

CPC COOPERATIVE PATENT CLASSIFICATION

C CHEMISTRY; METALLURGY

(NOTES omitted)

CHEMISTRY

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

C08F MACROMOLECULAR COMPOUNDS OBTAINED BY REACTIONS ONLY INVOLVING CARBON-TO-CARBON UNSATURATED BONDS

NOTES

1. In this subclass, boron or silicon are considered as metals.
2. In this subclass, the following expression is used with the meaning indicated:
 - "aliphatic radical" means an acyclic or a non-aromatic carbocyclic carbon skeleton which is considered to be terminated by every bond to:
 - a. an element other than carbon;
 - b. a carbon atom having a double bond to one atom other than carbon;
 - c. an aromatic carbocyclic ring or a heterocyclic ring.

Examples: Polymers of

 - a. $\text{CH}_2=\text{CH}-\text{O}-\text{CH}_2-\text{CH}_2-\text{NH}-\text{COO}-\text{CH}_2-\text{CH}_2-\text{OH}$ are classified in group [C08F 16/28](#);
 - b. $\text{CH}_2=\text{CH}-\text{C}(=\text{O})-\text{CH}=\text{CH}_2$ are classified in group [C08F 16/36](#)
 - c. para- $\text{C}_6\text{H}_4\text{Cl}(\text{CH}=\text{CH}_2)$ are classified in group [C08F 12/18](#).
3. Therapeutic activity of compounds is further classified in subclass [A61P](#).
4. In this subclass, in the absence of an indication to the contrary in the scheme or definitions, classification is made in the last appropriate place.
5. In this subclass:
 - a. macromolecular compounds and their preparation are classified in the groups for the type of compound prepared. General processes for the preparation of macromolecular compounds according to more than one main group are classified in groups [C08F 2/00-C08F 8/00](#) for the processes employed. Processes for the preparation of macromolecular compounds are also classified in the groups for the types of reactions employed, if of interest;
 - b. subject matter relating to both homopolymers and copolymers is classified in groups [C08F 10/00-C08F 38/00](#);
 - c. subject matter limited to homopolymers is classified only in groups [C08F 110/00-C08F 138/00](#);
 - d. subject matter limited to copolymers is classified only in groups [C08F 210/00-C08F 246/00](#);
 - e. in groups [C08F 210/00-C08F 238/00](#), in the absence of an indication to the contrary, a copolymer is classified according to the major monomeric component.
6. This subclass covers also compositions based on monomers which form macromolecular compounds classifiable in this subclass. In this subclass:
 - a. if the monomers are defined, classification is made according to the polymer to be formed:
 - in groups [C08F 10/00-C08F 246/00](#) if no preformed polymer is present;
 - in groups [C08F 251/00 - C08F 291/00](#) if a preformed polymer is present, considering {or not} the reaction to take place as a graft or cross-linking reaction;
 - b. if the presence of compounding ingredients is of interest, classification is made in group [C08F 2/44](#)
 - c. if the compounding ingredients are of interest per se, classification is also made in subclass [C08K](#).
7. {In this subclass, combination sets [C-Sets] are used. The detailed information about the C-Sets construction and the associated syntax rules are found in the Definitions}

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.

Processes; Catalysts

2/00 Processes of polymerisation

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the

associated syntax rules is present in the Definitions of [C08F](#).}

- 2/001 . {Multistage polymerisation processes characterised by a change in reactor conditions without deactivating the intermediate polymer ([C08F 295/00](#), [C08F 297/00](#) take precedence)}

- 2/002 . {Scale prevention in a polymerisation reactor or its auxiliary parts}
- 2/004 . . {by a prior coating on the reactor walls}
- 2/005 . . {by addition of a scale inhibitor to the polymerisation medium}
- 2/007 . . {Scale prevention in the auxiliary parts}
- 2/008 . {cleaning reaction vessels using chemicals (mechanical methods B08B 9/08)}
- 2/01 . characterised by special features of the polymerisation apparatus used
- 2/02 . Polymerisation in bulk
- 2/04 . Polymerisation in solution (C08F 2/32 takes precedence)
- 2/06 . . Organic solvent
- 2/08 . . . with the aid of dispersing agents for the polymer
- 2/10 . . Aqueous solvent
- 2/12 . Polymerisation in non-solvents (C08F 2/32 takes precedence)
- 2/14 . . Organic medium
- 2/16 . . Aqueous medium
- 2/18 . . . Suspension polymerisation
- 2/20 . . . with the aid of macromolecular dispersing agents
- 2/22 . . . Emulsion polymerisation
- 2/24 with the aid of emulsifying agents
- 2/26 anionic
- 2/28 cationic
- 2/30 non-ionic
- 2/32 . Polymerisation in water-in-oil emulsions
- 2/34 . Polymerisation in gaseous state
- 2/36 . Polymerisation in solid state
- 2/38 . Polymerisation using regulators, e.g. chain terminating agents {, e.g. telomerisation}
- 2/40 . . using retarding agents
- 2/42 . . using short-stopping agents
- 2/44 . Polymerisation in the presence of compounding ingredients, e.g. plasticisers, dyestuffs, fillers
- 2/46 . Polymerisation initiated by wave energy or particle radiation
- 2/48 . . by ultraviolet or visible light
- 2/50 . . . with sensitising agents
- 2/52 . . by electric discharge, e.g. voltolisation
- 2/54 . . by X-rays or electrons
- 2/56 . . by ultrasonic vibrations
- 2/58 . Polymerisation initiated by direct application of electric current (electrolytic processes, e.g. electrophoresis C25)
- 2/60 . Polymerisation by the diene synthesis
- 4/00 Polymerisation catalysts**
- NOTE**
- {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of C08F.}
- 4/005 . {Friedel-Crafts catalysts in general}
- NOTE**
- {Where a carrier is considered of particular interest a further classification may be made in group C08F 4/02.}
- 4/02 . Carriers therefor
- 4/022 . . {Magnesium halide as support anhydrous or hydrated or complexed by means of a Lewis base for Ziegler-type catalysts}
- 4/025 . . {Metal oxides}
- 4/027 . . {Polymers}
- 4/04 . Azo-compounds
- 4/06 . Metallic compounds other than hydrides and other than metallo-organic compounds; Boron halide or aluminium halide complexes with organic compounds containing oxygen
- 4/08 . . of alkali metals
- 4/083 . . . {an alkali metal bound to oxygen}
- 4/086 . . . {an alkali metal bound to nitrogen, e.g. $\text{LiN}(\text{C}_2\text{H}_5)_2$ }
- 4/10 . . of alkaline earth metals, zinc, cadmium, mercury, copper or silver
- 4/12 . . of boron, aluminium, gallium, indium, thallium or rare earths
- 4/14 . . . Boron halides or aluminium halides; Complexes thereof with organic compounds containing oxygen
- 4/16 . . of silicon, germanium, tin, lead, titanium, zirconium or hafnium
- 4/18 . . . Oxides
- 4/20 . . of antimony, bismuth, vanadium, niobium or tantalum
- 4/22 . . of chromium, molybdenum or tungsten
- 4/24 . . . Oxides
- 4/26 . . of manganese, iron group metals or platinum group metals
- 4/28 . Oxygen or compounds releasing free oxygen (redox systems C08F 4/40)
- 4/30 . . Inorganic compounds
- 4/32 . . Organic compounds
- 4/34 . . . Per-compounds with one peroxy-radical
- 4/36 . . . Per-compounds with more than one peroxy radical
- 4/38 . . . Mixtures of peroxy-compounds
- 4/40 . Redox systems
- 4/42 . Metals; Metal hydrides; Metallo-organic compounds; Use thereof as catalyst precursors
- 4/44 . . selected from light metals, zinc, cadmium, mercury, copper, silver, gold, boron, gallium, indium, thallium, rare earths or actinides
- 4/46 . . . selected from alkali metals
- 4/461 {Catalysts containing at least two different components covered by the same or by different subgroups of group C08F 4/46, e.g. butyllithium + propylrubidium}
- 4/463 {selected from sodium or potassium (C08F 4/461 takes precedence)}
- 4/465 {Metalic sodium or potassium}
- 4/466 {an alkali metal bound to a cyclic carbon}
- 4/468 {at least two metal atoms in the same molecule}
- 4/48 selected from lithium, rubidium, caesium or francium {(C08F 4/461 takes precedence)}
- 4/482 {Metallic lithium, rubidium, caesium or francium}
- 4/484 {an alkali metal bound to a cyclic carbon}
- 4/486 {at least two metal atoms in the same molecule}

- 4/488 {at least two lithium atoms in the same molecule}
- 4/50 . . . selected from alkaline earth metals, zinc, cadmium, mercury, copper or silver
- 4/52 . . . selected from boron, aluminium, gallium, indium, thallium or rare earths ([C08F 4/14](#) takes precedence)
- 4/54 . . . together with other compounds thereof
- 4/545 {rare earths being present, e.g. triethylaluminium + neodymium octanoate}
- 4/56 Alkali metals being the only metals present, e.g. Alfin catalysts
- 4/565 {Lithium being present, e.g. butyllithium + sodiumphenoxide}
- 4/58 . . . together with silicon, germanium, tin, lead, antimony, bismuth or compounds thereof
- 4/60 . . . together with refractory metals, iron group metals, platinum group metals, manganese, rhenium {technetium} or compounds thereof
- 4/60003 {the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond}
- NOTE**
- {For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom.}
- 4/60006 {Bidentate ligand}
- 4/6001 {Neutral ligand}
- 4/60013 {NN}
- 4/60017 {NO}
- 4/6002 {NS}
- 4/60024 {OS}
- 4/60027 {PN}
- 4/60031 {PO}
- 4/60034 {PP}
- 4/60037 {PS}
- 4/60041 {Monoanionic ligand}
- 4/60044 {NN}
- 4/60048 {NO}
- 4/60051 {NS}
- 4/60055 {ON}
- 4/60058 {OO}
- 4/60062 {PN}
- 4/60065 {PO}
- 4/60068 {Dianionic ligand}
- 4/60072 {NN}
- 4/60075 {NO}
- 4/60079 {OO}
- 4/60082 {Tridentate ligand}
- 4/60086 {Neutral ligand}
- 4/60089 {NNN}
- 4/60093 {NNO}
- 4/60096 {NNS}
- 4/60099 {NSN}
- 4/60103 {PNN}
- 4/60106 {PNP}
- 4/6011 {Monoanionic ligand}
- 4/60113 {NNN}
- 4/60117 {NNO}
- 4/6012 {ONN}
- 4/60124 {ONO}
- 4/60127 {ON*O}
- 4/60131 {PNO}
- 4/60134 {SNN}
- 4/60137 {SNO}
- 4/60141 {Dianionic ligand}
- 4/60144 {NN(R)C}
- 4/60148 {NN(R)N}
- 4/60151 {NNO}
- 4/60155 {ON(R)C}
- 4/60158 {ONO}
- 4/60162 {O*O*P}
- 4/60165 {OSO}
- 4/60168 {Tetra- or multi-dentate ligand}
- 4/60172 {Neutral ligand}
- 4/60175 {ONNO}
- 4/60179 {PNNN}
- 4/60182 {Monoanionic ligand}
- 4/60186 {Dianionic ligand}
- 4/60189 {ONNO}
- 4/60193 {OOOO}
- 4/60196 {OSSO}
- 4/602 Component covered by group [C08F 4/60](#) with an organo-aluminium compound {(C08F 4/60003 - C08F 4/60196 take precedence)}
- 4/6022 {Component of [C08F 4/60](#) containing at least two different metals}
- 4/6024 {containing magnesium}
- 4/6026 {containing aluminium}
- 4/6028 {with an alumoxane, i.e. a compound containing an -Al-O-Al-group}
- 4/603 Component covered by group [C08F 4/60](#) with a metal or compound covered by group [C08F 4/44](#) other than an organo-aluminium compound {(C08F 4/60003 - C08F 4/60196 take precedence)}
- 4/6032 {Component of [C08F 4/60](#) containing at least two different metals}
- 4/6035 {containing magnesium}
- 4/6037 {containing aluminium}
- 4/605 Component covered by group [C08F 4/60](#) with a metal or compound covered by group [C08F 4/44](#), not provided for in a single group of groups [C08F 4/602](#) or [C08F 4/603](#) {(C08F 4/60003 - C08F 4/60196 take precedence)}
- 4/6052 {Component of [C08F 4/60](#) containing at least two different metals}
- 4/6055 {containing magnesium}
- 4/6057 {containing aluminium}
- 4/606 Catalysts comprising at least two different metals, in metallic form or as compounds thereof, in addition to the component covered by groups [C08F 4/60](#) {(C08F 4/60003 - C08F 4/60196 take precedence)}
- 4/6065 {containing silicium}

