

CPC COOPERATIVE PATENT CLASSIFICATION

C09K MATERIALS FOR MISCELLANEOUS APPLICATIONS, NOT PROVIDED FOR ELSEWHERE

NOTES

1. This subclass covers also the use of specified materials in general or their use for the applications not specially provided for elsewhere.
2. In this subclass, the following term is used with the meaning indicated:
 - "materials" includes compositions.

3/00 Materials not provided for elsewhere

NOTE

When classifying in groups [C09K 3/10](#) - [C09K 3/1028](#) the properties and uses of the material can be further indexed by using indexing codes chosen from [C09K 2003/1034](#) - [C09K 2003/1096](#) and the chemical nature of the materials can be further indexed by using indexing codes chosen from [C09K 2200/00](#) - [C09K 2200/0697](#)

3/10	. {Materials in mouldable or extrudable form} for sealing or packing joints or covers (filling pastes C09D 5/34)	2003/109	. . . {Crown caps}
3/1003	. . {Pure inorganic mixtures}	2003/1093	. . . {Cables}
3/1006	. . {characterised by the chemical nature of one of its constituents}	2003/1096	. . . {Cylinder head gaskets}
3/1009	. . . {Fluorinated polymers, e.g. PTFE}	3/12	. Materials for stopping leaks, e.g. in radiators, in tanks (filling pastes C09D 5/34)
3/1012	. . . {Sulfur-containing polymers, e.g. polysulfides}	3/14	. Anti-slip materials; Abrasives {(products specifically intended for the fabrication of abrasive tools, blocks or papers, or for operations of the kind of sand-blasting and barrelling B24B 31/14 , B24C 1/00 ; polishing compositions containing abrasive or grinding agents C09G 1/02 ; polishing of semi-conductors H01L ; friction compositions for brakes or clutches F16D 69/02)}
3/1015	. . . {Polysaccharides or derivatives thereof}		
3/1018	. . . {Macromolecular compounds having one or more carbon-to-silicon linkages}		
3/1021	. . . {Polyurethanes or derivatives thereof}		
3/1025	. . {characterised by non-chemical features of one or more of its constituents}		
3/1028	. . . {Fibres}		
3/1031	. . {Sealing waxes, e.g. sealing letters, bottles, or the like}		
2003/1034	. . {Materials or components characterised by specific properties}		
2003/1037	. . . {Intumescent materials}		
2003/104	. . . {Water-swellaable materials}		
2003/1043	. . . {Non water-swellaable materials}		
2003/1046	. . . {Water-absorbing materials}		
2003/105	. . . {Water-soluble materials}		
2003/1053	. . . {Elastomeric materials}		
2003/1056	. . . {Moisture-curable materials}		
2003/1059	. . . {Heat-curable materials}		
2003/1062	. . . {UV-curable materials}		
2003/1065	. . . {Anaerobically hardenable materials}		
2003/1068	. . . {Crosslinkable materials}		
2003/1071	. . . {Thixotropic materials}		
2003/1075	. . . {Injection-mouldable materials}		
2003/1078	. . . {Fire-resistant, heat-resistant materials}		
2003/1081	. . . {Water-proofed materials}		
2003/1084	. . {Laminates}		
2003/1087	. . {Materials or components characterised by specific uses}		
		3/1409	. . {Abrasive particles per se (preparation of diamond C01B 31/06)}
		3/1418	. . . {obtained by division of a mass agglomerated by sintering}
		3/1427	. . . {obtained by division of a mass agglomerated by melting, at least partially, e.g. with a binder}
		3/1436	. . {Composite particles, e.g. coated particles}
		3/1445	. . . {the coating consisting exclusively of metals}
		3/1454	. . {Abrasive powders, suspensions and pastes for polishing}
		3/1463	. . . {Aqueous liquid suspensions}
		3/1472	. . . {Non-aqueous liquid suspensions}
		3/1481	. . . {Pastes, optionally in the form of blocks or sticks}
		3/149	. . {Antislip compositions}
		3/16	. Anti-static materials
		3/18	. for application to surfaces to minimize adherence of ice, mist or water thereto (rendering particulate materials free flowing, in general, e.g. making them hydrophobic B01J 2/30); Thawing or antifreeze materials for application to surfaces (used in liquids for heat-transfer, heat-exchange or heat-storage or for the production of heat or cold other than by combustion, e.g. radiator liquids, C09K 5/00)
		3/185	. . {Thawing materials}
		3/20	. as substitutes for glycerol in its non-chemical uses, e.g. as a base in toilet creams or ointments
		3/22	. for dust-laying or dust-absorbing
		3/24	. for simulating ice or snow
		3/30	. for aerosols (aerosol containers B65D 83/14)

NOTE

In this group, boron and silicon are considered as being metals. Likewise for associations of carbon with metals, e.g. carbides.

