibres}
      - 5/043 . . {with glass fibres}
      - 5/044 . . {with other inorganic fibres}
      - 5/045 . . {with vegetable or animal fibrous material}
      - 5/046 . . {with synthetic macromolecular fibrous material}

**NOTE**

{ Note 2 following the title of subclass [C08J](#) may be applied }

    - 5/047 . . {with mixed fibrous material}
    - 5/048 . . . {Macromolecular compound to be reinforced also in fibrous form}
    - 5/06 . . using pretreated fibrous materials
    - 5/08 . . . glass fibres
    - 5/10 . . characterised by the additives used in the polymer mixture

- 5/12 . Bonding of a preformed macromolecular material to the same or other solid material such as metal, glass, leather, e.g. using adhesives {(mechanical aspects [B29C 65/00](#))}
- 5/121 . . {by heating}
- 5/122 . . {using low molecular chemically inert solvents, swelling or softening agents}
- 5/124 . . {using adhesives based on a macromolecular component (adhesive compositions [per se](#) [C09J 4/00](#), [C09J 101/00](#) - [C09J 201/00](#))}
- 5/125 . . . {Adhesives in organic diluents}
- 5/127 . . . {Aqueous adhesives}
- 5/128 . . . {Adhesives without diluent}
- 5/18 . Manufacture of films or sheets {(producing films or sheets [B29D 7/01](#); wrappers or flexible covers, packaging materials of special type or form [B65D 65/00](#) - [B65D 65/466](#); shaping by stretching characterized by the choice of materials [B29C 55/005](#); layered products essentially comprising synthetic resin [B32B 27/00](#) - [B32B 27/42](#))}
- 5/20 . Manufacture of shaped structures of ion-exchange resins {(use of macromolecular compounds as cation exchangers [B01J 39/20](#); use of macromolecular compounds as anion exchangers [B01J 41/14](#))}
- 5/22 . . Films, membranes, or diaphragms {(ion-exchange in general, [B01J 39/18](#) - [B01J 39/22](#), [B01J 41/12](#) - [B01J 41/16](#), [B01J 43/00](#), [B01J 45/00](#), [B01J 47/12](#) - [B01J 49/00](#); fuel cells with polymeric electrolyte material [H01M 8/1018](#))}

#### NOTES

1. {Membranes of which at least the ion-exchanging parts are inorganic, i.e. mixtures of non polymeric ion exchange compounds, e.g. inorganic salts, and at least one polymer are classified in [C08J 5/22](#); membranes based on cellulose are classified in [C08J 5/2212](#).}
2. Methods for incorporating reinforcement supports or filling bodies are classified in [C08J 5/2206](#) (the support or filling body has no ion exchange activity).
3. Groups, e.g.  $\text{SO}_2\text{F}$ , which do not have ion-exchanging properties, but which may, by simple hydrolysis in an alkaline, neutral or acid medium, be transformed into ion-exchanging groups, e.g.  $\text{SO}_2\text{H}$ , are considered as such.
4. Ion-exchanging fibrous fabrics are considered as heterogeneous membranes and are classified in [C08J 5/2275](#); they include composite membranes, mixtures of two or more (ion exchange) polymers.
5. Membranes obtained by homogeneous melting or from a solution are considered as homogeneous, even if the membrane contains (after solidification of the melt or the solution) heterogeneous elements, e.g. filling bodies, supports e.g. in the form of fabrics, or the like, i.e. the ion exchange resin forms the membrane.
6. Reactions which change the nature of the ion-exchanging groups, introduction of ion-exchanging groups, after-treatment (membrane

has already been formed) are classified in [C08J 5/2287](#).

7. Quaternising reactions are not considered as after-treatments.

- 5/2206 . . . {based on organic and/or inorganic macromolecular compounds}
- 5/2212 . . . . {Natural macromolecular compounds}
- 5/2218 . . . . {Synthetic macromolecular compounds}
- 5/2225 . . . . . {containing fluorine}
- 5/2231 . . . . . {based on macromolecular compounds obtained by reactions involving unsaturated carbon-to-carbon bonds}
- 5/2237 . . . . . {containing fluorine}
- 5/2243 . . . . . {obtained by introduction of active groups capable of ion-exchange into compounds of the type [C08J 5/2231](#)}
- 5/225 . . . . . {containing fluorine}
- 5/2256 . . . . . {based on macromolecular compounds obtained by reactions other than those involving carbon-to-carbon bonds, e.g. obtained by polycondensation}
- 5/2262 . . . . . {containing fluorine}
- 5/2268 . . . . . {based on macromolecular compounds obtained by reactions involving unsaturated carbon-to-carbon bonds, and by reactions not involving this type of bond}
- 5/2275 . . . . . {Heterogeneous membranes}
- 5/2281 . . . . . {fluorine containing heterogeneous membranes}
- 5/2287 . . . {After-treatment}
- 5/2293 . . . . {After-treatment of fluorine-containing membranes}
- 5/24 . Impregnating materials with prepolymers which can be polymerised *in situ*, e.g. manufacture of prepreps
- 7/00** **Chemical treatment or coating of shaped articles made of macromolecular substances** (coating with metallic material [C23C](#); electrolytic deposition of metals [C25](#))
- 7/02 . with solvents, e.g. swelling agents
- 7/04 . Coating

#### WARNING

Group [C08J 7/04](#) is impacted by reclassification into groups [C08J 7/043](#), [C08J 7/044](#), [C08J 7/046](#), [C08J 7/048](#), [C08J 7/05](#), [C08J 7/052](#), [C08J 7/054](#), and [C08J 7/056](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/042 . . {with two or more layers, where at least one layer of a composition contains a polymer binder}

#### WARNING

Group [C08J 7/042](#) is impacted by reclassification into groups [C08J 7/043](#) - [C08J 7/056](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/0423 . . . {with at least one layer of inorganic material and at least one layer of a composition containing a polymer binder}

**WARNING**

Group [C08J 7/0423](#) is impacted by reclassification into groups [C08J 7/043](#) - [C08J 7/056](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/0427 . . {with only one layer of a composition containing a polymer binder (with more layers [C08J 7/042](#))}

**WARNING**

Group [C08J 7/0427](#) is impacted by reclassification into groups [C08J 7/043](#) - [C08J 7/056](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/043 . . Improving the adhesiveness of the coatings per se, e.g. forming primers (adhesives in the form of films or foils characterised by the primer layers between the polymer carriers and the adhesives [C09J 7/50](#))

**WARNING**

Group [C08J 7/043](#) is incomplete pending reclassification of documents from groups [C08J 7/04](#), [C08J 7/042](#), [C08J 7/0423](#), [C08J 7/0427](#), [C08J 7/06](#), and [C08J 7/065](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/044 . . Forming conductive coatings; Forming coatings having anti-static properties

**WARNING**

Group [C08J 7/044](#) is incomplete pending reclassification of documents from groups [C08J 7/04](#), [C08J 7/042](#), [C08J 7/0423](#), [C08J 7/0427](#), [C08J 7/06](#), and [C08J 7/065](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/046 . . Forming abrasion-resistant coatings; Forming surface-hardening coatings

**WARNING**

Group [C08J 7/046](#) is incomplete pending reclassification of documents from groups [C08J 7/04](#), [C08J 7/042](#), [C08J 7/0423](#), [C08J 7/0427](#), [C08J 7/06](#), and [C08J 7/065](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/048 . . Forming gas barrier coatings

**WARNING**

Group [C08J 7/048](#) is incomplete pending reclassification of documents from groups [C08J 7/04](#), [C08J 7/042](#), [C08J 7/0423](#), [C08J 7/0427](#), [C08J 7/06](#), and [C08J 7/065](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/05 . . Forming flame retardant coatings or fire resistant coatings

**WARNING**

Group [C08J 7/05](#) is incomplete pending reclassification of documents from groups [C08J 7/04](#), [C08J 7/042](#), [C08J 7/0423](#), [C08J 7/0427](#), [C08J 7/06](#), and [C08J 7/065](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/052 . . Forming heat-sealable coatings

**WARNING**

Group [C08J 7/052](#) is incomplete pending reclassification of documents from groups [C08J 7/04](#), [C08J 7/042](#), [C08J 7/0423](#), [C08J 7/0427](#), [C08J 7/06](#), and [C08J 7/065](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/054 . . Forming anti-misting or drip-proofing coatings

**WARNING**

Group [C08J 7/054](#) is incomplete pending reclassification of documents from groups [C08J 7/04](#), [C08J 7/042](#), [C08J 7/0423](#), [C08J 7/0427](#), [C08J 7/06](#), and [C08J 7/065](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/056 . . Forming hydrophilic coatings