- 4/607 Catalysts containing a specific non-metal or metal-free compound { (C08F 4/60003 - C08F 4/60196 take precedence) }
- 4/608 inorganic
- 4/609 organic
- 4/6091 {hydrocarbon}
- 4/6092 {containing aliphatic unsaturation}
- 4/6093 {containing halogen}
- 4/6094 {containing oxygen}
- 4/6095 {containing nitrogen}
- 4/6096 {containing sulfur}
- 4/6097 {containing phosphorus}
- 4/6098 {containing another heteroatom}
- 4/61 Pretreating the metal or compound covered by group C08F 4/60 before the final contacting with the metal or compound covered by group C08F 4/44 { (C08F 4/60003 - C08F 4/60196 take precedence) }
- 4/611 Pretreating with non-metals or metal-free compounds
- 4/612 Pretreating with metals or metal-containing compounds
- 4/613 with metals covered by group C08F 4/60 or compounds thereof
- 4/614 with magnesium or compounds thereof
- 4/6141 {and metals of C08F 4/60 or compounds thereof}
- 4/6143 {halides of magnesium}
- 4/6145 {and metals of group C08F 4/60 or compounds thereof}
- 4/6146 {organo-magnesium compounds}
- 4/6148 {magnesium or compounds thereof not provided for in C08F 4/6143 or C08F 4/6146}
- 4/615 with aluminium or compounds thereof
- 4/6152 {and metals of C08F 4/60 or compounds thereof}
- 4/6155 {and magnesium or compounds thereof}
- 4/6157 {and metals of C08F 4/60 or compounds thereof}
- 4/616 with silicon or compounds thereof
- 4/6162 {and metals of C08F 4/60 or compounds thereof}
- 4/6165 {and magnesium or compounds thereof}
- 4/6167 {and aluminium or compounds thereof}
- 4/617 with metals or metal-containing compounds, not provided for in groups C08F 4/613 - C08F 4/616
- 4/6172 {and metals of C08F 4/60 or compounds thereof}
- 4/6174 {and magnesium or compounds thereof}
- 4/6176 {and aluminium or compounds thereof}
- 4/6178 {and silicon or compounds thereof}
- 4/618 with metals or metal-containing compounds, provided for in at least two of the groups C08F 4/613 - C08F 4/617
- 4/6181 {and metals of C08F 4/60 or compounds thereof}
- 4/6183 {and magnesium or compounds thereof}
- 4/6185 {and aluminium or compounds thereof}
- 4/6186 {and silicon or compounds thereof}
- 4/6188 {and metals or metal-containing compounds of C08F 4/617}
- 4/619 Component covered by group C08F 4/60 containing a transition metal-carbon bond { (C08F 4/60003 - C08F 4/60196 take precedence) }
- 4/61904 {in combination with another component of C08F 4/60}
- 4/61908 {in combination with an ionising compound other than alumoxane, e.g. (C₆F₅)₄B⁺X⁻}
- 4/61912 {in combination with an organoaluminium compound}
- 4/61916 {supported on a carrier, e.g. silica, MgCl₂, polymer}
- 4/6192 containing at least one cyclopentadienyl ring, condensed or not, e.g. an indenyl or a fluorenyl ring
- 4/61922 {containing at least two cyclopentadienyl rings, fused or not}
- 4/61925 {two cyclopentadienyl rings being mutually non-bridged}
- 4/61927 {two cyclopentadienyl rings being mutually bridged}
- 4/62 Refractory metals or compounds thereof
- 4/62003 {the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond}
- NOTE**
- For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom
- 4/62006 {Bidentate ligand}
- 4/6201 {Neutral ligand}
- 4/62013 {NN}
- 4/62017 {NO}
- 4/6202 {NS}
- 4/62024 {OS}
- 4/62027 {PN}
- 4/62031 {PO}
- 4/62034 {PP}
- 4/62037 {PS}
- 4/62041 {Monoanionic ligand}
- 4/62044 {NN}
- 4/62048 {NO}
- 4/62051 {NS}
- 4/62055 {ON}
- 4/62058 {OO}
- 4/62062 {PN}
- 4/62065 {PO}

4/62068	{Dianionic ligand}	4/625	Component covered by group C08F 4/62 with a metal or compound covered by group C08F 4/44 , not provided for in a single group of groups C08F 4/622 or C08F 4/623 {(C08F 4/62003 - C08F 4/62196 take precedence)}
4/62072	{NN}	4/6252	{Component of C08F 4/62 containing at least two different metals}
4/62075	{NO}	4/6255	{containing magnesium}
4/62079	{OO}	4/6257	{containing aluminium}
4/62082	{Tridentate ligand}	4/626	Catalysts comprising at least two different metals, in metallic form or as compounds thereof, in addition to the component covered by group C08F 4/62 {(C08F 4/62003 - C08F 4/62196 take precedence)}
4/62086	{Neutral ligand}	4/6265	{containing silicium}
4/62089	{NNN}	4/627	Catalysts containing a specific non-metal or metal-free compound {(C08F 4/62003 - C08F 4/62196 take precedence)}
4/62093	{NNO}	4/628	inorganic
4/62096	{NNS}	4/629	organic
4/62099	{NSN}	4/6291	{hydrocarbon}
4/62103	{PNN}	4/6292	{containing aliphatic unsaturation}
4/62106	{PNP}	4/6293	{containing halogen}
4/6211	{Monoanionic ligand}	4/6294	{containing oxygen}
4/62113	{NNN}	4/6295	{containing nitrogen}
4/62117	{NNO}	4/6296	{containing sulfur}
4/6212	{ONN}	4/6297	{containing phosphorus}
4/62124	{ONO}	4/6298	{containing another heteroatom}
4/62127	{ON*O}	4/63	Pretreating the metal or compound covered by group C08F 4/62 before the final contacting with the metal or compound covered by group C08F 4/44 {(C08F 4/62003 - C08F 4/62196 take precedence)}
4/62131	{PNO}	4/631	Pretreating with non-metals or metal-free compounds
4/62134	{SNN}	4/632	Pretreating with metals or metal-containing compounds
4/62137	{SNO}	4/633	with metals covered by group C08F 4/62 or compounds thereof
4/62141	{Dianionic ligand}	4/634	with magnesium or compounds thereof
4/62144	{NN(R)C}	4/6341	{and metals of C08F 4/62 or compounds thereof}
4/62148	{NN(R)N}	4/6343	{halides of magnesium}
4/62151	{NNO}	4/6345	{and metals of C08F 4/62 or compounds thereof}
4/62155	{ON(R)C}	4/6346	{organo-magnesium compounds}
4/62158	{ONO}	4/6348	{magnesium or compounds thereof not provided for in C08F 4/6345 or C08F 4/6346 }
4/62162	{O*O*P}	4/635	with aluminium or compounds thereof
4/62165	{OSO}	4/6352	{and metals of C08F 4/62 or compounds thereof}
4/62168	{Tetra- or multi-dentate ligand}	4/6355	{and magnesium or compounds thereof}
4/62172	{Neutral ligand}	4/6357	{and metals of C08F 4/62 or compounds thereof}
4/62175	{ONNO}	4/636	with silicon or compounds thereof
4/62179	{PNNN}		
4/62182	{Monoanionic ligand}		
4/62186	{Dianionic ligand}		
4/62189	{ONNO}		
4/62193	{OOOO}		
4/62196	{OSSO}		
4/622	Component covered by group C08F 4/62 with an organo-aluminium compound {(C08F 4/62003 - C08F 4/62196 take precedence)}		
4/6222	{Component of C08F 4/62 containing at least two different metals}		
4/6224	{containing magnesium}		
4/6226	{containing aluminium}		
4/6228	{with an aluminosilicate, i.e. a compound containing an Al-O-Al- group}		
4/623	Component covered by group C08F 4/62 with a metal or compound covered by group C08F 4/44 other than an organo-aluminium compound {(C08F 4/62003 - C08F 4/62196 take precedence)}		
4/6232	{Component of C08F 4/62 containing at least two different metals}		
4/6235	{containing magnesium}		
4/6237	{containing aluminium}		

4/6362	. . . . .	{and metals of C08F 4/62 or compounds thereof}
4/6365	. . . . .	{and magnesium or compounds thereof}
4/6367	. . . . .	{and aluminium or compounds thereof}
4/637	. . . . .	with metals or metal-containing compounds, not provided for in groups C08F 4/633 - C08F 4/636
4/6372	. . . . .	{and metals of C08F 4/62 or compounds thereof}
4/6374	. . . . .	{and magnesium or compounds thereof}
4/6376	. . . . .	{and aluminium or compounds thereof}
4/6378	. . . . .	{and silicon or compounds thereof}
4/638	. . . . .	with metals or metal-containing compounds, not provided for in a single group of groups C08F 4/633 - C08F 4/637
4/6381	. . . . .	{and metals or metal-containing compounds of C08F 4/62 }
4/6383	. . . . .	{and magnesium or compounds thereof}
4/6385	. . . . .	{and aluminium or compounds thereof}
4/6386	. . . . .	{and silicon or compounds thereof}
4/6388	. . . . .	{and metals or metal-containing compounds of C08F 4/637 }
4/639	. . . . .	Component covered by group C08F 4/62 containing a transition metal-carbon bond {(C08F 4/62003 - C08F 4/62196 take precedence)}
4/63904	. . . . .	{in combination with another component of C08F 4/62 }
4/63908	. . . . .	{in combination with an ionising compound other than alumoxane, e.g. (C ₆ F ₅) ₄ B ⁺ X ⁺ }
4/63912	. . . . .	{in combination with an organoaluminium compound}
4/63916	. . . . .	{supported on a carrier, e.g. silica, MgCl ₂ , polymer}
4/6392	. . . . .	containing at least one cyclopentadienyl ring, condensed or not, e.g. an indenyl or a fluorenyl ring
4/63922	. . . . .	{containing at least two cyclopentadienyl rings, fused or not}
4/63925	. . . . .	{two cyclopentadienyl rings being mutually non-bridged}
4/63927	. . . . .	{two cyclopentadienyl rings being mutually bridged}
4/64	. . . . .	Titanium, zirconium, hafnium or compounds thereof

NOTE

Group [C08F 4/64003](#) takes precedence over groups [C08F 4/642](#) - [C08F 4/659](#)

4/64003	{the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond}
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NOTE

{For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom.}

4/64006	. . . . .	{Bidentate ligand}
4/6401	. . . . .	{Neutral ligand}
4/64013	. . . . .	{NN}
4/64017	. . . . .	{NO}
4/6402	. . . . .	{NS}
4/64024	. . . . .	{OS}
4/64027	. . . . .	{PN}
4/64031	. . . . .	{PO}
4/64034	. . . . .	{PP}
4/64037	. . . . .	{PS}
4/64041	. . . . .	{Monoanionic ligand}
4/64044	. . . . .	{NN}
4/64048	. . . . .	{NO}
4/64051	. . . . .	{NS}
4/64055	. . . . .	{ON}
4/64058	. . . . .	{OO}
4/64062	. . . . .	{PN}
4/64065	. . . . .	{PO}
4/64068	. . . . .	{Dianionic ligand}
4/64072	. . . . .	{NN}
4/64075	. . . . .	{NO}
4/64079	. . . . .	{OO}
4/64082	. . . . .	{Tridentate ligand}
4/64086	. . . . .	{Neutral ligand}
4/64089	. . . . .	{NNN}
4/64093	. . . . .	{NNO}
4/64096	. . . . .	{NNS}
4/64099	. . . . .	{NSN}
4/64103	. . . . .	{PNN}
4/64106	. . . . .	{PNP}
4/6411	. . . . .	{Monoanionic ligand}
4/64113	. . . . .	{NNN}
4/64117	. . . . .	{NNO}
4/6412	. . . . .	{ONN}
4/64124	. . . . .	{ONO}
4/64127	. . . . .	{ON*O}
4/64131	. . . . .	{PNO}
4/64134	. . . . .	{SNN}
4/64137	. . . . .	{SNO}
4/64141	. . . . .	{Dianionic ligand}
4/64144	. . . . .	{NN(R)C}
4/64148	. . . . .	{NN(R)N}
4/64151	. . . . .	{NNO}
4/64155	. . . . .	{ON(R)C}
4/64158	. . . . .	{ONO}
4/64162	. . . . .	{O*O*P}
4/64165	. . . . .	{OSO}
4/64168	. . . . .	{Tetra- or multi-dentate ligand}