**WARNING**

Group [C08J 7/056](#) is incomplete pending reclassification of documents from groups [C08J 7/04](#), [C08J 7/042](#), [C08J 7/0423](#), [C08J 7/0427](#), [C08J 7/06](#), and [C08J 7/065](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 7/06 . . with compositions not containing macromolecular substances
- WARNING**
- Group [C08J 7/06](#) is impacted by reclassification into groups [C08J 7/043](#), [C08J 7/044](#), [C08J 7/046](#), [C08J 7/048](#), [C08J 7/05](#), [C08J 7/052](#), [C08J 7/054](#), and [C08J 7/056](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 7/065 . . . {Low-molecular-weight organic substances, e.g. absorption of additives in the surface of the article}
- WARNING**
- Group [C08J 7/065](#) is impacted by reclassification into groups [C08J 7/043](#), [C08J 7/044](#), [C08J 7/046](#), [C08J 7/048](#), [C08J 7/05](#), [C08J 7/052](#), [C08J 7/054](#), and [C08J 7/056](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 7/08 . {Heat treatment}
- 7/12 . Chemical modification
- 7/123 . . {Treatment by wave energy or particle radiation ([C08J 7/18](#) takes precedence; surface shaping of articles by plasma treatment [B29C 59/14](#), by wave energy or particle radiation [B29C 59/16](#))}
- 7/126 . . {Halogenation}
- 7/14 . . with acids, their salts or anhydrides
- 7/16 . . with polymerisable compounds
- 7/18 . . . using wave energy or particle radiation
- 9/00 Working-up of macromolecular substances to porous or cellular articles or materials; After-treatment thereof (mechanical aspects [B29C 44/00](#); foamed polymeric products of isocyanates or isothiocyanates characterised by the monomers or catalysts used [C08G 18/00](#))**
- NOTE**
- In groups [C08J 9/16](#) - [C08J 9/22](#), the following term is used with the meaning indicated:
- "expandable" includes also expanding, pre-expanded or expanded.
- {This Note corresponds to IPC Note (1) relating to [C08J 9/16](#) - [C08J 9/22](#).}
- 9/0004 . {Use of compounding ingredients, the chemical constitution of which is unknown, broadly defined, or irrelevant}
- 9/0009 . . {Phase change materials}
- 9/0014 . {Use of organic additives}
- 9/0019 . . {halogenated}
- 9/0023 . . {containing oxygen}
- 9/0028 . . {containing nitrogen}
- 9/0033 . . {containing sulfur}
- 9/0038 . . {containing phosphorus}
- 9/0042 . . {containing silicon}
- 9/0047 . . {containing boron}
- 9/0052 . . {Organo-metallic compounds}
- 9/0057 . . {containing antimony, arsenic, or bismuth}
- 9/0061 . {characterized by the use of several polymeric components}
- 9/0066 . {Use of inorganic compounding ingredients}
- 9/0071 . . {Nanosized fillers, i.e. having at least one dimension below 100 nanometers}
- 9/0076 . . . {Nanofibres}
- 9/008 . . . {Nanoparticles}
- 9/0085 . {Use of fibrous compounding ingredients ([C08J 9/0076](#) takes precedence)}
- 9/009 . {Use of pretreated compounding ingredients}
- 9/0095 . {Mixtures of at least two compounding ingredients belonging to different one-dot groups}
- 9/02 . using blowing gases generated by the reacting monomers or modifying agents during the preparation or modification of macromolecules
- 9/04 . using blowing gases generated by a previously added blowing agent
- 9/06 . . by a chemical blowing agent
- 9/065 . . . {Hydrides or carbides}
- 9/08 . . . developing carbon dioxide
- 9/10 . . . developing nitrogen {, the blowing agent being a compound containing a nitrogen-to-nitrogen bond}
- 9/101 . . . . {Agents modifying the decomposition temperature}
- 9/102 . . . . {Azo-compounds}
- 9/103 . . . . {Azodicarbonamide}
- 9/104 . . . . {Hydrazines; Hydrazides; Semicarbazides; Semicarbazones; Hydrazones; Derivatives thereof}
- 9/105 . . . . . {containing sulfur}
- 9/106 . . . . . {Azides}
- 9/107 . . . . . {Nitroso compounds}
- 9/108 . . . . . {in a heterocyclic ring containing at least one carbon atom}
- 9/12 . . by a physical blowing agent
- 9/122 . . . {Hydrogen, oxygen, CO<sub>2</sub>, nitrogen or noble gases}
- 9/125 . . . {Water, e.g. hydrated salts}
- 9/127 . . . {Mixtures of organic and inorganic blowing agents}
- 9/14 . . . organic
- 9/141 . . . . {Hydrocarbons}
- 9/142 . . . . {Compounds containing oxygen but no halogen atom}
- 9/143 . . . . {Halogen containing compounds}
- 9/144 . . . . . {containing carbon, halogen and hydrogen only}
- 9/145 . . . . . {only chlorine as halogen atoms}
- 9/146 . . . . . {only fluorine as halogen atoms}
- 9/147 . . . . . {containing carbon and halogen atoms only}
- 9/148 . . . . . {perfluorinated}
- 9/149 . . . . {Mixtures of blowing agents covered by more than one of the groups [C08J 9/141](#) - [C08J 9/143](#)}
- 9/16 . Making expandable particles
- 9/18 . . by impregnating polymer particles with the blowing agent
- 9/20 . . by suspension polymerisation in the presence of the blowing agent

9/22	• After-treatment of expandable particles; Forming foamed products	11/12	• • • by dry-heat treatment only ( <a href="#">destructive distillation of carbonaceous materials for production of gas, coke, tar or similar matters C10B</a> )
9/224	• • Surface treatment	11/14	• • • by treatment with steam or water
9/228	• • Forming foamed products	11/16	• • • by treatment with inorganic material ( <a href="#">C08J 11/14 takes precedence</a> )
9/232	• • • by sintering expandable particles	11/18	• • • by treatment with organic material
9/236	• • • using binding agents	11/20	• • • • by treatment with hydrocarbons or halogenated hydrocarbons
9/24	• by surface fusion and bonding of particles to form voids, e.g. sintering ( <a href="#">of expandable particles C08J 9/232</a> )	11/22	• • • • by treatment with organic oxygen-containing compounds
9/26	• by elimination of a solid phase from a macromolecular composition or article, e.g. leaching out	11/24	• • • • • containing hydroxyl groups
9/28	• by elimination of a liquid phase from a macromolecular composition or article, e.g. drying of coagulum	11/26	• • • • • containing carboxylic acid groups, their anhydrides or esters
9/283	• • {a discontinuous liquid phase emulsified in a continuous macromolecular phase}	11/28	• • • • by treatment with organic compounds containing nitrogen, sulfur or phosphorus
9/286	• • {the liquid phase being a solvent for the monomers but not for the resulting macromolecular composition, i.e. macroporous or macroreticular polymers}	99/00	<b>Subject matter not provided for in other groups of this subclass</b>
9/30	• by mixing gases into liquid compositions or plastisols, e.g. frothing with air	2201/00	<b>Foams characterised by the foaming process</b>
9/32	• from compositions containing microballoons, e.g. syntactic foams ( <a href="#">making microballoons B01J 13/02</a> )	2201/02	• characterised by mechanical pre- or post-treatments
9/33	• Agglomerating foam fragments, e.g. waste foam	2201/022	• • premixing or pre-blending a part of the components of a foamable composition, e.g. premixing the polyol with the blowing agent, surfactant and catalyst and only adding the isocyanate at the time of foaming
9/34	• Chemical features in the manufacture of articles consisting of a foamed macromolecular core and a macromolecular surface layer having a higher density than the core	2201/024	• • Preparation or use of a blowing agent concentrate, i.e. masterbatch in a foamable composition
9/35	• Composite foams, i.e. continuous macromolecular foams containing discontinuous cellular particles or fragments	2201/026	• • Crosslinking before or after foaming
9/36	• After-treatment	2201/028	• • Foaming by preparing of a high internal phase emulsion
9/365	• • {Coating}	2201/03	• • Extrusion of the foamable blend
9/38	• • Destruction of cell membranes	2201/032	• • Impregnation of a formed object with a gas ( <a href="#">expandable particles, e.g. polystyrene beads C08J 9/18</a> )
9/40	• • Impregnation	2201/034	• • Post-expanding of foam beads or sheets
9/405	• • • {with polymerisable compounds}	2201/036	• • Use of an organic, non-polymeric compound to impregnate, bind or coat a foam, e.g. fatty acid ester
9/42	• • • with macromolecular compounds	2201/038	• • Use of an inorganic compound to impregnate, bind or coat a foam, e.g. waterglass
11/00	<b>Recovery or working-up of waste materials</b> ( <a href="#">polymerisation processes involving purification or recycling of waste polymers or their depolymerisation products C08B, C08C, C08F, C08G, C08H; mechanical treatments B29</a> )	2201/04	• characterised by the elimination of a liquid or solid component, e.g. precipitation, leaching out, evaporation
11/02	• of solvents, plasticisers or unreacted monomers		<b>NOTE</b>
11/04	• of polymers		<a href="#">When the elimination is performed in several steps, only the first step is indicated using codes C08J 2201/042 - C08J 2201/0547</a>
11/06	• • without chemical reactions	2201/042	• • Elimination of an organic solid phase
11/08	• • • using selective solvents for polymer components ( <a href="#">working-up tar by extraction with selective solvents C10C 1/18; working-up pitch, asphalt, bitumen by selective extraction C10C 3/08</a> )	2201/0422	• • • containing oxygen atoms, e.g. saccharose
11/10	• • by chemically breaking down the molecular chains of polymers or breaking of crosslinks, e.g. devulcanisation ( <a href="#">depolymerisation to the original monomer C07</a> ; <a href="#">production of liquid hydrocarbon mixtures from rubber or rubber waste C10G 1/10</a> ; <a href="#">{depolymerisation of halogenated hydrocarbon polymers C07C 17/367; depolymerisation of polyesters, C07C 51/09, C07C 63/26; depolymerisation of polyamides C07D 201/12; depolymerisation of rubber C08C 19/08}</a> )	2201/0424	• • • containing halogen, nitrogen, sulphur or phosphorus atoms
11/105	• • • {by treatment with enzymes}	2201/044	• • Elimination of an inorganic solid phase
		2201/0442	• • • the inorganic phase being a metal, its oxide or hydroxide
		2201/0444	• • • Salts
		2201/0446	• • • • Elimination of NaCl only
		2201/046	• • Elimination of a polymeric phase
		2201/0462	• • • using organic solvents
		2201/0464	• • • using water or inorganic fluids
		2201/048	• • Elimination of a frozen liquid phase

- 2201/0482 . . . the liquid phase being organic
- 2201/0484 . . . the liquid phase being aqueous
- 2201/05 . . Elimination by evaporation or heat degradation of a liquid phase
- 2201/0502 . . . the liquid phase being organic
- 2201/0504 . . . the liquid phase being aqueous
- 2201/052 . . Inducing phase separation by thermal treatment, e.g. cooling a solution
- 2201/0522 . . . the liquid phase being organic
- 2201/0524 . . . the liquid phase being aqueous
- 2201/054 . . Precipitating the polymer by adding a non-solvent or a different solvent
- 2201/0542 . . . from an organic solvent-based polymer composition
- 2201/0543 . . . . the non-solvent being organic
- 2201/0544 . . . . the non-solvent being aqueous
- 2201/0545 . . . from an aqueous solvent-based polymer composition
- 2201/0546 . . . . the non-solvent being organic
- 2201/0547 . . . . the non-solvent being aqueous

#### **2203/00 Foams characterized by the expanding agent**

- 2203/02 . CO<sub>2</sub>-releasing, e.g. NaHCO<sub>3</sub> and citric acid
- 2203/04 . N<sub>2</sub> releasing, ex azodicarbonamide or nitroso compound
- 2203/06 . CO<sub>2</sub>, N<sub>2</sub> or noble gases
- 2203/08 . Supercritical fluid
- 2203/10 . Water or water-releasing compounds
- 2203/12 . Organic compounds only containing carbon, hydrogen and oxygen atoms, e.g. ketone or alcohol
- 2203/14 . Saturated hydrocarbons, e.g. butane; Unspecified hydrocarbons
- 2203/142 . . Halogenated saturated hydrocarbons, e.g. H<sub>3</sub>C-CF<sub>3</sub>
- 2203/144 . . . Perhalogenated saturated hydrocarbons, e.g. F<sub>3</sub>C-CF<sub>3</sub>
- 2203/146 . . Saturated hydrocarbons containing oxygen and halogen atoms, e.g. F<sub>3</sub>C-O-CH<sub>2</sub>-CH<sub>3</sub>
- 2203/16 . Unsaturated hydrocarbons
- 2203/162 . . Halogenated unsaturated hydrocarbons, e.g. H<sub>2</sub>C=CF<sub>2</sub>
- 2203/164 . . . Perhalogenated unsaturated hydrocarbons, e.g. F<sub>2</sub>C=CF<sub>2</sub>
- 2203/166 . . Unsaturated hydrocarbons containing oxygen and halogen atoms, e.g. F<sub>3</sub>C-O-CH=CH<sub>2</sub>
- 2203/18 . Binary blends of expanding agents
- 2203/182 . . of physical blowing agents, e.g. acetone and butane

#### **NOTE**

The blowing agents should be specified by using codes [C08J 2203/06](#) - [C08J 2203/166](#).

- 2203/184 . . of chemical foaming agent and physical blowing agent, e.g. azodicarbonamide and fluorocarbon

#### **NOTE**

The expanding agents should be specified by using codes [C08J 2203/02](#) - [C08J 2203/166](#).

- 2203/20 . Ternary blends of expanding agents

- 2203/202 . . of physical blowing agents

#### **NOTE**

The blowing agents should be specified by using codes [C08J 2203/02](#) - [C08J 2203/166](#).

- 2203/204 . . of chemical foaming agent and physical blowing agents

#### **NOTE**

The expanding agents should be specified by using codes [C08J 2203/02](#) - [C08J 2203/166](#).

- 2203/22 . Expandable microspheres, e.g. Expancel®

#### **2205/00 Foams characterised by their properties**

- 2205/02 . the finished foam itself being a gel or a gel being temporarily formed when processing the foamable composition
- 2205/022 . . Hydrogel, i.e. a gel containing an aqueous composition
- 2205/024 . . Organogel, i.e. a gel containing an organic composition
- 2205/026 . . Aerogel, i.e. a supercritically dried gel
- 2205/028 . . Xerogel, i.e. an air dried gel
- 2205/04 . characterised by the foam pores
- 2205/042 . . Nanopores, i.e. the average diameter being smaller than 0,1 micrometer
- 2205/044 . . Micropores, i.e. average diameter being between 0,1 micrometer and 0,1 millimeter
- 2205/046 . . Unimodal pore distribution
- 2205/048 . . Bimodal pore distribution, e.g. micropores and nanopores coexisting in the same foam
- 2205/05 . . Open cells, i.e. more than 50% of the pores are open
- 2205/052 . . Closed cells, i.e. more than 50% of the pores are closed
- 2205/06 . Flexible foams
- 2205/08 . Semi-flexible foams
- 2205/10 . Rigid foams

#### **2207/00 Foams characterised by their intended use**

- 2207/02 . Adhesive
- 2207/04 . Aerosol, e.g. polyurethane foam spray
- 2207/06 . Electrical wire insulation
- 2207/10 . Medical applications, e.g. biocompatible scaffolds
- 2207/12 . Sanitary use, e.g. diapers, napkins or bandages

#### **Characterizing the main polymer used in a working-up process**

##### **2300/00 Characterised by the use of unspecified polymers**

- 2300/10 . Polymers characterised by the presence of specified groups, e.g. terminal or pendant functional groups
- 2300/102 . . containing halogen atoms
- 2300/104 . . containing oxygen atoms
- 2300/105 . . . containing carboxyl groups
- 2300/106 . . containing nitrogen atoms
- 2300/108 . . containing hydrolysable silane groups
- 2300/12 . Polymers characterised by physical features, e.g. anisotropy, viscosity or electrical conductivity
- 2300/14 . Water soluble or water swellable polymers, e.g. aqueous gels
- 2300/16 . Biodegradable polymers
- 2300/20 . Polymers characterized by their physical structure
- 2300/202 . . Dendritic macromolecules, e.g. dendrimers or hyperbranched polymers