4/64172	. . . . .	{Neutral ligand}	4/6498	. . . . .	{containing another heteroatom}
4/64175	. . . . .	{ONNO}	4/65	. . . . .	Pretreating the metal or compound covered by group C08F 4/64 before the final contacting with the metal or compound covered by group C08F 4/44 {(C08F 4/64003 - C08F 4/64196 take precedence)}
4/64179	. . . . .	{PNNN}	4/651	. . . . .	Pretreating with non-metals or metal-free compounds
4/64182	. . . . .	{Monoanionic ligand}	4/652	. . . . .	Pretreating with metals or metal-containing compounds
4/64186	. . . . .	{Dianionic ligand}	4/653	. . . . .	with metals of C08F 4/64 or compounds thereof
4/64189	. . . . .	{ONNO}	4/654	. . . . .	with magnesium or compounds thereof
4/64193	. . . . .	{OOOO}	4/6541	. . . . .	{and metals of C08F 4/64 or compounds thereof}
4/64196	. . . . .	{OSSO}	4/6543	. . . . .	{halides of magnesium}
4/642	. . . . .	Component covered by group C08F 4/64 with an organo-aluminium compound {(C08F 4/64003 - C08F 4/64196 take precedence)}	4/6545	. . . . .	{and metals of C08F 4/64 or compounds thereof}
4/6421	. . . . .	{Titanium tetrahalides with organo-aluminium compounds}	4/6546	. . . . .	{organo-magnesium compounds}
4/6423	. . . . .	{Component of C08F 4/64 containing at least two different metals}	4/6548	. . . . .	{magnesium or compounds thereof, not provided for in C08F 4/6543 or C08F 4/6546 }
4/6425	. . . . .	{containing magnesium}	4/655	. . . . .	with aluminium or compounds thereof
4/6426	. . . . .	{containing aluminium}	4/6552	. . . . .	{and metals of C08F 4/64 or compounds thereof}
4/6428	. . . . .	{with an aluminoxane, i.e. a compound containing an Al-O-Al-group}	4/6555	. . . . .	{and magnesium or compounds thereof}
4/643	. . . . .	Component covered by group C08F 4/64 with a metal or compound covered by group C08F 4/44 other than an organo-aluminium compound {(C08F 4/64003 - C08F 4/64196 take precedence)}	4/6557	. . . . .	{and metals of C08F 4/64 or compounds thereof}
4/6432	. . . . .	{Component of C08F 4/64 containing at least two different metals}	4/656	. . . . .	with silicon or compounds thereof
4/6435	. . . . .	{containing magnesium}	4/6562	. . . . .	{and metals of C08F 4/64 or compounds thereof}
4/6437	. . . . .	{containing aluminium}	4/6565	. . . . .	{and magnesium or compounds thereof}
4/645	. . . . .	Component covered by group C08F 4/64 with a metal or compound covered by group C08F 4/44 , not provided for in a single group of groups C08F 4/642 - C08F 4/643 {(C08F 4/60003 - C08F 4/60196 take precedence)}	4/6567	. . . . .	{and aluminium or compounds thereof}
4/6452	. . . . .	{Component of C08F 4/64 containing at least two different metals}	4/657	. . . . .	with metals or metal-containing compounds, not provided for in groups C08F 4/653 - C08F 4/656
4/6455	. . . . .	{containing magnesium}	4/6572	. . . . .	{and metals of C08F 4/64 or compounds thereof}
4/6457	. . . . .	{containing aluminium}	4/6574	. . . . .	{and magnesium or compounds thereof}
4/646	. . . . .	Catalysts comprising at least two different metals, in metallic form or as compounds thereof, in addition to the component covered by group C08F 4/64 {(C08F 4/64003 - C08F 4/64196 take precedence)}	4/6576	. . . . .	{and aluminium or compounds thereof}
4/6465	. . . . .	{containing silicium}	4/6578	. . . . .	{and silicon or compounds thereof}
4/647	. . . . .	Catalysts containing a specific non-metal or metal-free compound {(C08F 4/64003 - C08F 4/64196 take precedence)}	4/658	. . . . .	with metals or metal-containing compounds, not provided for in a single group of groups C08F 4/653 - C08F 4/657
4/648	. . . . .	inorganic	4/6581	. . . . .	{and metals of C08F 4/64 or compounds thereof}
4/649	. . . . .	organic	4/6583	. . . . .	{and magnesium or compounds thereof}
4/6491	. . . . .	{hydrocarbon}	4/6585	. . . . .	{and aluminium or compounds thereof}
4/6492	. . . . .	{containing aliphatic unsaturation}	4/6586	. . . . .	{and silicon or compounds thereof}
4/6493	. . . . .	{containing halogen}	4/6588	. . . . .	{and metals or metal-containing compounds of C08F 4/657 }
4/6494	. . . . .	{containing oxygen}			
4/6495	. . . . .	{containing nitrogen}			
4/6496	. . . . .	{containing sulfur}			
4/6497	. . . . .	{containing phosphorus}			

4/659	. . . . .	Component covered by group C08F 4/64 containing a transition metal-carbon bond { (C08F 4/64003 - C08F 4/64196 take precedence) }
4/65904	. . . . .	{ in combination with another component of C08F 4/64 }
4/65908	. . . . .	{ in combination with an ionising compound other than alumoxane, e.g. (C ₆ F ₅) ₄ B X ⁺ }
4/65912	. . . . .	{ in combination with an organoaluminium compound }
4/65916	. . . . .	{ supported on a carrier, e.g. silica, MgCl ₂ , polymer }
4/6592	. . . . .	containing at least one cyclopentadienyl ring, condensed or not, e.g. an indenyl or a fluorenyl ring
4/65922	. . . . .	{ containing at least two cyclopentadienyl rings, fused or not }
4/65925	. . . . .	{ two cyclopentadienyl rings being mutually non-bridged }
4/65927	. . . . .	{ two cyclopentadienyl rings being mutually bridged }
4/68	. . . . .	Vanadium, niobium, tantalum or compounds thereof
4/68008	. . . . .	{ the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond }
NOTE		
{ For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom. }		
4/68017	. . . . .	{ Bidentate ligand }
4/68025	. . . . .	{ Neutral ligand }
4/68034	. . . . .	{ NN }
4/68043	. . . . .	{ NO }
4/68051	. . . . .	{ NS }
4/6806	. . . . .	{ OS }
4/68068	. . . . .	{ PN }
4/68077	. . . . .	{ PO }
4/68086	. . . . .	{ PP }
4/68094	. . . . .	{ PS }
4/68103	. . . . .	{ Monoanionic ligand }
4/68112	. . . . .	{ NN }
4/6812	. . . . .	{ NO }
4/68129	. . . . .	{ NS }
4/68137	. . . . .	{ ON }
4/68146	. . . . .	{ OO }
4/68155	. . . . .	{ PN }
4/68163	. . . . .	{ PO }
4/68172	. . . . .	{ Dianionic ligand }
4/68181	. . . . .	{ NN }
4/68189	. . . . .	{ NO }
4/68198	. . . . .	{ OO }
4/68206	. . . . .	{ Tridentate ligand }
4/68215	. . . . .	{ Neutral ligand }
4/68224	. . . . .	{ NNN }
4/68232	. . . . .	{ NNO }
4/68241	. . . . .	{ NNS }
4/6825	. . . . .	{ NSN }
4/68258	. . . . .	{ PNN }
4/68267	. . . . .	{ PNP }
4/68275	. . . . .	{ Monoanionic ligand }
4/68284	. . . . .	{ NNN }
4/68293	. . . . .	{ NNO }
4/68301	. . . . .	{ ONN }
4/6831	. . . . .	{ ONO }
4/68318	. . . . .	{ ON*O }
4/68327	. . . . .	{ PNO }
4/68336	. . . . .	{ SNN }
4/68344	. . . . .	{ SNO }
4/68353	. . . . .	{ Dianionic ligand }
4/68362	. . . . .	{ NN(R)C }
4/6837	. . . . .	{ NN(R)N }
4/68379	. . . . .	{ NNO }
4/68387	. . . . .	{ ON(R)C }
4/68396	. . . . .	{ ONO }
4/68405	. . . . .	{ O*O*P }
4/68413	. . . . .	{ OSO }
4/68422	. . . . .	{ Tetra- or multi-dentate ligand }
4/68431	. . . . .	{ Neutral ligand }
4/68439	. . . . .	{ ONNO }
4/68448	. . . . .	{ PNNN }
4/68456	. . . . .	{ Monoanionic ligand }
4/68465	. . . . .	{ Dianionic ligand }
4/68474	. . . . .	{ ONNO }
4/68482	. . . . .	{ OOOO }
4/68491	. . . . .	{ OSSO }
4/685	. . . . .	Vanadium or compounds thereof in combination with titanium or compounds thereof
4/69	. . . . .	Chromium, molybdenum, tungsten or compounds thereof
4/69008	. . . . .	{ the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond }
NOTE		
{ For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked with * where the charge is on the marked atom. }		
4/69017	. . . . .	{ Bidentate ligand }
4/69025	. . . . .	{ Neutral ligand }
4/69034	. . . . .	{ NN }
4/69043	. . . . .	{ NO }
4/69051	. . . . .	{ NS }
4/6906	. . . . .	{ OS }
4/69068	. . . . .	{ PN }
4/69077	. . . . .	{ PO }
4/69086	. . . . .	{ PP }
4/69094	. . . . .	{ PS }

4/69103	{Monoanionic ligand}				with * where the charge is on the marked atom.}
4/69112	{NN}				
4/6912	{NO}				
4/69129	{NS}	4/7003	{Bidentate ligand}		
4/69137	{ON}	4/7004	{Neutral ligand}		
4/69146	{OO}	4/7006	{NN}		
4/69155	{PN}	4/7008	{NO}		
4/69163	{PO}	4/7009	{NS}		
4/69172	{Dianionic ligand}	4/7011	{OS}		
4/69181	{NN}	4/7013	{PN}		
4/69189	{NO}	4/7014	{PO}		
4/69198	{OO}	4/7016	{PP}		
4/69206	{Tridentate ligand}	4/7018	{PS}		
4/69215	{Neutral ligand}	4/7019	{Monoanionic ligand}		
4/69224	{NNN}	4/7021	{NN}		
4/69232	{NNO}	4/7022	{NO}		
4/69241	{NNS}	4/7024	{NS}		
4/6925	{NSN}	4/7026	{ON}		
4/69258	{PNN}	4/7027	{OO}		
4/69267	{PNP}	4/7029	{PN}		
4/69275	{Monoanionic ligand}	4/7031	{PO}		
4/69284	{NNN}	4/7032	{Dianionic ligand}		
4/69293	{NNO}	4/7034	{NN}		
4/69301	{ONN}	4/7036	{NO}		
4/6931	{ONO}	4/7037	{OO}		
4/69318	{ON*O}	4/7039	{Tridentate ligand}		
4/69327	{PNO}	4/704	{Neutral ligand}		
4/69336	{SNN}	4/7042	{NNN}		
4/69344	{SNO}	4/7044	{NNO}		
4/69353	{Dianionic ligand}	4/7045	{NNS}		
4/69362	{NN(R)C}	4/7047	{NSN}		
4/6937	{NN(R)N}	4/7049	{PNN}		
4/69379	{NNO}	4/705	{PNP}		
4/69387	{ON(R)C}	4/7052	{Monoanionic ligand}		
4/69396	{ONO}	4/7054	{NNN}		
4/69405	{O*O*P}	4/7055	{NNO}		
4/69413	{OSO}	4/7057	{ONN}		
4/69422	{Tetra- or multi-dentate ligand}	4/7059	{ONO}		
4/69431	{Neutral ligand}	4/706	{ON*O}		
4/69439	{ONNO}	4/7062	{PNO}		
4/69448	{PNNN}	4/7063	{SNN}		
4/69456	{Monoanionic ligand}	4/7065	{SNO}		
4/69465	{Dianionic ligand}	4/7067	{Dianionic ligand}		
4/69474	{ONNO}	4/7068	{NN(R)C}		
4/69482	{OOOO}	4/707	{NN(R)N}		
4/69491	{OSSO}	4/7072	{NNO}		
4/695	Manganese, technetium, rhenium or compounds thereof	4/7073	{ON(R)C}		
4/70	Iron group metals, platinum group metals or compounds thereof	4/7075	{ONO}		
4/7001	{the metallic compound containing a multidentate ligand, i.e. a ligand capable of donating two or more pairs of electrons to form a coordinate or ionic bond}	4/7077	{O*O*P}		
		4/7078	{OSO}		
		4/708	{Tetra- or multi-dentate ligand}		
		4/7081	{Neutral ligand}		
		4/7083	{ONNO}		
		4/7085	{PNNN}		
		4/7086	{Monoanionic ligand}		
		4/7088	{Dianionic ligand}		
		4/709	{ONNO}		
		4/7091	{OOOO}		
		4/7093	{OSSO}		
		4/7095	{Cobalt, nickel or compounds thereof (C08F 4/7001 - C08F 4/7093 take precedence)}		