2300/204	. . Supramolecular materials	2309/08	. . Latex
2300/206	. . Star polymers	2309/10	. Latex ( <a href="#">C08J 2309/04</a> , <a href="#">C08J 2309/08</a> take precedence)
2300/208	. . Interpenetrating networks [IPN]	<b>2311/00</b>	<b>Characterised by the use of homopolymers or copolymers of chloroprene</b>
2300/21	. . Polyrotaxanes; Polycatenanes	2311/02	. Latex
2300/22	. Thermoplastic resins	<b>2313/00</b>	<b>Characterised by the use of rubbers containing carboxyl groups</b>
2300/24	. Thermosetting resins	2313/02	. Latex
2300/26	. Elastomers	<b>2315/00</b>	<b>Characterised by the use of rubber derivatives</b> ( <a href="#">C08J 2311/00</a> , <a href="#">C08J 2313/00</a> takes precedence)
2300/30	. Polymeric waste or recycled polymer	2315/02	. Rubber derivatives containing halogen
<b>2301/00</b>	<b>Characterised by the use of cellulose, modified cellulose or cellulose derivatives</b>	<b>2317/00</b>	<b>Characterised by the use of reclaimed rubber</b>
2301/02	. Cellulose; Modified cellulose	<b>2319/00</b>	<b>Characterised by the use of rubbers not provided for in groups <a href="#">C08J 2307/00</a> - <a href="#">C08J 2317/00</a></b>
2301/04	. Oxycellulose; Hydrocellulose	2319/02	. Latex
2301/06	. Cellulose hydrate	<b>2321/00</b>	<b>Characterised by the use of unspecified rubbers</b>
2301/08	. Cellulose derivatives	2321/02	. Latex
2301/10	. . Esters of organic acids	<b>2323/00</b>	<b>Characterised by the use of homopolymers or copolymers of unsaturated aliphatic hydrocarbons having only one carbon-to-carbon double bond; Derivatives of such polymers</b>
2301/12	. . . Cellulose acetate	2323/02	. not modified by chemical after treatment
2301/14	. . Mixed esters	2323/04	. . Homopolymers or copolymers of ethene
2301/16	. . Esters of inorganic acids	2323/06	. . . Polyethene
2301/18	. . . Cellulose nitrate	2323/08	. . . Copolymers of ethene ( <a href="#">C08J 2323/16</a> takes precedence)
2301/20	. . Esters of both organic acids and inorganic acids	2323/10	. . Homopolymers or copolymers of propene
2301/22	. . Cellulose xanthate	2323/12	. . . Polypropene
2301/24	. . . Viscose	2323/14	. . . Copolymers of propene ( <a href="#">C08J 2323/16</a> takes precedence)
2301/26	. . Cellulose ethers	2323/16	. . Ethene-propene or ethene-propene-diene copolymers
2301/28	. . . Alkyl ethers	2323/18	. . Homopolymers or copolymers of hydrocarbons having four or more carbon atoms
2301/30	. . . Aryl ethers; Aralkyl ethers	2323/20	. . . having four to nine carbon atoms
2301/32	. . Cellulose ether-esters	2323/22	. . . . Copolymers of isobutene; butyl rubber
<b>2303/00</b>	<b>Characterised by the use of starch, amylose or amylopectin or of their derivatives or degradation products</b>	2323/24	. . . having ten or more carbon atoms
2303/02	. Starch; Degradation products thereof, e.g. dextrin	2323/26	. modified by chemical after-treatment
2303/04	. Starch derivatives	2323/28	. . by reaction with halogens or halogen-containing compounds ( <a href="#">C08J 2323/32</a> takes precedence)
2303/06	. . Esters	2323/30	. . by oxidation
2303/08	. . Ethers	2323/32	. . by reaction with phosphorus- or sulfur-containing compounds
2303/10	. . Oxidised starch	2323/34	. . . by chlorosulfonation
2303/12	. Amylose; Amylopectin; Degradation products thereof	2323/36	. . by reaction with nitrogen-containing compounds, e.g. by nitration
2303/14	. Amylose derivatives; Amylopectin derivatives	<b>2325/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an aromatic carbocyclic ring; Derivatives of such polymers</b>
2303/16	. . Esters	2325/02	. Homopolymers or copolymers of hydrocarbons
2303/18	. . Ethers	2325/04	. . Homopolymers or copolymers of styrene
2303/20	. . Oxidised amylose; Oxidised amylopectin	2325/06	. . . Polystyrene
<b>2305/00</b>	<b>Characterised by the use of polysaccharides or of their derivatives not provided for in groups <a href="#">C08J 2301/00</a> or <a href="#">C08J 2303/00</a></b>	2325/08	. . . Copolymers of styrene ( <a href="#">C08J 2329/08</a> , <a href="#">C08J 2335/06</a> , <a href="#">C08J 2355/02</a> take precedence)
2305/02	. Dextran; Derivatives thereof	2325/10	. . . . with conjugated dienes
2305/04	. Alginic acid; Derivatives thereof		
2305/06	. Pectin; Derivatives thereof		
2305/08	. Chitin; Chondroitin sulfate; Hyaluronic acid; Derivatives thereof		
2305/10	. Heparin; Derivatives thereof		
2305/12	. Agar-agar; Derivatives thereof		
2305/14	. Hemicellulose; Derivatives thereof		
2305/16	. Cyclodextrin; Derivatives thereof		
<b>2307/00</b>	<b>Characterised by the use of natural rubber</b>		
2307/02	. Latex		
<b>2309/00</b>	<b>Characterised by the use of homopolymers or copolymers of conjugated diene hydrocarbons</b>		
2309/02	. Copolymers with acrylonitrile		
2309/04	. . Latex		
2309/06	. Copolymers with styrene		

- 2325/12 . . . . with unsaturated nitriles
- 2325/14 . . . . with unsaturated esters
- 2325/16 . . Homopolymers or copolymers of alkyl-substituted styrenes
- 2325/18 . Homopolymers or copolymers of aromatic monomers containing elements other than carbon and hydrogen
- 2327/00 Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a halogen; Derivatives of such polymers**
- 2327/02 . not modified by chemical after-treatment
- 2327/04 . . containing chlorine atoms
- 2327/06 . . . Homopolymers or copolymers of vinyl chloride
- 2327/08 . . . Homopolymers or copolymers of vinylidene chloride
- 2327/10 . . containing bromine or iodine atoms
- 2327/12 . . containing fluorine atoms
- 2327/14 . . . Homopolymers or copolymers of vinyl fluoride
- 2327/16 . . . Homopolymers or copolymers of vinylidene fluoride
- 2327/18 . . . Homopolymers or copolymers of tetrafluoroethylene
- 2327/20 . . . Homopolymers or copolymers of hexafluoropropene
- 2327/22 . modified by chemical after-treatment
- 2327/24 . . halogenated
- 2329/00 Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an alcohol, ether, aldehydo, ketonic, acetal, or ketal radical; Hydrolysed polymers of esters of unsaturated alcohols with saturated carboxylic acids; Derivatives of such polymer**
- 2329/02 . Homopolymers or copolymers of unsaturated alcohols ([C08J 2329/14 takes precedence](#))
- 2329/04 . . Polyvinyl alcohol; Partially hydrolysed homopolymers or copolymers of esters of unsaturated alcohols with saturated carboxylic acids
- 2329/06 . . Copolymers of allyl alcohol
- 2329/08 . . . with vinyl aromatic monomers
- 2329/10 . Homopolymers or copolymers of unsaturated ethers ([C08J 2335/08 takes precedence](#))
- 2329/12 . Homopolymers or copolymers of unsaturated ketones
- 2329/14 . Homopolymers or copolymers of acetals or ketals obtained by polymerisation of unsaturated acetals or ketals or by after-treatment of polymers of unsaturated alcohols
- 2331/00 Characterised by the use of copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an acyloxy radical of a saturated carboxylic acid, or carbonic acid, or of a haloformic acid (of hydrolysed polymers [C08J 2329/00](#))**
- 2331/02 . Characterised by the use of homopolymers or copolymers of esters of monocarboxylic acids
- 2331/04 . . Homopolymers or copolymers of vinyl acetate
- 2331/06 . Homopolymers or copolymers of esters of polycarboxylic acids
- 2331/08 . . of phthalic acid
- 2333/00 Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and only one being terminated by only one carboxyl radical, or of salts, anhydrides, esters, amides, imides, or nitriles thereof; Derivatives of such polymers**
- 2333/02 . Homopolymers or copolymers of acids; Metal or ammonium salts thereof
- 2333/04 . esters
- 2333/06 . . of esters containing only carbon, hydrogen, and oxygen, the oxygen atom being present only as part of the carboxyl radical
- 2333/08 . . . Homopolymers or copolymers of acrylic acid esters
- 2333/10 . . . Homopolymers or copolymers of methacrylic acid esters
- 2333/12 . . . . Homopolymers or copolymers of methyl methacrylate
- 2333/14 . . of esters containing halogen, nitrogen, sulfur, or oxygen atoms in addition to the carboxy oxygen
- 2333/16 . . . Homopolymers or copolymers of esters containing halogen atoms
- 2333/18 . Homopolymers or copolymers of nitriles
- 2333/20 . . Homopolymers or copolymers of acrylonitrile ([C08J 2355/02 takes precedence](#))
- 2333/22 . . Homopolymers or copolymers of nitriles containing four or more carbon atoms
- 2333/24 . Homopolymers or copolymers of amides or imides
- 2333/26 . . Homopolymers or copolymers of acrylamide or methacrylamide
- 2335/00 Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a carboxyl radical, and containing at least one other carboxyl radical in the molecule, or of salts, anhydrides, esters, amides, imides or nitriles thereof; Derivatives of such polymers**
- 2335/02 . Characterised by the use of homopolymers or copolymers of esters ([C08J 2335/06](#), [C08J 2335/08 take precedence](#))
- 2335/04 . Homopolymers or copolymers of nitriles ([C08J 2335/06](#), [C08J 2335/08 take precedence](#))
- 2335/06 . Copolymers with vinyl aromatic monomers
- 2335/08 . Copolymers with vinyl ethers
- 2337/00 Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a heterocyclic ring containing oxygen (of cyclic esters of polyfunctional acids [C08J 2331/00](#); of cyclic anhydrides of unsaturated acids [C08J 2335/00](#)); Derivatives of such polymers**

<b>2339/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a single or double bond to nitrogen or by a heterocyclic ring containing nitrogen; Derivatives of such polymers</b>	
2339/02	. Homopolymers or copolymers of vinylamine	
2339/04	. Homopolymers or copolymers of monomers containing heterocyclic rings having nitrogen as ring member	
2339/06	. . Homopolymers or copolymers of N-vinylpyrrolidones	
2339/08	. . Homopolymers or copolymers of vinyl-pyridine	
<b>2341/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a bond to sulfur or by a heterocyclic ring containing sulfur; Derivatives of such polymers</b>	
<b>2343/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and containing boron, silicon, phosphorus, selenium, tellurium or a metal; Derivatives of such polymers (of metal salts, e.g. phenolates, alcoholates, see the parent compounds)</b>	
2343/02	. Homopolymers or copolymers of monomers containing phosphorus	
2343/04	. Homopolymers or copolymers of monomers containing silicon	
<b>2345/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having no unsaturated aliphatic radicals in side chain, and having one or more carbon-to-carbon double bonds in a carbocyclic or in a heterocyclic ring system; Derivatives of such polymers (of cyclic anhydrides or imides <a href="#">C08J 2335/00</a>; of cyclic esters of polyfunctional acids <a href="#">C08J 2331/00</a>)</b>	
2345/02	. of coumarone-indene polymers	
<b>2347/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, at least one having two or more carbon-to-carbon double bonds; Derivatives of such polymers (<a href="#">C08J 2345/00</a> takes precedence; of conjugated diene rubbers <a href="#">C08J 2309/00</a> - <a href="#">C08J 2321/00</a>)</b>	
<b>2349/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having one or more carbon-to-carbon triple bonds; Derivatives of such polymers</b>	
<b>2351/00</b>	<b>Characterised by the use of graft polymers in which the grafted component is obtained by reactions only involving carbon-to-carbon unsaturated bonds (for ABS polymers <a href="#">C08J 2355/02</a>); Derivatives of such polymers</b>	
2351/02	. grafted on to polysaccharides	
2351/04	. grafted on to rubbers	
2351/06	. grafted on to homopolymers or copolymers of aliphatic hydrocarbons containing only one carbon-to-carbon double bond	
2351/08	. grafted on to macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds	
2351/10	. grafted on to inorganic materials	
<b>2353/00</b>	<b>Characterised by the use of homopolymers or copolymers, obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in groups <a href="#">C08J 2323/00</a> - <a href="#">C08J 2353/00</a></b>	
2353/02	. of vinyl aromatic monomers and conjugated dienes	
<b>2355/00</b>	<b>Characterised by the use of homopolymers or copolymers, obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in groups <a href="#">C08J 2323/00</a> - <a href="#">C08J 2353/00</a></b>	
2355/02	. Acrylonitrile-Butadiene-Styrene [ABS] polymers	
2355/04	. Polyadducts obtained by the diene synthesis	
<b>2357/00</b>	<b>Characterised by the use of unspecified polymers obtained by reactions only involving carbon-to-carbon unsaturated bonds</b>	
2357/02	. Copolymers of mineral oil hydrocarbons	
2357/04	. Copolymers in which only the monomer in minority is defined	
2357/06	. Homopolymers or copolymers containing elements other than carbon and hydrogen	
2357/08	. . containing halogen atoms	
2357/10	. . containing oxygen atoms	
2357/12	. . containing nitrogen atoms	
<b>2359/00</b>	<b>Characterised by the use of polyacetals containing polyoxymethylene sequences only</b>	
2359/02	. Copolyoxymethylenes	
<b>2361/00</b>	<b>Characterised by the use of condensation polymers of aldehydes or ketones (with polyalcohols <a href="#">C08J 2359/00</a>; with polynitriles <a href="#">C08J 2377/00</a>); Derivatives of such polymers</b>	
2361/02	. Condensation polymers of aldehydes or ketones only	
2361/04	. Condensation polymers of aldehydes or ketones with phenols only	
2361/06	. . of aldehydes with phenols	
2361/08	. . . with monohydric phenols	
2361/10	. . . . Phenol-formaldehyde condensates	
2361/12	. . . with polyhydric phenols	
2361/14	. . . Modified phenol-aldehyde condensates	
2361/16	. . of ketones with phenols	
2361/18	. Condensation polymers of aldehydes or ketones with aromatic hydrocarbons or their halogen derivatives only	
2361/20	. Condensation polymers of aldehydes or ketones with only compounds containing hydrogen attached to nitrogen (with amino phenols <a href="#">C08J 2361/04</a> )	
2361/22	. . of aldehydes with acyclic or carbocyclic compounds	
2361/24	. . . with urea or thiourea	
2361/26	. . of aldehydes with heterocyclic compounds	
2361/28	. . . with melamine	
2361/30	. . of aldehydes with heterocyclic and acyclic or carbocyclic compounds	

- 2361/32 . . Modified amine-aldehyde condensates
- 2361/34 . Condensation polymers of aldehydes or ketones with monomers covered by at least two of the groups [C08J 2361/04](#), [C08J 2361/18](#), and [C08J 2361/20](#)
- 2363/00 Characterised by the use of epoxy resins; Derivatives of epoxy resins**
- 2363/02 . Polyglycidyl ethers of bis-phenols
- 2363/04 . Epoxynovolacs
- 2363/06 . Triglycidylisocyanurates
- 2363/08 . Epoxidised polymerised polyenes
- 2363/10 . Epoxy resins modified by unsaturated compounds
- 2365/00 Characterised by the use of macromolecular compounds obtained by reactions forming a carbon-to-carbon link in the main chain ([C08J 2307/00](#) - [C08J 2357/00](#), [C08J 2361/00](#) take precedence); Derivatives of such polymers**
- 2365/02 . Polyphenylenes
- 2365/04 . Polyxylylenes
- 2367/00 Characterised by the use of polyesters obtained by reactions forming a carboxylic ester link in the main chain (of polyester-amides [C08J 2377/12](#); of polyester-imides [C08J 2379/08](#)); Derivatives of such polymers**
- 2367/02 . Polyesters derived from dicarboxylic acids and dihydroxy compounds; ([C08J 2367/06](#) takes precedence)
- 2367/03 . . the dicarboxylic acids and dihydroxy compounds having the hydroxy and the carboxyl groups directly linked to aromatic rings
- 2367/04 . Polyesters derived from hydroxy carboxylic acids, e.g. lactones ([C08J 2367/06](#) takes precedence)
- 2367/06 . Unsaturated polyesters
- 2367/07 . . having terminal carbon-to-carbon unsaturated bonds
- 2367/08 . Polyesters modified with higher fatty oils or their acids, or with resins or resin acids
- 2369/00 Characterised by the use of polycarbonates; Derivatives of polycarbonates**
- 2371/00 Characterised by the use of polyethers obtained by reactions forming an ether link in the main chain (of polyacetals [C08J 2359/00](#); of epoxy resins [C08J 2363/00](#); of polythioether-ethers [C08J 2381/02](#); of polyethersulfones [C08J 2381/06](#)); Derivatives of such polymers**
- 2371/02 . Polyalkylene oxides
- 2371/03 . . Polyepihalohydrins
- 2371/08 . Polyethers derived from hydroxy compounds or from their metallic derivatives ([C08J 2371/02](#) takes precedence)
- 2371/10 . . from phenols
- 2371/12 . . . Polyphenylene oxides
- 2371/14 . . Furfuryl alcohol polymers
- 2373/00 Characterised by the use of macromolecular compounds obtained by reactions forming a linkage containing oxygen or oxygen and carbon in the main chain, not provided for in groups [C08J 2359/00](#) - [C08J 2371/00](#); Derivatives of such polymers**
- 2373/02 . Polyanhydrides
- 2375/00 Characterised by the use of polyureas or polyurethanes; Derivatives of such polymers**
- 2375/02 . Polyureas
- 2375/04 . Polyurethanes
- 2375/06 . . from polyesters
- 2375/08 . . from polyethers
- 2375/10 . . from polyacetals
- 2375/12 . . from compounds containing nitrogen and active hydrogen, the nitrogen atom not being part of an isocyanate group
- 2375/14 . . Polyurethanes having carbon-to-carbon unsaturated bonds
- 2375/16 . . . having terminal carbon-to-carbon unsaturated bonds
- 2377/00 Characterised by the use of polyamides obtained by reactions forming a carboxylic amide link in the main chain (of polyhydrazides [C08J 2379/06](#); of polyamide-imides or polyamide acids [C08J 2379/08](#)); Derivatives of such polymers**
- 2377/02 . Polyamides derived from omega-amino carboxylic acids or from lactams thereof ([C08J 2377/10](#) takes precedence)
- 2377/04 . Polyamides derived from alpha-amino carboxylic acids ([C08J 2377/10](#) takes precedence)
- 2377/06 . Polyamides derived from polyamines and polycarboxylic acids ([C08J 2377/10](#) takes precedence)
- 2377/08 . . from polyamines and polymerised unsaturated fatty acids
- 2377/10 . Polyamides derived from aromatically bound amino and carboxyl groups of amino carboxylic acids or of polyamines and polycarboxylic acids
- 2377/12 . Polyester-amides
- 2379/00 Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing nitrogen with or without oxygen, or carbon only, not provided for in groups [C08J 2361/00](#) - [C08J 2377/00](#)**
- 2379/02 . Polyamines
- 2379/04 . Polycondensates having nitrogen-containing heterocyclic rings in the main chain; Polyhydrazides; Polyamide acids or similar polyimide precursors
- 2379/06 . . Polyhydrazides; Polytriazoles; Polyamino-triazoles; Polyoxadiazoles
- 2379/08 . . Polyimides; Polyester-imides; Polyamide-imides; Polyamide acids or similar polyimide precursors
- 2381/00 Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing sulfur with or without nitrogen, oxygen, or carbon only; Polysulfones; Derivatives of such polymers**
- 2381/02 . Polythioethers; Polythioether-ethers
- 2381/04 . Polysulfides
- 2381/06 . Polysulfones; Polyethersulfones
- 2381/08 . Polysulfonates
- 2381/10 . Polysulfonamides; Polysulfonimides