NOTE

{For monoanionic compounds, the charge is on the last mentioned atom; for dianionic compounds, the charge is on the first and the last mentioned atoms except for compounds marked

- 4/7096 {Cobalt or compounds thereof}
- 4/7098 {Nickel or compounds thereof}
- 4/72 . . . selected from metals not provided for in group
C08F 4/44 (C08F 4/54 - C08F 4/70 take
precedence)
- 4/74 . . . selected from refractory metals
- 4/76 selected from titanium, zirconium, hafnium,
vanadium, niobium or tantalum
- 4/78 selected from chromium, molybdenum or
tungsten
- 4/80 . . . selected from iron group metals or platinum
group metals
- 4/82 pi-Allyl complexes
- 6/00 Post-polymerisation treatments** (C08F 8/00 takes
precedence; of conjugated diene rubbers C08C)
- NOTE**
- {In this group, C-Sets are used. The detailed
information about the C-Sets construction and the
associated syntax rules is present in the Definitions
of C08F.}
- 6/001 . . {Removal of residual monomers by physical
means}
- 6/003 . . {from polymer solutions, suspensions, dispersions
or emulsions without recovery of the polymer
therefrom}
- 6/005 . . {from solid polymers}
- 6/006 . . {Removal of residual monomers by chemical
reaction, e.g. scavenging}
- 6/008 . . {Treatment of solid polymer wetted by water or
organic solvents, e.g. coagulum, filter cakes}
- 6/02 . . Neutralisation of the polymerisation mass, e.g.
killing the catalyst (short-stopping C08F 2/42) {also
removal of catalyst residues}
- 6/04 . . Fractionation
- 6/06 . . Treatment of polymer solutions {(C08F 6/001,
C08F 6/006, C08F 6/008, C08F 6/02, C08F 6/04
take precedence)}
- 6/08 . . Removal of catalyst residues {(not used, see
C08F 6/02)}
- 6/10 . . Removal of volatile materials, e.g. solvents
{(C08F 6/001, C08F 6/003, C08F 6/005,
C08F 6/006, C08F 6/008, C08F 6/02, C08F 6/04
take precedence)}
- 6/12 . . Separation of polymers from solutions
- 6/14 . . Treatment of polymer emulsions {(C08F 6/001,
C08F 6/006, C08F 6/008, C08F 6/02, C08F 6/04
take precedence)}
- 6/16 . . Purification
- 6/18 . . Increasing the size of the dispersed particles
- 6/20 . . Concentration
- 6/22 . . Coagulation
- 6/24 . . Treatment of polymer suspensions {(C08F 6/001,
C08F 6/006, C08F 6/008, C08F 6/02, C08F 6/04
take precedence)}
- 6/26 . . Treatment of polymers prepared in bulk {also
solid polymers or polymer melts, (C08F 6/001,
C08F 6/006, C08F 6/008, C08F 6/02, C08F 6/04
take precedence)}
- 6/28 . . Purification

8/00**Chemical modification by after-treatment**

(graft polymers, block polymers, crosslinking
with unsaturated monomers or with polymers
C08F 251/00 - C08F 299/00; of conjugated diene
rubbers C08C)

NOTE

{In this group, C-Sets are used. The detailed
information about the C-Sets construction and the
associated syntax rules is present in the Definitions
of C08F.}

- 8/02 . Alkylation
- 8/04 . Reduction, e.g. hydrogenation
- 8/06 . Oxidation
- 8/08 . Epoxidation
- 8/10 . Acylation
- 8/12 . Hydrolysis
- 8/14 . Esterification
- 8/16 . . Lactonisation
- 8/18 . Introducing halogen atoms or halogen-containing
groups
- 8/20 . . Halogenation
- 8/22 . . . by reaction with free halogens
- 8/24 . . Haloalkylation
- 8/26 . Removing halogen atoms or halogen-containing
groups from the molecule
- 8/28 . Condensation with aldehydes or ketones
- 8/30 . Introducing nitrogen atoms or nitrogen-containing
groups
- 8/32 . . by reaction with amines
- 8/34 . Introducing sulfur atoms or sulfur-containing groups
- 8/36 . . Sulfonation; Sulfation
- 8/38 . . Sulfohalogenation
- 8/40 . Introducing phosphorus atoms or phosphorus-
containing groups
- 8/42 . Introducing metal atoms or metal-containing groups
- 8/44 . Preparation of metal salts or ammonium salts
- 8/46 . Reaction with unsaturated dicarboxylic acids or
anhydrides thereof, e.g. maleinisation
- 8/48 . Isomerisation; Cyclisation

NOTE

When the cyclisation is an epoxidation,
C08F 8/08 takes precedence. When the
cyclisation is a lactonisation, C08F 8/16 takes
precedence.

- 8/50 . Partial depolymerisation

Homopolymers and copolymers**10/00****Homopolymers and copolymers of unsaturated
aliphatic hydrocarbons having only one carbon-to-
carbon double bond****NOTE**

{In this group, C-Sets are used. The detailed
information about the C-Sets construction and the
associated syntax rules is present in the Definitions
of C08F.}

- 10/02 . Ethene
- 10/04 . Monomers containing three or four carbon atoms
- 10/06 . . Propene
- 10/08 . . Butenes

10/10	. . . Isobutene
10/14	. Monomers containing five or more carbon atoms
12/00	Homopolymers and 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
	NOTE
	{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of C08F .}
12/02	. Monomers containing only one unsaturated aliphatic radical
12/04	. . containing one ring
12/06	. . . Hydrocarbons
12/08	. . . . Styrene
12/12	. . . . Monomers containing a branched unsaturated aliphatic radical or a ring substituted by an alkyl radical
12/14	. . . substituted by hetero atoms or groups containing heteroatoms
12/16	. . . . Halogens
12/18	. . . . . Chlorine
12/20	. . . . . Fluorine
12/21	. . . . . {Bromine}
12/22	. . . . . Oxygen
12/24	. . . . . Phenols or alcohols
12/26	. . . . . Nitrogen
12/28	. . . . . Amines
12/30	. . . . . Sulfur
12/32	. . containing two or more rings
12/34	. Monomers containing two or more unsaturated aliphatic radicals
12/36	. . Divinylbenzene
14/00	Homopolymers and 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
	NOTE
	{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of C08F .}
14/02	. Monomers containing chlorine
14/04	. . Monomers containing two carbon atoms
14/06	. . . Vinyl chloride
14/08	. . . Vinylidene chloride
14/12	. . . 1,2- Dichloroethene
14/14	. . Monomers containing three or more carbon atoms
14/16	. Monomers containing bromine or iodine
14/18	. Monomers containing fluorine
14/185	. . {Monomers containing fluorine not covered by the groups C08F 14/20 - C08F 14/28 }
14/20	. . Vinyl fluoride
14/22	. . Vinylidene fluoride
14/24	. . Trifluorochloroethene
14/26	. . Tetrafluoroethene

14/28	. . Hexafluoropropene
16/00	Homopolymers and 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
	NOTE
	{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of C08F .}
16/02	. by an alcohol radical
16/04	. . Acyclic compounds
16/06	. . . Polyvinyl alcohol {; Vinyl alcohol}
16/08	. . . Allyl alcohol
16/10	. . Carbocyclic compounds
16/12	. by an ether radical
16/14	. . Monomers containing only one unsaturated aliphatic radical
16/16	. . . Monomers containing no hetero atoms other than the ether oxygen
16/18	. . . . Acyclic compounds
16/20	. . . . . Monomers containing three or more carbon atoms in the unsaturated aliphatic radical
16/22	. . . . Carbocyclic compounds
16/24	. . . Monomers containing halogen
16/26	. . . Monomers containing oxygen atoms in addition to the ether oxygen
16/28	. . . Monomers containing nitrogen
16/30	. . . Monomers containing sulfur
16/32	. . Monomers containing two or more unsaturated aliphatic radicals
16/34	. by an aldehydo radical
16/36	. by a ketonic radical
16/38	. by an acetal or ketal radical
18/00	Homopolymers and 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, of carbonic acid or of a haloformic acid
	NOTE
	{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of C08F .}
18/02	. Esters of monocarboxylic acids
18/04	. . Vinyl esters
18/06	. . . Vinyl formate
18/08	. . . Vinyl acetate
18/10	. . . of monocarboxylic acids containing three or more carbon atoms
18/12	. . with unsaturated alcohols containing three or more carbon atoms
18/14	. Esters of polycarboxylic acids
18/16	. . with alcohols containing three or more carbon atoms
18/18	. . . Diallyl phthalate

- 18/20 . Esters containing halogen
- 18/22 . Esters containing nitrogen
- 18/24 . Esters of carbonic or haloformic acids

20/00 Homopolymers and 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 a salt, anhydride, ester, amide, imide or nitrile thereof

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 20/02 . Monocarboxylic acids having less than ten carbon atoms, Derivatives thereof
- 20/04 . . Acids, Metal salts or ammonium salts thereof
- 20/06 . . . Acrylic acid; Methacrylic acid; Metal salts or ammonium salts thereof
- 20/08 . . Anhydrides
- 20/10 . . Esters
- 20/12 . . . of monohydric alcohols or phenols
- 20/14 Methyl esters {, e.g. methyl (meth)acrylate}
- 20/16 of phenols or of alcohols containing two or more carbon atoms
- 20/18 with acrylic or methacrylic acids
- 20/20 . . . of polyhydric alcohols or {polyhydric} phenols {, e.g. 2-hydroxyethyl (meth)acrylate or glycerol mono-(meth)acrylate}
- 20/22 . . . Esters containing halogen
- 20/24 containing perhaloalkyl radicals
- 20/26 . . . Esters containing oxygen in addition to the carboxy oxygen
- 20/28 containing no aromatic rings in the alcohol moiety
- 20/30 containing aromatic rings in the alcohol moiety
- 20/32 containing epoxy radicals
- 20/34 . . . Esters containing nitrogen {, e.g. N,N-dimethylaminoethyl (meth)acrylate}
- 20/36 containing oxygen in addition to the carboxy oxygen {, e.g. 2-N-morpholinoethyl (meth)acrylate or 2-isocyanatoethyl (meth)acrylate}
- 20/38 . . . Esters containing sulfur
- 20/40 . . . Esters of unsaturated alcohols {, e.g. allyl (meth)acrylate}
- 20/42 . . Nitriles
- 20/44 . . . Acrylonitrile
- 20/50 . . . containing four or more carbon atoms
- 20/52 . . Amides or imides
- 20/54 . . . Amides {, e.g. N,N-dimethylacrylamide or N-isopropylacrylamide}
- 20/56 Acrylamide; Methacrylamide
- 20/58 containing oxygen in addition to the carbonamido oxygen {, e.g. N-methylolacrylamide, N-acryloylmorpholine}
- 20/60 containing nitrogen in addition to the carbonamido nitrogen
- 20/62 . Monocarboxylic acids having ten or more carbon atoms; Derivatives thereof
- 20/64 . . Acids; Metal salts or ammonium salts thereof

- 20/66 . . Anhydrides
- 20/68 . . Esters
- 20/70 . . Nitriles; Amides; Imides

22/00 Homopolymers and 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; Salts, anhydrides, esters, amides, imides or nitriles thereof

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 22/02 . Acids; Metal salts or ammonium salts thereof {, e.g. maleic acid or itaconic acid}
- 22/04 . Anhydrides, e.g. cyclic anhydrides
- 22/06 . . Maleic anhydride
- 22/10 . Esters
- 22/1006 . . {of polyhydric alcohols or polyhydric phenols, e.g. ethylene glycol dimethacrylate}
- 22/12 . . of phenols or saturated alcohols {(C08F 22/1006 takes precedence)}
- 22/14 . . . Esters having no free carboxylic acid groups
- 22/16 . . . Esters having free carboxylic acid groups
- 22/18 . . . Esters containing halogen
- 22/20 . . . Esters containing oxygen in addition to the carboxy oxygen
- 22/22 . . . Esters containing nitrogen
- 22/24 . . . Esters containing sulfur
- 22/26 . . of unsaturated alcohols {(C08F 22/1006 takes precedence)}
- 22/28 . . . Diallyl maleate
- 22/30 . Nitriles
- 22/32 . . Alpha-cyano-acrylic acid; Esters thereof
- 22/34 . . Vinylidene cyanide
- 22/36 . Amides or imides
- 22/38 . . Amides
- 22/385 . . . {Monomers containing two or more (meth)acrylamide groups, e.g. N,N'-methylenebisacrylamide}
- 22/40 . . Imides, e.g. cyclic imides

24/00 Homopolymers and 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 (cyclic esters of polyfunctional acids [C08F 18/00](#); cyclic anhydrides of unsaturated acids [C08F 20/00](#), [C08F 22/00](#))