**2383/00** Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing silicon with or without sulfur, nitrogen, oxygen, or carbon only; Derivatives of such polymers

- 2383/02 . Polysilicates
- 2383/04 . Polysiloxanes
- 2383/05 . . containing silicon bound to hydrogen
- 2383/06 . . containing silicon bound to oxygen-containing groups ([C08J 2383/12 takes precedence](#))
- 2383/07 . . containing silicon bound to unsaturated aliphatic groups
- 2383/08 . . containing silicon bound to organic groups containing atoms other than carbon, hydrogen, and oxygen
- 2383/10 . Block- or graft-copolymers containing polysiloxane sequences ([obtained by polymerising a compound having a carbon-to-carbon double bond on to a polysiloxane C08J 2351/08, C08J 2353/00](#))
- 2383/12 . . containing polyether sequences
- 2383/14 . in which at least two but not all the silicon atoms are connected by linkages other than oxygen atoms ([C08J 2383/10 takes precedence](#))
- 2383/16 . in which all the silicon atoms are connected by linkages other than oxygen atoms

**2385/00** Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing atoms other than silicon, sulfur, nitrogen, oxygen, and carbon; Derivatives of such polymers

- 2385/02 . containing phosphorus
- 2385/04 . containing boron

**2387/00** Characterised by the use of unspecified macromolecular compounds, obtained otherwise than by polymerisation reactions only involving unsaturated carbon-to-carbon bonds

**2389/00** Characterised by the use of proteins; Derivatives thereof

- 2389/02 . Casein-aldehyde condensates
- 2389/04 . Products derived from waste materials, e.g. horn, hoof or hair
- 2389/06 . . derived from leather or skin

**2391/00** Characterised by the use of oils, fats or waxes; Derivatives thereof

- 2391/02 . Vulcanised oils, e.g. factice
- 2391/04 . Linoxyn
- 2391/06 . Waxes
- 2391/08 . . Mineral waxes

**2393/00** Characterised by the use of natural resins; Derivatives thereof ([of polysaccharides C08J 2301/00 - C08J 2305/00; of natural rubber C08J 2317/00](#))

- 2393/02 . Shellac
- 2393/04 . Rosin

**2395/00** Bituminous materials, e.g. asphalt, tar or pitch

**2397/00** Characterised by the use of lignin-containing materials ([of polysaccharides C08J 2301/00 - C08J 2305/00](#))

- 2397/02 . Lignocellulosic material, e.g. wood, straw or bagasse

**2399/00** Characterised by the use of natural macromolecular compounds or of derivatives thereof not provided for in groups [C08J 2301/00 - C08J 2307/00](#) or [C08J 2389/00 - C08J 2397/00](#)

#### Characterizing additional polymers used in a working-up process

**2400/00** Characterised by the use of unspecified polymers

- 2400/10 . Polymers characterised by the presence of specified groups, e.g. terminal or pendant functional groups
- 2400/102 . . containing halogen atoms
- 2400/104 . . containing oxygen atoms
- 2400/105 . . . containing carboxyl groups
- 2400/106 . . containing nitrogen atoms
- 2400/108 . . containing hydrolysable silane groups
- 2400/12 . Polymers characterised by physical features, e.g. anisotropy, viscosity or electrical conductivity
- 2400/14 . Water soluble or water swellable polymers, e.g. aqueous gels
- 2400/16 . Biodegradable polymers
- 2400/20 . Polymers characterized by their physical structure
- 2400/202 . . Dendritic macromolecules, e.g. dendrimers or hyperbranched polymers
- 2400/204 . . Supramolecular materials
- 2400/206 . . Star polymers
- 2400/208 . . Interpenetrating networks [IPN]
- 2400/21 . . Polyrotaxanes; Polycatenanes
- 2400/22 . Thermoplastic resins
- 2400/24 . Thermosetting resins
- 2400/26 . Elastomers
- 2400/30 . Polymeric waste or recycled polymer

**2401/00** Characterised by the use of cellulose, modified cellulose or cellulose derivatives

- 2401/02 . Cellulose; Modified cellulose
- 2401/04 . . Oxycellulose; Hydrocellulose
- 2401/06 . . Cellulose hydrate
- 2401/08 . Cellulose derivatives
- 2401/10 . . Esters of organic acids
- 2401/12 . . . Cellulose acetate
- 2401/14 . . Mixed esters
- 2401/16 . . Esters of inorganic acids
- 2401/18 . . . Cellulose nitrate
- 2401/20 . . Esters of both organic acids and inorganic acids
- 2401/22 . . Cellulose xanthate
- 2401/24 . . . Viscose
- 2401/26 . . Cellulose ethers
- 2401/28 . . . Alkyl ethers
- 2401/30 . . . Aryl ethers; Aralkyl ethers
- 2401/32 . . Cellulose ether-esters

**2403/00** Characterised by the use of starch, amylose or amylopectin or of their derivatives or degradation products

- 2403/02 . Starch; Degradation products thereof, e.g. dextrin
- 2403/04 . Starch derivatives
- 2403/06 . . Esters
- 2403/08 . . Ethers
- 2403/10 . . Oxidised starch
- 2403/12 . Amylose; Amylopectin; Degradation products thereof

2403/14	. Amylose derivatives; Amylopectin derivatives	2423/18	. . Homopolymers or copolymers of hydrocarbons having four or more carbon atoms
2403/16	. . Esters	2423/20	. . . having four to nine carbon atoms
2403/18	. . Ethers	2423/22	. . . . Copolymers of isobutene; butyl rubber
2403/20	. . Oxidised amylose; Oxidised amylopectin	2423/24	. . . having ten or more carbon atoms
<b>2405/00</b>	<b>Characterised by the use of polysaccharides or of their derivatives not provided for in groups <a href="#">C08J 2401/00</a> or <a href="#">C08J 2403/00</a></b>	2423/26	. modified by chemical after-treatment
2405/02	. Dextran; Derivatives thereof	2423/28	. . by reaction with halogens or halogen-containing compounds ( <a href="#">C08J 2423/32</a> takes precedence)
2405/04	. Alginic acid; Derivatives thereof	2423/30	. . by oxidation
2405/06	. Pectin; Derivatives thereof	2423/32	. . by reaction with phosphorus- or sulfur-containing compounds
2405/08	. Chitin; Chondroitin sulfate; Hyaluronic acid; Derivatives thereof	2423/34	. . . by chlorosulfonation
2405/10	. Heparin; Derivatives thereof	2423/36	. . by reaction with nitrogen-containing compounds, e.g. by nitration
2405/12	. Agar-agar; Derivatives thereof	<b>2425/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an aromatic carbocyclic ring; Derivatives of such polymers</b>
2405/14	. Hemicellulose; Derivatives thereof	2425/02	. Homopolymers or copolymers of hydrocarbons
2405/16	. Cyclodextrin; Derivatives thereof	2425/04	. . Homopolymers or copolymers of styrene
<b>2407/00</b>	<b>Characterised by the use of natural rubber</b>	2425/06	. . . Polystyrene
2407/02	. Latex	2425/08	. . . Copolymers of styrene ( <a href="#">C08J 2429/08</a> , <a href="#">C08J 2435/06</a> , <a href="#">C08J 2455/02</a> take precedence)
<b>2409/00</b>	<b>Characterised by the use of homopolymers or copolymers of conjugated diene hydrocarbons</b>	2425/10	. . . . with conjugated dienes
2409/02	. Copolymers with acrylonitrile	2425/12	. . . . with unsaturated nitriles
2409/04	. . Latex	2425/14	. . . with unsaturated esters
2409/06	. Copolymers with styrene	2425/16	. . Homopolymers or copolymers of alkyl-substituted styrenes
2409/08	. . Latex	2425/18	. Homopolymers or copolymers of aromatic monomers containing elements other than carbon and hydrogen
2409/10	. Latex ( <a href="#">C08J 2409/04</a> , <a href="#">C08J 2409/08</a> take precedence)	<b>2427/00</b>	<b>Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a halogen; Derivatives of such polymers</b>
<b>2411/00</b>	<b>Characterised by the use of homopolymers or copolymers of chloroprene</b>	2427/02	. not modified by chemical after-treatment
2411/02	. Latex	2427/04	. . containing chlorine atoms
<b>2413/00</b>	<b>Characterised by the use of rubbers containing carboxyl groups</b>	2427/06	. . . Homopolymers or copolymers of vinyl chloride
2413/02	. Latex	2427/08	. . . Homopolymers or copolymers of vinylidene chloride
<b>2415/00</b>	<b>Characterised by the use of rubber derivatives (<a href="#">C08J 2411/00</a>, <a href="#">C08J 2413/00</a> takes precedence)</b>	2427/10	. . containing bromine or iodine atoms
2415/02	. Rubber derivatives containing halogen	2427/12	. . containing fluorine atoms
<b>2417/00</b>	<b>Characterised by the use of reclaimed rubber</b>	2427/14	. . . Homopolymers or copolymers of vinyl fluoride
<b>2419/00</b>	<b>Characterised by the use of rubbers not provided for in groups <a href="#">C08J 2407/00</a> - <a href="#">C08J 2417/00</a></b>	2427/16	. . . Homopolymers or copolymers of vinylidene fluoride
2419/02	. Latex	2427/18	. . . Homopolymers or copolymers of tetrafluoroethylene
<b>2421/00</b>	<b>Characterised by the use of unspecified rubbers</b>	2427/20	. . . Homopolymers or copolymers of hexafluoropropene
2421/02	. Latex	2427/22	. modified by chemical after-treatment
<b>2423/00</b>	<b>Characterised by the use of homopolymers or copolymers of unsaturated aliphatic hydrocarbons having only one carbon-to-carbon double bond; Derivatives of such polymers</b>	2427/24	. . halogenated
2423/02	. not modified by chemical after treatment		
2423/04	. . Homopolymers or copolymers of ethene		
2423/06	. . . Polyethylene		
2423/08	. . . Copolymers of ethene ( <a href="#">C08J 2423/16</a> takes precedence)		
2423/10	. . Homopolymers or copolymers of propene		
2423/12	. . . Polypropene		
2423/14	. . . Copolymers of propene ( <a href="#">C08J 2423/16</a> takes precedence)		
2423/16	. . Ethene-propene or ethene-propene-diene copolymers		