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

26/00 Homopolymers and 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

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 26/02 . by a single or double bond to nitrogen
- 26/04 . . Diallylamine
- 26/06 . by a heterocyclic ring containing nitrogen
- 26/08 . . N-Vinyl-pyrrolidine
- 26/10 . . N-Vinyl-pyrrolidone
- 26/12 . . N-Vinyl-carbazole

28/00 Homopolymers and 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

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 28/02 . by a bond to sulfur
- 28/04 . . Thioethers
- 28/06 . by a heterocyclic ring containing sulfur

30/00 Homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and containing phosphorus, selenium, tellurium or a metal

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 30/02 . containing phosphorus
- 30/04 . containing a metal
- 30/06 . . containing boron
- 30/08 . . containing silicon
- 30/10 . . containing germanium

32/00 Homopolymers and copolymers of cyclic compounds having no unsaturated aliphatic radicals in a side chain, and having one or more carbon-to-carbon double bonds in a carbocyclic ring system

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 32/02 . having no condensed rings
- 32/04 . . having one carbon-to-carbon double bond

- 32/06 . . having two or more carbon-to-carbon double bonds
- 32/08 . having two condensed rings ([coumarone-indene polymers C08F 244/00](#))

34/00 Homopolymers and copolymers of cyclic compounds having no unsaturated aliphatic radicals in a side chain and having one or more carbon-to-carbon double bonds in a heterocyclic ring (cyclic esters of polyfunctional acids [C08F 18/00](#); cyclic anhydrides or imides [C08F 22/00](#))

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 34/02 . in a ring containing oxygen ([coumarone-indene polymers C08F 244/00](#))
- 34/04 . in a ring containing sulfur

36/00 Homopolymers and copolymers of compounds having one or more unsaturated aliphatic radicals, at least one having two or more carbon-to-carbon double bonds ([C08F 32/00](#) takes precedence)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 36/02 . the radical having only two carbon-to-carbon double bonds
- 36/04 . . conjugated
- 36/045 . . . {conjugated hydrocarbons other than butadiene or isoprene}
- 36/06 . . . Butadiene
- 36/08 . . . Isoprene
- 36/14 . . . containing elements other than carbon and hydrogen
- 36/16 containing halogen
- 36/18 containing chlorine
- 36/20 . . unconjugated
- 36/22 . the radical having three or more carbon-to-carbon double bonds

38/00 Homopolymers and copolymers of compounds having one or more carbon-to-carbon triple bonds

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 38/02 . Acetylene
- 38/04 . Vinylacetylene

Homopolymers**110/00 Homopolymers of unsaturated aliphatic hydrocarbons having only one carbon-to-carbon double bond****NOTE**

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 110/02 . Ethene
- 110/04 . Monomers containing three or four carbon atoms
- 110/06 . . Propene
- 110/08 . . Butenes
- 110/10 . . . Isobutene
- 110/14 . Monomers containing five or more carbon atoms

112/00 Homopolymers 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**NOTE**

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 112/02 . Monomers containing only one unsaturated aliphatic radical
- 112/04 . . containing one ring
- 112/06 . . . Hydrocarbons
- 112/08 Styrene
- 112/12 Monomers containing a branched unsaturated aliphatic radical or a ring substituted by an alkyl radical
- 112/14 . . . substituted by hetero atoms or groups containing heteroatoms
- 112/16 {Halogens}
- 112/18 {Chlorine}
- 112/20 {Fluorine}
- 112/21 {Bromine}
- 112/22 {Oxygen}
- 112/24 {Phenols or alcohols}
- 112/26 {Nitrogen}
- 112/28 {Amines}
- 112/30 {Sulfur}
- 112/32 . . containing two or more rings
- 112/34 . Monomers containing two or more unsaturated aliphatic radicals
- 112/36 . . Divinylbenzene

114/00 Homopolymers 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**NOTE**

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 114/02 . Monomers containing chlorine

- 114/04 . . Monomers containing two carbon atoms
- 114/06 . . . Vinyl chloride
- 114/08 . . . Vinylidene chloride
- 114/12 . . . 1,2- Dichloroethene
- 114/14 . . Monomers containing three or more carbon atoms
- 114/16 . Monomers containing bromine or iodine
- 114/18 . Monomers containing fluorine
- 114/185 . . {Monomers containing fluorine not covered by the groups [C08F 114/20](#) - [C08F 114/28](#)}
- 114/20 . . Vinyl fluoride
- 114/22 . . Vinylidene fluoride
- 114/24 . . Trifluorochloroethene
- 114/26 . . Tetrafluoroethene
- 114/28 . . Hexafluoropropene

116/00 Homopolymers 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**NOTE**

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 116/02 . by an alcohol radical
- 116/04 . . Acyclic compounds
- 116/06 . . . Polyvinyl alcohol {; [Vinyl alcohol](#)}
- 116/08 . . . Allyl alcohol
- 116/10 . . Carbocyclic compounds
- 116/12 . by an ether radical
- 116/14 . . Monomers containing only one unsaturated aliphatic radical
- 116/16 . . . Monomers containing no hetero atoms other than the ether oxygen
- 116/18 Acyclic compounds
- 116/20 Monomers containing three or more carbon atoms in the unsaturated aliphatic radical
- 116/34 . by an aldehydo radical
- 116/36 . by a ketonic radical
- 116/38 . by a acetal or ketal radical

118/00 Homopolymers 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, of carbonic acid or of a haloformic acid**NOTE**

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 118/02 . Esters of monocarboxylic acids
- 118/04 . . Vinyl esters
- 118/06 . . . Vinyl formate
- 118/08 . . . Vinyl acetate
- 118/10 . . . of monocarboxylic acids containing three or more carbon atoms
- 118/12 . . with unsaturated alcohols containing three or more carbon atoms

- 118/14 . Esters of polycarboxylic acids
- 118/16 . . with alcohols containing three or more carbon atoms
- 118/18 . . . Diallyl phthalate
- 120/00 Homopolymers 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 a salt, anhydride, ester, amide, imide or nitrile thereof**
- NOTE**
- {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 120/02 . Monocarboxylic acids having less than ten carbon atoms; Derivatives thereof
- 120/04 . . Acids; Metal salts or ammonium salts thereof
- 120/06 . . . Acrylic acid; Methacrylic acid; Metal salts or ammonium salts thereof
- 120/08 . . Anhydrides
- 120/10 . . Esters
- 120/12 . . . of monohydric alcohols or phenols
- 120/14 Methyl esters {, e.g. methyl (meth)acrylate}
- 120/16 of phenols or of alcohols containing two or more carbon atoms
- 120/18 with acrylic or methacrylic acids
- 120/20 . . . of polyhydric alcohols or {polyhydric} phenols {, e.g. 2-hydroxyethyl (meth)acrylate or glycerol mono-(meth)acrylate}
- 120/22 . . . Esters containing halogen
- 120/24 containing perhaloalkyl radicals
- 120/26 . . . Esters containing oxygen in addition to the carboxy oxygen
- 120/28 containing no aromatic rings in the alcohol moiety
- 120/30 containing aromatic rings in the alcohol moiety
- 120/32 containing epoxy radicals
- 120/34 . . . Esters containing nitrogen {, e.g. N,N-dimethylaminoethyl (meth)acrylate}
- 120/36 containing oxygen in addition to the carboxy oxygen {, e.g. 2-N-morpholinoethyl (meth)acrylate or 2-isocyanatoethyl (meth)acrylate}
- 120/38 . . . Esters containing sulfur
- 120/40 . . . Esters of unsaturated alcohols {, e.g. allyl (meth)acrylate}
- 120/42 . . Nitriles
- 120/44 . . . Acrylonitrile
- 120/50 . . . containing four or more carbon atoms
- 120/52 . . Amides or imides
- 120/54 . . . Amides {, e.g. N,N-dimethylacrylamide or N-isopropylacrylamide}
- 120/56 Acrylamide; Methacrylamide
- 120/58 containing oxygen in addition to the carbonamido oxygen {, e.g. N-methylolacrylamide, N-acryloyl morpholine}
- 120/60 containing nitrogen in addition to the carbonamido nitrogen
- 120/62 . Monocarboxylic acids having ten or more carbon atoms; Derivatives thereof

- 120/64 . . Acids; Metal salts or ammonium salts thereof
- 120/66 . . Anhydrides
- 120/68 . . Esters
- 120/70 . . Nitriles; Amides; Imides
- 122/00 Homopolymers 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; Salts, anhydrides, esters, amides, imides or nitriles thereof**
- NOTE**
- {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 122/02 . Acids; Metal salts or ammonium salts thereof {, e.g. maleic acid or itaconic acid}
- 122/04 . Anhydrides, e.g. cyclic anhydrides
- 122/06 . . Maleic anhydride
- 122/10 . Esters
- 122/1006 . . {of polyhydric alcohols or polyhydric phenols, e.g. ethylene glycol dimethacrylate}
- 122/12 . . of phenols or saturated alcohols {([C08F 122/1006 takes precedence](#))}
- 122/14 . . . Esters having no free carboxylic acid groups
- 122/16 . . . Esters having free carboxylic acid groups
- 122/18 . . . Esters containing halogen
- 122/20 . . . Esters containing oxygen in addition to the carboxy oxygen
- 122/22 . . . Esters containing nitrogen
- 122/24 . . . Esters containing sulfur
- 122/26 . . of unsaturated alcohols {([C08F 122/1006 takes precedence](#))}
- 122/28 . . . Diallyl maleate
- 122/30 . Nitriles
- 122/32 . . Alpha-cyano-acrylic acid; Esters thereof
- 122/34 . . Vinylidene cyanide
- 122/36 . Amides or imides
- 122/38 . . Amides
- 122/385 . . . {Monomers containing two or more (meth)acrylamide groups, e.g. N,N'-methylenebisacrylamide}
- 122/40 . . Imides, e.g. cyclic imides
- 124/00 Homopolymers 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 (cyclic esters of polyfunctional acids [C08F 118/00](#); cyclic anhydrides of unsaturated acids [C08F 120/00](#), [C08F 122/00](#))**
- NOTE**
- {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

126/00 Homopolymers 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

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 126/02 . by a single or double bond to nitrogen
- 126/04 . . Diallylamine
- 126/06 . by a heterocyclic ring containing nitrogen
- 126/08 . . N-Vinyl-pyrrolidine
- 126/10 . . N-Vinyl-pyrrolidone
- 126/12 . . N-Vinyl-carbazole

128/00 Homopolymers 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

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 128/02 . by a bond to sulfur
- 128/04 . . Thioethers
- 128/06 . by a heterocyclic ring containing sulfur

130/00 Homopolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and containing phosphorus, selenium, tellurium or a metal

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 130/02 . containing phosphorus
- 130/04 . containing a metal
- 130/06 . . containing boron
- 130/08 . . containing silicon
- 130/10 . . containing germanium

132/00 Homopolymers of cyclic compounds containing no unsaturated aliphatic radicals in a side chain, and having one or more carbon-to-carbon double bonds in a carbocyclic ring system

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 132/02 . having no condensed rings
- 132/04 . . having one carbon-to-carbon double bond
- 132/06 . . having two or more carbon-to-carbon double bonds

- 132/08 . having condensed rings

134/00 Homopolymers of cyclic compounds having no unsaturated aliphatic radicals in a side chain and having one or more carbon-to-carbon double bonds in a heterocyclic ring (cyclic esters of polyfunctional acids [C08F 118/00](#); cyclic anhydrides or imides [C08F 122/00](#))

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 134/02 . in a ring containing oxygen
- 134/04 . in a ring containing sulfur

136/00 Homopolymers of compounds having one or more unsaturated aliphatic radicals, at least one having two or more carbon-to-carbon double bonds ([C08F 132/00](#) takes precedence)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 136/02 . the radical having only two carbon-to-carbon double bonds
- 136/04 . . conjugated
- 136/045 . . . {conjugated hydrocarbons other than butadiene or isoprene}
- 136/06 . . . Butadiene
- 136/08 . . . Isoprene
- 136/14 . . . containing elements other than carbon and hydrogen
- 136/16 containing halogen
- 136/18 containing chlorine
- 136/20 . . unconjugated
- 136/22 . the radical having three or more carbon-to-carbon double bonds

138/00 Homopolymers of compounds having one or more carbon-to-carbon triple bonds

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 138/02 . Acetylene
- 138/04 . Vinylacetylene

Copolymers

210/00 Copolymers of unsaturated aliphatic hydrocarbons having only one carbon-to-carbon double bond

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 210/02 . Ethene
- 210/04 . Monomers containing three or four carbon atoms