- 2429/00** Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an alcohol, ether, aldehydo, ketonic, acetal, or ketal radical; Hydrolysed polymers of esters of unsaturated alcohols with saturated carboxylic acids; Derivatives of such polymer
- 2429/02 . Homopolymers or copolymers of unsaturated alcohols ([C08J 2429/14 takes precedence](#))
- 2429/04 . . Polyvinyl alcohol; Partially hydrolysed homopolymers or copolymers of esters of unsaturated alcohols with saturated carboxylic acids
- 2429/06 . . Copolymers of allyl alcohol
- 2429/08 . . . with vinyl aromatic monomers
- 2429/10 . Homopolymers or copolymers of unsaturated ethers ([C08J 2435/08 takes precedence](#))
- 2429/12 . Homopolymers or copolymers of unsaturated ketones
- 2429/14 . Homopolymers or copolymers of acetals or ketals obtained by polymerisation of unsaturated acetals or ketals or by after-treatment of polymers of unsaturated alcohols
- 2431/00** Characterised by the use of copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an acyloxy radical of a saturated carboxylic acid, or carbonic acid, or of a haloformic acid (of hydrolysed polymers [C08J 2429/00](#))
- 2431/02 . Characterised by the use of homopolymers or copolymers of esters of monocarboxylic acids
- 2431/04 . . Homopolymers or copolymers of vinyl acetate
- 2431/06 . Homopolymers or copolymers of esters of polycarboxylic acids
- 2431/08 . . of phthalic acid
- 2433/00** Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and only one being terminated by only one carboxyl radical, or of salts, anhydrides, esters, amides, imides, or nitriles thereof; Derivatives of such polymers
- 2433/02 . Homopolymers or copolymers of acids; Metal or ammonium salts thereof
- 2433/04 . esters
- 2433/06 . . of esters containing only carbon, hydrogen, and oxygen, the oxygen atom being present only as part of the carboxyl radical
- 2433/08 . . . Homopolymers or copolymers of acrylic acid esters
- 2433/10 . . . Homopolymers or copolymers of methacrylic acid esters
- 2433/12 . . . . Homopolymers or copolymers of methyl methacrylate
- 2433/14 . . of esters containing halogen, nitrogen, sulfur, or oxygen atoms in addition to the carboxy oxygen
- 2433/16 . . . Homopolymers or copolymers of esters containing halogen atoms
- 2433/18 . Homopolymers or copolymers of nitriles
- 2433/20 . . Homopolymers or copolymers of acrylonitrile ([C08J 2455/02 takes precedence](#))
- 2433/22 . . Homopolymers or copolymers of nitriles containing four or more carbon atoms
- 2433/24 . Homopolymers or copolymers of amides or imides
- 2433/26 . . Homopolymers or copolymers of acrylamide or methacrylamide
- 2435/00** Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a carboxyl radical, and containing at least one other carboxyl radical in the molecule, or of salts, anhydrides, esters, amides, imides or nitriles thereof; Derivatives of such polymers
- 2435/02 . Characterised by the use of homopolymers or copolymers of esters ([C08J 2435/06](#), [C08J 2435/08 take precedence](#))
- 2435/04 . Homopolymers or copolymers of nitriles ([C08J 2435/06](#), [C08J 2435/08 take precedence](#))
- 2435/06 . Copolymers with vinyl aromatic monomers
- 2435/08 . Copolymers with vinyl ethers
- 2437/00** Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a heterocyclic ring containing oxygen (of cyclic esters of polyfunctional acids [C08J 2431/00](#); of cyclic anhydrides of unsaturated acids [C08J 2435/00](#)); Derivatives of such polymers
- 2439/00** Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a single or double bond to nitrogen or by a heterocyclic ring containing nitrogen; Derivatives of such polymers
- 2439/02 . Homopolymers or copolymers of vinylamine
- 2439/04 . Homopolymers or copolymers of monomers containing heterocyclic rings having nitrogen as ring member
- 2439/06 . . Homopolymers or copolymers of N-vinyl-pyrrolidones
- 2439/08 . . Homopolymers or copolymers of vinyl-pyridine
- 2441/00** Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a bond to sulfur or by a heterocyclic ring containing sulfur; Derivatives of such polymers
- 2443/00** Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and containing boron, silicon, phosphorus, selenium, tellurium or a metal; Derivatives of such polymers (of metal salts, e.g. phenolates, alcoholates, see the parent compounds)

- 2443/02 . Homopolymers or copolymers of monomers containing phosphorus
- 2443/04 . Homopolymers or copolymers of monomers containing silicon
- 2445/00** **Characterised by the use of homopolymers or copolymers of compounds having no unsaturated aliphatic radicals in side chain, and having one or more carbon-to-carbon double bonds in a carbocyclic or in a heterocyclic ring system; Derivatives of such polymers (of cyclic anhydrides or imides [C08J 2435/00](#); of cyclic esters of polyfunctional acids [C08J 2431/00](#))**
- 2445/02 . of coumarone-indene polymers
- 2447/00** **Characterised by the use of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, at least one having two or more carbon-to-carbon double bonds; Derivatives of such polymers ([C08J 2445/00](#) takes precedence; of conjugated diene rubbers [C08J 2409/00](#) - [C08J 2421/00](#))**
- 2449/00** **Characterised by the use of homopolymers or copolymers of compounds having one or more carbon-to-carbon triple bonds; Derivatives of such polymers**
- 2451/00** **Characterised by the use of graft polymers in which the grafted component is obtained by reactions only involving carbon-to-carbon unsaturated bonds (for ABS polymers [C08J 2455/02](#)); Derivatives of such polymers**
- 2451/02 . grafted on to polysaccharides
- 2451/04 . grafted on to rubbers
- 2451/06 . grafted on to homopolymers or copolymers of aliphatic hydrocarbons containing only one carbon-to-carbon double bond
- 2451/08 . grafted on to macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
- 2451/10 . grafted on to inorganic materials
- 2453/00** **Characterised by the use of homopolymers or copolymers, obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in groups [C08J 2423/00](#) - [C08J 2453/00](#)**
- 2453/02 . of vinyl aromatic monomers and conjugated dienes
- 2455/00** **Characterised by the use of homopolymers or copolymers, obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in groups [C08J 2423/00](#) - [C08J 2453/00](#)**
- 2455/02 . Acrylonitrile-Butadiene-Styrene [ABS] polymers
- 2455/04 . Polyadducts obtained by the diene synthesis
- 2457/00** **Characterised by the use of unspecified polymers obtained by reactions only involving carbon-to-carbon unsaturated bonds**
- 2457/02 . Copolymers of mineral oil hydrocarbons
- 2457/04 . Copolymers in which only the monomer in minority is defined
- 2457/06 . Homopolymers or copolymers containing elements other than carbon and hydrogen
- 2457/08 . . containing halogen atoms
- 2457/10 . . containing oxygen atoms
- 2457/12 . . containing nitrogen atoms
- 2459/00** **Characterised by the use of polyacetals containing polyoxymethylene sequences only**
- 2459/02 . Copolyoxymethylenes
- 2461/00** **Characterised by the use of condensation polymers of aldehydes or ketones (with polyalcohols [C08J 2459/00](#); with polynitriles [C08J 2477/00](#)); Derivatives of such polymers**
- 2461/02 . Condensation polymers of aldehydes or ketones only
- 2461/04 . Condensation polymers of aldehydes or ketones with phenols only
- 2461/06 . . of aldehydes with phenols
- 2461/08 . . . with monohydric phenols
- 2461/10 . . . . Phenol-formaldehyde condensates
- 2461/12 . . . with polyhydric phenols
- 2461/14 . . . Modified phenol-aldehyde condensates
- 2461/16 . . of ketones with phenols
- 2461/18 . Condensation polymers of aldehydes or ketones with aromatic hydrocarbons or their halogen derivatives only
- 2461/20 . Condensation polymers of aldehydes or ketones with only compounds containing hydrogen attached to nitrogen (with amino phenols [C08J 2461/04](#))
- 2461/22 . . of aldehydes with acyclic or carbocyclic compounds
- 2461/24 . . . with urea or thiourea
- 2461/26 . . of aldehydes with heterocyclic compounds
- 2461/28 . . . with melamine
- 2461/30 . . of aldehydes with heterocyclic and acyclic or carbocyclic compounds
- 2461/32 . . Modified amine-aldehyde condensates
- 2461/34 . Condensation polymers of aldehydes or ketones with monomers covered by at least two of the groups [C08J 2461/04](#), [C08J 2461/18](#), and [C08J 2461/20](#)
- 2463/00** **Characterised by the use of epoxy resins; Derivatives of epoxy resins**
- 2463/02 . Polyglycidyl ethers of bis-phenols
- 2463/04 . Epoxynovolacs
- 2463/06 . Triglycidylisocyanurates
- 2463/08 . Epoxidised polymerised polyenes
- 2463/10 . Epoxy resins modified by unsaturated compounds
- 2465/00** **Characterised by the use of macromolecular compounds obtained by reactions forming a carbon-to-carbon link in the main chain ([C08J 2407/00](#) - [C08J 2457/00](#), [C08J 2461/00](#) take precedence); Derivatives of such polymers**
- 2465/02 . Polyphenylenes
- 2465/04 . Polyxylylenes
- 2467/00** **Characterised by the use of polyesters obtained by reactions forming a carboxylic ester link in the main chain (of polyester-amides [C08J 2477/12](#); of polyester-imides [C08J 2479/08](#)); Derivatives of such polymers**
- 2467/02 . Polyesters derived from dicarboxylic acids and dihydroxy compounds ([C08J 2467/06](#) takes precedence)
- 2467/03 . . the dicarboxylic acids and dihydroxy compounds having the hydroxy and the carboxyl groups directly linked to aromatic rings

- 2467/04 . Polyesters derived from hydroxy carboxylic acids, e.g. lactones ([C08J 2467/06 takes precedence](#))
- 2467/06 . Unsaturated polyesters
- 2467/07 . . having terminal carbon-to-carbon unsaturated bonds
- 2467/08 . Polyesters modified with higher fatty oils or their acids, or with resins or resin acids
- 2469/00 Characterised by the use of polycarbonates; Derivatives of polycarbonates**
- 2471/00 Characterised by the use of polyethers obtained by reactions forming an ether link in the main chain (of polyacetals [C08J 2459/00](#); of epoxy resins [C08J 2463/00](#); of polythioether-ethers [C08J 2481/02](#); of polyethersulfones [C08J 2481/06](#)); Derivatives of such polymers**
- 2471/02 . Polyalkylene oxides
- 2471/03 . . Polyepihalohydrins
- 2471/08 . Polyethers derived from hydroxy compounds or from their metallic derivatives ([C08J 2471/02 takes precedence](#))
- 2471/10 . . from phenols
- 2471/12 . . . Polyphenylene oxides
- 2471/14 . . Furfuryl alcohol polymers
- 2473/00 Characterised by the use of macromolecular compounds obtained by reactions forming a linkage containing oxygen or oxygen and carbon in the main chain, not provided for in groups [C08J 2459/00](#) - [C08J 2471/00](#); Derivatives of such polymers**
- 2473/02 . Polyanhydrides
- 2475/00 Characterised by the use of polyureas or polyurethanes; Derivatives of such polymers**
- 2475/02 . Polyureas
- 2475/04 . Polyurethanes
- 2475/06 . . from polyesters
- 2475/08 . . from polyethers
- 2475/10 . . from polyacetals
- 2475/12 . . from compounds containing nitrogen and active hydrogen, the nitrogen atom not being part of an isocyanate group
- 2475/14 . . Polyurethanes having carbon-to-carbon unsaturated bonds
- 2475/16 . . . having terminal carbon-to-carbon unsaturated bonds
- 2477/00 Characterised by the use of polyamides obtained by reactions forming a carboxylic amide link in the main chain (of polyhydrazides [C08J 2479/06](#); of polyamide-imides or polyamide acids [C08J 2479/08](#)); Derivatives of such polymers**
- 2477/02 . Polyamides derived from omega-amino carboxylic acids or from lactams thereof ([C08J 2477/10 takes precedence](#))
- 2477/04 . Polyamides derived from alpha-amino carboxylic acids ([C08J 2477/10 takes precedence](#))
- 2477/06 . Polyamides derived from polyamines and polycarboxylic acids ([C08J 2477/10 takes precedence](#))
- 2477/08 . . from polyamines and polymerised unsaturated fatty acids
- 2477/10 . Polyamides derived from aromatically bound amino and carboxyl groups of amino carboxylic acids or of polyamines and polycarboxylic acids
- 2477/12 . Polyester-amides
- 2479/00 Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing nitrogen with or without oxygen, or carbon only, not provided for in groups [C08J 2461/00](#) - [C08J 2477/00](#)**
- 2479/02 . Polyamines
- 2479/04 . Polycondensates having nitrogen-containing heterocyclic rings in the main chain; Polyhydrazides; Polyamide acids or similar polyimide precursors
- 2479/06 . . Polyhydrazides; Polytriazoles; Polyamino-triazoles; Polyoxadiazoles
- 2479/08 . . Polyimides; Polyester-imides; Polyamide-imides; Polyamide acids or similar polyimide precursors
- 2481/00 Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing sulfur with or without nitrogen, oxygen, or carbon only; Polysulfones; Derivatives of such polymers**
- 2481/02 . Polythioethers; Polythioether-ethers
- 2481/04 . Polysulfides
- 2481/06 . Polysulfones; Polyethersulfones
- 2481/08 . Polysulfonates
- 2481/10 . Polysulfonamides; Polysulfonimides
- 2483/00 Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing silicon with or without sulfur, nitrogen, oxygen, or carbon only; Derivatives of such polymers**
- 2483/02 . Polysilicates
- 2483/04 . Polysiloxanes
- 2483/05 . . containing silicon bound to hydrogen
- 2483/06 . . containing silicon bound to oxygen-containing groups ([C08J 2483/12 takes precedence](#))
- 2483/07 . . containing silicon bound to unsaturated aliphatic groups
- 2483/08 . . containing silicon bound to organic groups containing atoms other than carbon, hydrogen, and oxygen
- 2483/10 . Block- or graft-copolymers containing polysiloxane sequences ([obtained by polymerising a compound having a carbon-to-carbon double bond on to a polysiloxane \[C08J 2451/08\]\(#\), \[C08J 2453/00\]\(#\)](#))
- 2483/12 . . containing polyether sequences
- 2483/14 . in which at least two but not all the silicon atoms are connected by linkages other than oxygen atoms ([C08J 2483/10 takes precedence](#))
- 2483/16 . in which all the silicon atoms are connected by linkages other than oxygen atoms
- 2485/00 Characterised by the use of macromolecular compounds obtained by reactions forming in the main chain of the macromolecule a linkage containing atoms other than silicon, sulfur, nitrogen, oxygen, and carbon; Derivatives of such polymers**

- 2485/02 . containing phosphorus
- 2485/04 . containing boron
- 2487/00 Characterised by the use of unspecified macromolecular compounds, obtained otherwise than by polymerisation reactions only involving unsaturated carbon-to-carbon bonds**
- 2489/00 Characterised by the use of proteins; Derivatives thereof**
  - 2489/02 . Casein-aldehyde condensates
  - 2489/04 . Products derived from waste materials, e.g. horn, hoof or hair
  - 2489/06 . . derived from leather or skin
- 2491/00 Characterised by the use of oils, fats or waxes; Derivatives thereof**
  - 2491/02 . Vulcanised oils, e.g. factice
  - 2491/04 . Linoxyn
  - 2491/06 . Waxes
  - 2491/08 . . Mineral waxes
- 2493/00 Characterised by the use of natural resins; Derivatives thereof (of polysaccharides [C08J 2401/00](#) - [C08J 2405/00](#); of natural rubber [C08J 2417/00](#))**
  - 2493/02 . Shellac
  - 2493/04 . Rosin
- 2495/00 Bituminous materials, e.g. asphalt, tar or pitch**
- 2497/00 Characterised by the use of lignin-containing materials (of polysaccharides [C08J 2401/00](#) - [C08J 2405/00](#))**
  - 2497/02 . Lignocellulosic material, e.g. wood, straw or bagasse
- 2499/00 Characterised by the use of natural macromolecular compounds or of derivatives thereof not provided for in groups [C08J 2401/00](#) - [C08J 2407/00](#) or [C08J 2489/00](#) - [C08J 2497/00](#)**