- 210/06 . . Propene
- 210/08 . . Butenes
- 210/10 . . . Isobutene
- 210/12 with conjugated diolefins, e.g. butyl rubber
- 210/14 . Monomers containing five or more carbon atoms
- 210/16 . Copolymers of ethene with alpha-alkenes, e.g. EP rubbers
- 210/18 . . with non-conjugated dienes, e.g. EPT rubbers

212/00 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

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 212/02 . Monomers containing only one unsaturated aliphatic radical
- 212/04 . . containing one ring
- 212/06 . . . Hydrocarbons
- 212/08 Styrene
- 212/10 with nitriles
- 212/12 Monomers containing a branched unsaturated aliphatic radical or a ring substituted by an alkyl radical
- 212/14 . . . substituted by heteroatoms or groups containing heteroatoms
- 212/16 {Halogens}
- 212/18 {Chlorine}
- 212/20 {Fluorine}
- 212/21 {Bromine}
- 212/22 {Oxygen}
- 212/24 {Phenols or alcohols}
- 212/26 {Nitrogen}
- 212/28 {Amines}
- 212/30 {Sulfur}
- 212/32 . . containing two or more rings
- 212/34 . Monomers containing two or more unsaturated aliphatic radicals
- 212/36 . . Divinylbenzene

214/00 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

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 214/02 . Monomers containing chlorine
- 214/04 . . Monomers containing two carbon atoms
- 214/06 . . . Vinyl chloride
- 214/08 . . . Vinylidene chloride
- 214/10 with nitriles
- 214/12 . . . 1,2-Dichloroethene
- 214/14 . . Monomers containing three or more carbon atoms
- 214/16 . Monomers containing bromine or iodine

- 214/18 . Monomers containing fluorine
- 214/182 . . {Monomers containing fluorine not covered by the groups [C08F 214/20](#) - [C08F 214/28](#)}
- 214/184 . . {with fluorinated vinyl ethers}
- 214/186 . . {with non-fluorinated comonomers}
- 214/188 . . . {with non-fluorinated vinyl ethers}
- 214/20 . . Vinyl fluoride
- 214/202 . . . {with fluorinated vinyl ethers}
- 214/205 . . . {with non-fluorinated comonomers}
- 214/207 {with non-fluorinated vinyl ethers}
- 214/22 . . Vinylidene fluoride
- 214/222 . . . {with fluorinated vinyl ethers}
- 214/225 . . . {with non-fluorinated comonomers}
- 214/227 {with non-fluorinated vinyl ethers}
- 214/24 . . Trifluorochloroethene
- 214/242 . . . {with fluorinated vinyl ethers}
- 214/245 . . . {with non-fluorinated comonomers}
- 214/247 {with non-fluorinated vinyl ethers}
- 214/26 . . Tetrafluoroethene
- 214/262 . . . {with fluorinated vinyl ethers}
- 214/265 . . . {with non-fluorinated comonomers}
- 214/267 {with non-fluorinated vinyl ethers}
- 214/28 . . Hexafluoropropene
- 214/282 . . . {with fluorinated vinyl ethers}
- 214/285 . . . {with non-fluorinated comonomers}
- 214/287 {with non-fluorinated vinyl ethers}

216/00 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, aldehyde, ketonic, acetal or ketal radical

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 216/02 . by an alcohol radical
- 216/04 . . Acyclic compounds
- 216/06 . . . Polyvinyl alcohol {; Vinyl alcohol}
- 216/08 . . . Allyl alcohol
- 216/085 {Allyl alcohol alkoxylate}
- 216/10 . . Carbocyclic compounds
- 216/12 . by an ether radical
- 216/125 . . {Monomers containing two or more unsaturated aliphatic radicals, e.g. trimethylolpropane triallyl ether or pentaerythritol triallyl ether}
- 216/14 . . Monomers containing only one unsaturated aliphatic radical
- 216/1408 . . . {Monomers containing halogen}
- 216/1416 . . . {Monomers containing oxygen in addition to the ether oxygen, e.g. allyl glycidyl ether}
- 216/1425 {Monomers containing side chains of polyether groups}
- 216/1433 {Monomers containing side chains of polyethylene oxide groups}
- 216/1441 {Monomers containing side chains of polypropylene oxide groups}
- 216/145 {Monomers containing side chains of polyethylene-co-propylene oxide groups}
- 216/1458 . . . {Monomers containing nitrogen}
- 216/1466 . . . {Monomers containing sulfur}

- 216/1475 {Monomers containing sulfur and oxygen}
- 216/1483 {Monomers containing sulfur and nitrogen}
- 216/1491 {Monomers containing sulfur, oxygen and nitrogen}
- 216/16 . . . Monomers containing no hetero atoms other than the ether oxygen
- 216/165 {Carbocyclic compounds}
- 216/18 Acyclic compounds
- 216/20 Monomers containing three or more carbon atoms in the unsaturated aliphatic radical
- 216/34 . by an aldehydo radical
- 216/36 . by a ketonic radical
- 216/38 . by an acetal or ketal radical

218/00 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, of carbonic acid or of a haloformic acid

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 218/02 . Esters of monocarboxylic acids
- 218/04 . . Vinyl esters
- 218/06 . . . Vinyl formate
- 218/08 . . . Vinyl acetate
- 218/10 . . . of monocarboxylic acids containing three or more carbon atoms
- 218/12 . . with unsaturated alcohols containing three or more carbon atoms
- 218/14 . Esters of polycarboxylic acids
- 218/16 . . with alcohols containing three or more carbon atoms
- 218/18 . . . Diallyl phthalate
- 218/20 . {Esters containing halogen}
- 218/22 . {Esters containing nitrogen}
- 218/24 . {Esters of carbonic or haloformic acids, e.g. allyl carbonate}

220/00 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 a salt, anhydride ester, amide, imide or nitrile thereof

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 220/02 . Monocarboxylic acids having less than ten carbon atoms; Derivatives thereof
- 220/04 . . Acids; Metal salts or ammonium salts thereof
- 220/06 . . . Acrylic acid; Methacrylic acid; Metal salts or ammonium salts thereof
- 220/08 . . Anhydrides
- 220/10 . . Esters
- 220/12 . . . of monohydric alcohols or phenols

- 220/14 Methyl esters {, e.g. methyl (meth)acrylate}
- 220/16 of phenols or of alcohols containing two or more carbon atoms
- 220/18 with acrylic or methacrylic acids
- 220/1802 {C₂-(meth)acrylate, e.g. ethyl (meth)acrylate}
- 220/1803 {C₃-(meth)acrylate, e.g. (iso)propyl (meth)acrylate}
- 220/1804 {C₄-(meth)acrylate, e.g. butyl (meth)acrylate, isobutyl (meth)acrylate or tert-butyl (meth)acrylate}
- 220/1805 {C₅-(meth)acrylate, e.g. pentyl (meth)acrylate}
- 220/1806 {C₆-(meth)acrylate, e.g. (cyclo)hexyl (meth)acrylate or phenyl (meth)acrylate}
- 220/1807 {C₇-(meth)acrylate, e.g. heptyl (meth)acrylate or benzyl (meth)acrylate}
- 220/1808 {C₈-(meth)acrylate, e.g. isooctyl (meth)acrylate or 2-ethylhexyl (meth)acrylate}
- 220/1809 {C₉-(meth)acrylate}
- 220/1811 {C₁₀or C₁₁-(Meth)acrylate, e.g. isodecyl (meth)acrylate, isobornyl (meth)acrylate or 2-naphthyl (meth)acrylate}
- 220/1812 {C₁₂-(meth)acrylate, e.g. lauryl (meth)acrylate}
- 220/1818 {C₁₃or longer chain (meth)acrylate, e.g. stearyl (meth)acrylate}
- 220/20 . . . of polyhydric alcohols or phenols {, e.g. 2-hydroxyethyl (meth)acrylate or glycerol mono-(meth)acrylate}
- 220/22 . . . Esters containing halogen
- 220/24 containing perhaloalkyl radicals
- 220/26 . . . Esters containing oxygen in addition to the carboxy oxygen
- 220/28 containing no aromatic rings in the alcohol moiety
- 220/281 {and containing only one oxygen, e.g. furfuryl (meth)acrylate or 2-methoxyethyl (meth)acrylate}
- 220/282 {and containing two or more oxygen atoms}
- 220/283 {and containing one or more carboxylic moiety in the chain, e.g. acetoacetoxyethyl(meth)acrylate}
- 220/285 {and containing a polyether chain in the alcohol moiety}
- 220/286 {and containing polyethylene oxide in the alcohol moiety, e.g. methoxy polyethylene glycol (meth)acrylate}
- 220/287 {and containing polypropylene oxide in the alcohol moiety}
- 220/288 {and containing polypropylene-co-ethylene oxide in the alcohol moiety}
- 220/30 containing aromatic rings in the alcohol moiety
- 220/301 {and one oxygen in the alcohol moiety}
- 220/302 {and two or more oxygen atoms in the alcohol moiety}
- 220/303 {and one or more carboxylic moieties in the chain}

- 220/305 {and containing a polyether chain in the alcohol moiety}
- 220/306 {and polyethylene oxide chain in the alcohol moiety}
- 220/307 {and polypropylene oxide chain in the alcohol moiety}
- 220/308 {and polyethylene-co-propylene oxide chain in the alcohol moiety}
- 220/32 containing epoxy radicals
- 220/325 {containing glycidyl radical, e.g. glycidyl (meth)acrylate}
- 220/34 . . . Esters containing nitrogen {, e.g. N,N-dimethylaminoethyl (meth)acrylate}
- 220/343 {in the form of urethane links}
- 220/346 {and further oxygen}
- 220/36 containing oxygen in addition to the carboxy oxygen {, e.g. 2-N-morpholinoethyl (meth)acrylate or 2-isocyanatoethyl (meth)acrylate}
- 220/365 {containing further carboxylic moieties}
- 220/38 . . . Esters containing sulfur
- 220/382 {and containing oxygen, e.g. 2-sulfoethyl (meth)acrylate}
- 220/385 {and containing nitrogen}
- 220/387 {and containing nitrogen and oxygen}
- 220/40 . . . Esters of unsaturated alcohols {, e.g. allyl (meth)acrylate}
- 220/42 . . Nitriles
- 220/44 . . . Acrylonitrile
- 220/46 with carboxylic acids, sulfonic acids or salts thereof
- 220/48 with nitrogen-containing monomers
- 220/50 . . . containing four or more carbon atoms
- 220/52 . . Amides or imides
- 220/54 . . . Amides {, e.g. N,N-dimethylacrylamide or N-isopropylacrylamide}
- 220/56 Acrylamide; Methacrylamide
- 220/58 containing oxygen in addition to the carbonamido oxygen {, e.g. N-methylolacrylamide, N-(meth)acryloylmorpholine}
- 220/585 {and containing other heteroatoms, e.g. 2-acrylamido-2-methylpropane sulfonic acid [AMPS]}
- 220/60 containing nitrogen in addition to the carbonamido nitrogen
- 220/603 {and containing oxygen in addition to the carbonamido oxygen and nitrogen}
- 220/606 {and containing other heteroatoms}
- 220/62 . . Monocarboxylic acids having ten or more carbon atoms; Derivatives thereof (copolymers of drying oils [C08F 242/00](#))
- 220/64 . . Acids; Metal salts or ammonium salts thereof
- 220/66 . . Anhydrides
- 220/68 . . Esters
- 220/70 . . Nitriles; Amides; Imides

222/00

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; Salts, anhydrides, esters, amides, imides, or nitriles thereof

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 222/02 . Acids; Metal salts or ammonium salts thereof {, e.g. maleic acid or itaconic acid}
- 222/04 . Anhydrides, e.g. cyclic anhydrides
- 222/06 . . Maleic anhydride
- 222/08 . . . with vinyl aromatic monomers
- 222/10 . Esters
- 222/1006 . . {of polyhydric alcohols or polyhydric phenols}
- 222/102 . . . {of dialcohols, e.g. ethylene glycol di(meth)acrylate or 1,4-butanediol dimethacrylate}
- 222/1025 {of aromatic dialcohols}
- 222/103 . . . {of trialcohols, e.g. trimethylolpropane tri(meth)acrylate}
- 222/1035 {of aromatic trialcohols}
- 222/104 . . . {of tetraalcohols, e.g. pentaerythritol tetra(meth)acrylate}
- 222/1045 {of aromatic tetraalcohols}
- 222/105 . . . {of pentaalcohols}
- 222/1055 {of aromatic pentaalcohols}
- 222/106 . . . {Esters of polycondensation macromers}
- 222/1061 {of alcohol terminated polyesters or polycarbonates, e.g. polyester (meth)acrylates}
- 222/1063 {of alcohol terminated polyethers}
- 222/1065 {of alcohol terminated (poly)urethanes, e.g. urethane(meth)acrylates}
- 222/1067 {of alcohol terminated epoxy functional polymers, e.g. epoxy(meth)acrylates}
- 222/12 . . of phenols or saturated alcohols ([C08F 222/1006](#) takes precedence)}
- 222/14 . . . Esters having no free carboxylic acid groups {, e.g. dialkyl maleates or fumarates}
- 222/145 {the ester chains containing seven or more carbon atoms}
- 222/16 . . . Esters having free carboxylic acid groups {, e.g. monoalkyl maleates or fumarates}
- 222/165 {the ester chains containing seven or more carbon atoms}
- 222/18 . . . Esters containing halogen
- 222/185 {the ester chains containing seven or more carbon atoms}
- 222/20 . . . Esters containing oxygen in addition to the carboxy oxygen
- 222/205 {the ester chains containing seven or more carbon atoms}
- 222/22 . . . Esters containing nitrogen
- 222/225 {the ester chains containing seven or more carbon atoms}
- 222/24 . . . Esters containing sulfur

- 222/245 . . . {the ester chains containing seven or more carbon atoms}
- 222/26 . . of unsaturated alcohols {[C08F 222/1006](#) takes precedence}
- 222/28 . . . Diallyl maleate
- 222/30 . Nitriles
- 222/32 . . Alpha-cyano-acrylic acid; Esters thereof
- 222/321 . . . {Alpha-cyano-acrylic acid methyl ester}
- 222/322 . . . {Alpha-cyano-acrylic acid ethyl ester, e.g. ethyl-2-cyanoacrylate}
- 222/323 . . . {Alpha-cyano-acrylic acid propyl ester}
- 222/324 . . . {Alpha-cyano-acrylic acid butyl ester}
- 222/325 . . . {Alpha-cyano-acrylic acid pentyl ester}
- 222/326 . . . {Alpha-cyano-acrylic acid longer chain ester}
- 222/327 . . . {Alpha-cyano-acrylic acid alkoxy ester}
- 222/328 . . . {Alpha-cyano-acrylic acid with more than one oxygen in the ester moiety}
- 222/34 . . Vinylidene cyanide
- 222/36 . Amides or imides
- 222/38 . . Amides
- 222/385 . . . {Monomers containing two or more (meth)acrylamide groups, e.g. N,N'-methylenebisacrylamide}
- 222/40 . . Imides, e.g. cyclic imides
- 222/402 . . . {Alkyl substituted imides}
- 222/404 . . . {substituted imides comprising oxygen other than the carboxy oxygen}
- 222/406 . . . {substituted imides comprising nitrogen other than the imide nitrogen}
- 222/408 . . . {substituted imides comprising other heteroatoms}
- 224/00** **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** (cyclic esters of polyfunctional acids [C08F 218/00](#); cyclic anhydrides of unsaturated acids [C08F 220/00](#); [C08F 222/00](#))
- NOTE**
- {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 226/00** **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**
- NOTE**
- {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 226/02 . by a single or double bond to nitrogen
- 226/04 . . Diallylamine
- 226/06 . by a heterocyclic ring containing nitrogen
- 226/08 . . N-Vinyl-pyrrolidine
- 226/10 . . N-Vinyl-pyrrolidone
- 226/12 . . N-Vinylcarbazole

228/00

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

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

228/02

. by a bond to sulfur

228/04

. . Thioethers

228/06

. by a heterocyclic ring containing sulfur

230/00

Copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and containing phosphorus, selenium, tellurium or a metal

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

230/02

. containing phosphorus

230/04

. containing a metal

230/06

. . containing boron

230/065

. . . {the monomer being a polymerisable borane, e.g. dimethyl(vinyl)borane}

230/08

. . containing silicon

230/085

. . . {the monomer being a polymerisable silane, e.g. (meth)acryloyloxy trialkoxy silanes or vinyl trialkoxysilanes}

230/10

. . containing germanium

232/00

Copolymers of cyclic compounds containing no unsaturated aliphatic radicals in a side chain, and having one or more carbon-to-carbon double bonds in a carbocyclic ring system

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

232/02

. having no condensed rings

232/04

. . having one carbon-to-carbon double bond

232/06

. . having two or more carbon-to-carbon double bonds

232/08

. having condensed rings ([coumarone-indene polymers C08F 244/00](#))

234/00

Copolymers of cyclic compounds having no unsaturated aliphatic radicals in a side chain and having one or more carbon-to-carbon double bonds in a heterocyclic ring (cyclic esters of polyfunctional acids [C08F 218/00](#); cyclic anhydrides or imides [C08F 222/00](#))

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the

C08F 234/00
(continued)associated syntax rules is present in the Definitions of [C08F](#).234/02 . in a ring containing oxygen ([coumarone-indene polymers C08F 244/00](#))

234/04 . in a ring containing sulfur

236/00 Copolymers of compounds having one or more unsaturated aliphatic radicals, at least one having two or more carbon-to-carbon double bonds ([C08F 232/00](#) takes precedence)**NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).

236/02 . the radical having only two carbon-to-carbon double bonds

236/04 . . conjugated

236/045 . . . {conjugated hydrocarbons other than butadiene or isoprene}

236/06 . . . Butadiene

236/08 . . . Isoprene

236/10 . . . with vinyl-aromatic monomers

236/12 . . . with nitriles

236/14 . . . containing elements other than carbon and hydrogen

236/16 containing halogen

236/18 containing chlorine

236/20 . . unconjugated

236/22 . the radical having three or more carbon-to-carbon double bonds

238/00 Copolymers of compounds having one or more carbon-to-carbon triple bonds**NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).

238/02 . Acetylene

238/04 . Vinylacetylene

240/00 Copolymers of hydrocarbons and mineral oils, e.g. petroleum resins**NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).**242/00 Copolymers of drying oils with other monomers****NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).

244/00

Coumarone-indene copolymers**NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).

246/00

Copolymers in which the nature of only the monomers in minority is defined**NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).**Graft polymers; Polymers crosslinked with unsaturated monomers**

251/00

Macromolecular compounds obtained by polymerising monomers on to polysaccharides or derivatives thereof**NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).

251/02

. on to cellulose or derivatives thereof

253/00

Macromolecular compounds obtained by polymerising monomers on to natural rubbers or derivatives thereof**NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).

255/00

Macromolecular compounds obtained by polymerising monomers on to polymers of hydrocarbons as defined in group [C08F 10/00](#)**NOTE**{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).

255/02

. on to polymers of olefins having two or three carbon atoms

255/023

. . {On to modified polymers, e.g. chlorinated polymers}

255/026

. . {on to ethylene-vinylester copolymers}

255/04

. . on to ethene-propene copolymers
{[C08F 255/023](#) takes precedence}

255/06

. . on to ethene-propene-diene terpolymers
{[C08F 255/023](#) takes precedence}

255/08

. on to polymers of olefins having four or more carbon atoms

255/10

. . on to butene polymers

- 257/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of aromatic monomers as defined in group [C08F 12/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 257/02 . on to polymers of styrene or alkyl-substituted styrenes
- 259/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of halogen containing monomers as defined in group [C08F 14/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 259/02 . on to polymers containing chlorine
 259/04 . . on to polymers of vinyl chloride
 259/06 . . on to polymers of vinylidene chloride
 259/08 . on to polymers containing fluorine
- 261/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of oxygen-containing monomers as defined in group [C08F 16/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 261/02 . on to polymers of unsaturated alcohols
 261/04 . . on to polymers of vinyl alcohol
 261/06 . on to polymers of unsaturated ethers
 261/08 . on to polymers of unsaturated aldehydes
 261/10 . on to polymers of unsaturated ketones
 261/12 . on to polymers of unsaturated acetals or ketals
- 263/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of esters of unsaturated alcohols with saturated acids as defined in group [C08F 18/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 263/02 . on to polymers of vinyl esters with monocarboxylic acids
 263/04 . . on to polymers of vinyl acetate
 263/06 . on to polymers of esters with polycarboxylic acids
 263/08 . . Polymerisation of diallyl phthalate prepolymers

- 265/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of unsaturated monocarboxylic acids or derivatives thereof as defined in group [C08F 20/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 265/02 . on to polymers of acids, salts or anhydrides
 265/04 . on to polymers of esters
 265/06 . . Polymerisation of acrylate or methacrylate esters on to polymers thereof
 265/08 . on to polymers of nitriles
 265/10 . on to polymers of amides or imides
- 267/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of unsaturated polycarboxylic acids or derivatives thereof as defined in group [C08F 22/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 267/02 . on to polymers of acids or salts
 267/04 . on to polymers of anhydrides
 267/06 . on to polymers of esters
 267/08 . on to polymers of nitriles
 267/10 . on to polymers of amides or imides
- 269/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of heterocyclic oxygen-containing monomers as defined in group [C08F 24/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 271/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of nitrogen-containing monomers as defined in group [C08F 26/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}
- 271/02 . on to polymers of monomers containing heterocyclic nitrogen
- 273/00** **Macromolecular compounds obtained by polymerising monomers on to polymers of sulfur-containing monomers as defined in group [C08F 28/00](#)**
NOTE
 {In this group, C-Sets are used. The detailed information about the C-Sets construction and the

C08F 273/00

(continued)

associated syntax rules is present in the Definitions of [C08F](#).)

275/00 Macromolecular compounds obtained by polymerising monomers on to polymers of monomers containing phosphorus, selenium, tellurium or a metal as defined in group [C08F 30/00](#)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

277/00 Macromolecular compounds obtained by polymerising monomers on to polymers of carbocyclic or heterocyclic monomers as defined respectively in group [C08F 32/00](#) or in group [C08F 34/00](#)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

279/00 Macromolecular compounds obtained by polymerising monomers on to polymers of monomers having two or more carbon-to-carbon double bonds as defined in group [C08F 36/00](#)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

279/02 . on to polymers of conjugated dienes

279/04 . . Vinyl aromatic monomers and nitriles as the only monomers

279/06 . . Vinyl aromatic monomers and methacrylates as the only monomers

281/00 Macromolecular compounds obtained by polymerising monomers on to polymers of monomers having carbon-to-carbon triple bonds as defined in group [C08F 38/00](#)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

283/00 Macromolecular compounds obtained by polymerising monomers on to polymers provided for in subclass [C08G](#)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

283/002 . {on to polymers modified by after-treatment}

283/004 . . {modified by incorporation of silicium atoms}

283/006 . {on to polymers provided for in [C08G 18/00](#) ([C08F 283/004](#) takes precedence)}

283/008

283/01

283/02

283/04

283/045

283/06

283/065

283/08

283/085

283/10

283/105

283/12

283/122

283/124

283/126

283/128

283/14

285/00

. . {on to unsaturated polymers}

. on to unsaturated polyesters {([C08F 283/004](#) takes precedence)}

. on to polycarbonates or saturated polyesters {([C08F 283/004](#) takes precedence)}

. on to polycarbonamides, polyesteramides or polyimides {([C08F 283/004](#) takes precedence)}

. . {on to unsaturated polycarbonamides, polyesteramides or polyimides}

. on to polyethers, polyoxymethylenes or polyacetals {([C08F 283/004](#) takes precedence)}

. . {on to unsaturated polyethers, polyoxymethylenes or polyacetals}

. . on to polyphenylene oxides

. . . {on to unsaturated polyphenylene oxides}

. on to polymers containing more than one epoxy radical per molecule {([C08F 283/004](#) takes precedence)}

. . {on to unsaturated polymers containing more than one epoxy radical per molecule}

. on to polysiloxanes

. . {on to saturated polysiloxanes containing hydrolysable groups, e.g. alkoxy-, thio-, hydroxy-}

. . {on to polysiloxanes having carbon-to-carbon double bonds}

. . {on to polysiloxanes being the result of polycondensation and radical polymerisation reactions}

. . {on to reaction products of polysiloxanes having at least one Si-H bond and compounds having carbon-to-carbon double bonds}

. on to polymers obtained by ring-opening polymerisation of carbocyclic compounds having one or more carbon-to-carbon double bonds in the carbocyclic ring, i.e. polyalkeneamers {([C08F 283/004](#) takes precedence)}

Macromolecular compounds obtained by polymerising monomers on to preformed graft polymers

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

287/00

Macromolecular compounds obtained by polymerising monomers on to block polymers

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

289/00

Macromolecular compounds obtained by polymerising monomers on to macromolecular compounds not provided for in groups [C08F 251/00](#) - [C08F 287/00](#)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the

C08F 289/00

(continued)

associated syntax rules is present in the Definitions of [C08F](#).)

associated syntax rules is present in the Definitions of [C08F](#).)

290/00 Macromolecular compounds obtained by polymerising monomers on to polymers modified by introduction of aliphatic unsaturated end or side groups

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

- 290/02 . on to polymers modified by introduction of unsaturated end groups
- 290/04 . . Polymers provided for in subclasses [C08C](#) or [C08F](#)
- 290/042 . . . {Polymers of hydrocarbons as defined in group [C08F 10/00](#)}
- 290/044 . . . {Polymers of aromatic monomers as defined in group [C08F 12/00](#)}
- 290/046 . . . {Polymers of unsaturated carboxylic acids or derivatives thereof}
- 290/048 . . . {Polymers of monomers having two or more carbon-to-carbon double bonds as defined in group [C08F 36/00](#)}
- 290/06 . . Polymers provided for in subclass [C08G](#)
- 290/061 . . . {Polyesters; Polycarbonates}
- 290/062 . . . {Polyethers}
- 290/064 . . . {Polymers containing more than one epoxy group per molecule}
- 290/065 . . . {Polyamides; Polyesteramides; Polyimides}
- 290/067 . . . {Polyurethanes; Polyureas}
- 290/068 . . . {Polysiloxanes}
- 290/08 . on to polymers modified by introduction of unsaturated side groups
- 290/10 . . Polymers provided for in subclass [C08B](#)
- 290/12 . . Polymers provided for in subclasses [C08C](#) or [C08F](#)
- 290/122 . . . {Polymers of hydrocarbons as defined in group [C08F 10/00](#)}
- 290/124 . . . {Polymers of aromatic monomers as defined in group [C08F 12/00](#)}
- 290/126 . . . {Polymers of unsaturated carboxylic acids or derivatives thereof}
- 290/128 . . . {Polymers of monomers having two or more carbon-to-carbon double bonds as defined in group [C08F 36/00](#)}
- 290/14 . . Polymers provided for in subclass [C08G](#)
- 290/141 . . . {Polyesters; Polycarbonates}
- 290/142 . . . {Polyethers}
- 290/144 . . . {Polymers containing more than one epoxy group per molecule}
- 290/145 . . . {Polyamides; Polyesteramides; Polyimides}
- 290/147 . . . {Polyurethanes; Polyureas}
- 290/148 . . . {Polysiloxanes}

291/00 Macromolecular compounds obtained by polymerising monomers on to macromolecular compounds according to more than one of the groups [C08F 251/00](#) - [C08F 289/00](#)

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the

- 291/02 . on to elastomers
- 291/04 . on to halogen-containing macromolecules
- 291/06 . on to oxygen-containing macromolecules
- 291/08 . . on to macromolecules containing hydroxy radicals
- 291/10 . . on to macromolecules containing epoxy radicals
- 291/12 . on to nitrogen-containing macromolecules
- 291/14 . on to sulfur-containing macromolecules
- 291/16 . on to macromolecules containing more than two metal atoms
- 291/18 . on to irradiated or oxidised macromolecules ([epoxidised C08F 291/10](#))
- 291/185 . . {The monomer(s) not being present during the irradiation or the oxidation of the macromolecule}

292/00 Macromolecular compounds obtained by polymerising monomers on to inorganic materials

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

Block polymers

293/00 Macromolecular compounds obtained by polymerisation on to a macromolecule having groups capable of inducing the formation of new polymer chains bound exclusively at one or both ends of the starting macromolecule (on to polymers modified by introduction of unsaturated end groups [C08F 290/02](#))

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

- 293/005 . {using free radical "living" or "controlled" polymerisation, e.g. using a complexing agent}

295/00 Macromolecular compounds obtained by polymerisation using successively different catalyst types without deactivating the intermediate polymer

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).)

297/00 Macromolecular compounds obtained by successively polymerising different monomer systems using a catalyst of the ionic or coordination type without deactivating the intermediate polymer

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the

C08F 297/00

(continued)

associated syntax rules is present in the Definitions of [C08F](#).

- 297/02 . using a catalyst of the anionic type
- 297/023 . . {using a coupling agent}
- 297/026 . . {polymerising acrylic acid, methacrylic acid or derivatives thereof}
- 297/04 . . polymerising vinyl aromatic monomers and conjugated dienes
- 297/042 . . . {using a polyfunctional initiator}
- 297/044 . . . {using a coupling agent}
- 297/046 . . . {polymerising vinyl aromatic monomers and isoprene, optionally with other conjugated dienes}
- 297/048 . . . {polymerising vinyl aromatic monomers, conjugated dienes and polar monomers}
- 297/06 . using a catalyst of the coordination type
- 297/08 . . polymerising mono-olefins
- 297/083 . . . {the monomers being ethylene or propylene}
- 297/086 {the block polymer contains at least three blocks}

299/00 Macromolecular compounds obtained by interreacting polymers involving only carbon-to-carbon unsaturated bond reactions, in the absence of non-macromolecular monomers

NOTE

{In this group, C-Sets are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of [C08F](#).}

- 299/02 . from unsaturated polycondensates
- 299/022 . . {from polycondensates with side or terminal unsaturations}
- 299/024 . . . {the unsaturation being in acrylic or methacrylic groups}
- 299/026 . . {from the reaction products of polyepoxides and unsaturated monocarboxylic acids, their anhydrides, halogenides or esters with low molecular weight}
- 299/028 . . . {photopolymerisable compositions}
- 299/04 . . from polyesters
- 299/0407 . . . {Processes of polymerisation}
- 299/0414 {Suspension or emulsion polymerisation}
- 299/0421 {Polymerisation initiated by wave energy or particle radiation}
- 299/0428 {by ultraviolet or visible light}
- 299/0435 {with sensitising agents}
- 299/0442 . . . {Catalysts}
- 299/045 {Peroxy-compounds}
- 299/0457 {Nitrogen containing compounds}
- 299/0464 {Metals or metal containing compounds}
- 299/0471 {Other compounds}
- 299/0478 . . . {Copolymers from unsaturated polyesters and low molecular monomers characterised by the monomers used}
- 299/0485 . . . {from polyesters with side or terminal unsaturations}
- 299/0492 {the unsaturation being in acrylic or methacrylic groups}
- 299/06 . . from polyurethanes
- 299/065 . . . {from polyurethanes with side or terminal unsaturations}

- 299/08 . . from polysiloxanes

301/00 Macromolecular compounds not provided for in groups [C08F 10/00](#) - [C08F 299/00](#)

-
- 2400/00 Characteristics for processes of polymerization**
 - 2400/02 . Control or adjustment of polymerization parameters
 - 2400/04 . High pressure, i.e. P > 50 MPa, 500 bars or 7250 psi
 - 2410/00 Features related to the catalyst preparation, the catalyst use or to the deactivation of the catalyst**
 - 2410/01 . Additive used together with the catalyst, excluding compounds containing Al or B
 - 2410/02 . Anti-static agent incorporated into the catalyst
 - 2410/03 . Multinuclear procatalyst, i.e. containing two or more metals, being different or not
 - 2410/04 . Dual catalyst, i.e. use of two different catalysts, where none of the catalysts is a metallocene
 - 2410/05 . Transitioning, i.e. transition from one catalyst to another with use of a deactivating agent
 - 2410/06 . Catalyst characterized by its size
 - 2410/07 . Catalyst support treated by an anion, e.g. Cl⁻, F⁻, SO₄²⁻
 - 2410/08 . Presence of a deactivator
 - 2420/00 Metallocene catalysts**
 - 2420/01 . Cp or analog bridged to a non-Cp X neutral donor
 - 2420/02 . Cp or analog bridged to a non-Cp X anionic donor
 - 2420/03 . Cp or analog not bridged to a non-Cp X ancillary neutral donor
 - 2420/04 . Cp or analog not bridged to a non-Cp X ancillary anionic donor
 - 2420/05 . Cp or analog where at least one of the carbon atoms of the coordinating ring is replaced by a heteroatom
 - 2420/06 . Cp analog where at least one of the carbon atoms of the non-coordinating part of the condensed ring is replaced by a heteroatom
 - 2420/07 . Heteroatom-substituted Cp, i.e. Cp or analog where at least one of the substituent of the Cp or analog ring is or contains a heteroatom
 - 2420/08 . Heteroatom bridge, i.e. Cp or analog where the bridging atom linking the two Cps or analogs is a heteroatom different from Si
 - 2420/09 . Cyclic bridge, i.e. Cp or analog where the bridging unit linking the two Cps or analogs is part of a cyclic group
 - 2420/10 . Heteroatom-substituted bridge, i.e. Cp or analog where the bridge linking the two Cps or analogs is substituted by at least one group that contains a heteroatom
 - 2420/11 . Non-aromatic cycle-substituted bridge, i.e. Cp or analog where the bridge linking the two Cps or analogs is substituted by a non-aromatic cycle
 - 2420/12 . Long bridge, i.e. Cp or analog where the bridging unit linking the two Cps or analogs is composed of at least two atoms which are not part of a cycle and which are not an ethylene bridge
 - 2438/00 Living radical polymerisation**
 - 2438/01 . Atom Transfer Radical Polymerization [ATRP] or reverse ATRP

2438/02	• Stable Free Radical Polymerisation [SFRP]; Nitroxide Mediated Polymerisation [NMP] for, e.g. using 2,2,6,6-tetramethylpiperidine-1-oxyl [TEMPO]	2500/35	• Crystallinity, e.g. soluble or insoluble content as determined by the extraction of the polymer with a solvent
2438/03	• Use of a di- or tri-thiocarbonylthio compound, e.g. di- or tri-thioester, di- or tri-thiocarbamate, or a xanthate as chain transfer agent, e.g. Reversible Addition Fragmentation chain Transfer [RAFT] or Macromolecular Design via Interchange of Xanthates [MADIX]	2500/36	• Terpolymer with exactly three olefinic monomers
2500/00	Characteristics or properties of obtained polyolefins; Use thereof	2500/37	• Elution or crystallisation fractionation, e.g. as determined by. TREF or Crystaf
	NOTE	2500/38	• Branching index [gvis], i.e. ratio of the intrinsic viscosity of the branched polymer to the intrinsic viscosity of a linear polymer of equal molecular weight and same composition
	C08F 2500/01 - C08F 2500/39 groups only are used in C-Sets as subsequent symbol(s) and are not allocated as single symbol(s). The detailed information about the C-Sets construction and the associated syntax rules is present in the Definitions of C08F .	2500/39	• Tensile storage modulus E'; Shear storage modulus G'; Tensile loss modulus E"; Shear loss modulus G"; Tensile complex modulus E*; Shear complex modulus G*
2500/01	• High molecular weight, e.g. >800,000 Da.	2800/00	Copolymer characterised by the proportions of the comonomers expressed
2500/02	• Low molecular weight, e.g. <100,000 Da.	2800/10	• as molar percentages
2500/03	• Narrow molecular weight distribution, i.e. Mw/Mn < 3	2800/20	• as weight or mass percentages
2500/04	• Broad molecular weight distribution, i.e. Mw/Mn > 6	2810/00	Chemical modification of a polymer
2500/05	• Bimodal or multimodal molecular weight distribution	2810/10	• including a reactive processing step which leads, inter alia, to morphological and/or rheological modifications, e.g. visbreaking
2500/055	• Monomodal/unimodal molecular weight distribution	2810/20	• leading to a crosslinking, either explicitly or inherently
2500/06	• Comonomer distribution, e.g. normal, reverse or narrow	2810/30	• leading to the formation or introduction of aliphatic or alicyclic unsaturated groups
2500/07	• High density, i.e. > 0.95 g/cm ³	2810/40	• taking place solely at one end or both ends of the polymer backbone, i.e. not in the side or lateral chains
2500/08	• Low density, i.e. < 0.91 g/cm ³	2810/50	• wherein the polymer is a copolymer and the modification is taking place only on one or more of the monomers present in minority
2500/09	• Long chain branches		
2500/10	• Short chain branches		
2500/11	• Melt tension or melt strength		
2500/12	• Melt flow index or melt flow ratio		
2500/13	• Environmental stress cracking resistance		
2500/14	• Die swell or die swell ratio or swell ratio		
2500/15	• Isotactic		
2500/16	• Syndiotactic		
2500/17	• Viscosity		
2500/18	• Bulk density		
2500/19	• Shear ratio or shear ratio index		
2500/20	• Activation energy or enthalpy		
2500/21	• Rubbery or elastomeric properties		
2500/22	• Sticky polymer		
2500/23	• Waxy properties		
2500/24	• Polymer with special particle form or size		
2500/25	• Cycloolefine		
2500/26	• Use as polymer for film forming		
2500/27	• Amount of comonomer in wt% or mol%		
2500/28	• Internal unsaturations		
2500/29	• Terminal unsaturations, e.g. vinyl or vinylidene		
2500/30	• Flexural modulus; Elasticity modulus		
2500/31	• Impact strength or impact resistance, e.g. Izod, Charpy or notched		
2500/32	• Glass transition temperature [Tg]		
2500/33	• Crystallisation temperature [Tc]		
2500/34	• Melting point [Tm]		