- 3/32 . for absorbing liquids to remove pollution, e.g. oil, gasoline, fat

5/00 Heat-transfer, heat-exchange or heat-storage materials, e.g. refrigerants; Materials for the production of heat or cold by chemical reactions other than by combustion

- 5/02 . Materials undergoing a change of physical state when used ([C09K 5/16](#), [C09K 5/20](#) take precedence)
- 5/04 . . the change of state being from liquid to vapour or vice versa

NOTE

When classifying in groups [C09K 5/042](#), [C09K 5/044](#) and [C09K 5/045](#) the chemical nature of the material can be further indexed by using indexing codes chosen from [C09K 2205/00](#) - [C09K 2205/48](#)

- 5/041 . . . {for compression-type refrigeration systems}
- 5/042 {comprising compounds containing carbon and hydrogen only}
- 5/044 {comprising halogenated compounds}
- 5/045 {containing only fluorine as halogen}
- 5/047 . . . {for absorption-type refrigeration systems}
- 5/048 . . . {Boiling liquids as heat transfer materials}
- 5/06 . . the change of state being from liquid to solid or vice versa
- 5/063 . . . {Materials absorbing or liberating heat during crystallisation; Heat storage materials}
- 5/066 . . . {Cooling mixtures; De-icing compositions}
- 5/08 . Materials not undergoing a change of physical state when used ([C09K 5/16](#), [C09K 5/20](#) take precedence)

WARNING

The subgroups of [C09K 5/08](#) might be incomplete as some of the patent documents classified in [C09K 5/08](#) might need reclassification to one or more of groups [C09K 5/10](#) - [C09K 5/14](#)

- 5/10 . . Liquid materials
- 5/12 . . . Molten materials, i.e. materials solid at room temperature, e.g. metals or salts
- 5/14 . . Solid materials, e.g. powdery or granular
- 5/16 . Materials undergoing chemical reactions when used
- 5/18 . . Non-reversible chemical reactions

WARNING

This group might be incomplete as some of the patent documents classified in [C09K 5/16](#) might need reclassification to [C09K 5/18](#)

- 5/20 . Antifreeze additives therefor, e.g. for radiator liquids (for application to surfaces [C09K 3/18](#); inhibiting corrosion by liquids [C23F 11/00](#))

8/00 Compositions for drilling of boreholes or wells; Compositions for treating boreholes or wells, e.g. for completion or for remedial operations

NOTE

{When classifying in groups [C09K 8/00](#)-[C09K 8/40](#) and [C09K 8/50](#)-[C09K 8/94](#), it is mandatory when appropriate to classify with

indexing codes for aspects relating to compositions for drilling or treating boreholes or wells. The indexing codes are chosen from the groups [C09K 2208/00](#)-[C09K 2208/34](#)}

- 8/02 . Well-drilling compositions

NOTE

In groups [C09K 8/02](#)-[C09K 8/38](#), in the absence of an indication to the contrary, classification is made in the last appropriate place.

- 8/03 . . Specific additives for general use in well-drilling compositions
- 8/032 . . . {Inorganic additives}
- 8/035 . . . Organic additives
- 8/04 . . Aqueous well-drilling compositions
- 8/05 . . . containing inorganic compounds only, e.g. mixtures of clay and salt
- 8/06 . . . Clay-free compositions (containing inorganic compounds only [C09K 8/05](#))
- 8/08 containing natural organic compounds, e.g. polysaccharides, or derivatives thereof
- 8/10 Cellulose or derivatives thereof
- 8/12 containing synthetic organic macromolecular compounds or their precursors
- 8/14 . . . Clay-containing compositions (containing inorganic compounds [C09K 8/05](#))
- 8/145 {characterised by the composition of the clay}
- 8/16 characterised by the inorganic compounds other than clay
- 8/18 characterised by the organic compounds
- 8/20 Natural organic compounds or derivatives thereof, e.g. polysaccharides or lignin derivatives
- 8/203 {Wood derivatives, e.g. lignosulfonate, tannin, tall oil, sulfite liquor}
- 8/206 {Derivatives of other natural products, e.g. cellulose, starch, sugars}
- 8/22 Synthetic organic compounds
- 8/24 Polymers
- 8/26 . . . Oil-in-water emulsions
- 8/265 {containing inorganic additives}
- 8/28 containing organic additives
- 8/32 . . Non-aqueous well-drilling compositions, e.g. oil-based
- 8/34 . . . Organic liquids
- 8/36 . . . Water-in-oil emulsions
- 8/38 . . Gaseous or foamed well-drilling compositions
- 8/40 . Spacer compositions, e.g. compositions used to separate well-drilling from cementing masses
- 8/42 . Compositions for cementing, e.g. for cementing casings into boreholes; Compositions for plugging, e.g. for killing wells (compositions for plastering [C09K 8/50](#))
- 8/422 . . {specially adapted for sealing expandable pipes, e.g. of the non-hardening type}
- 8/424 . . {using "spacer" compositions}
- 8/426 . . {for plugging}
- 8/428 . . {for squeeze cementing, e.g. for repairing}
- 8/44 . . containing organic binders only
- 8/46 . . containing inorganic binders, e.g. Portland cement

- 8/467 . . . containing additives for specific purposes
 - 8/473 Density reducing additives, e.g. for obtaining foamed cement compositions
 - 8/48 Density increasing or weighting additives
 - 8/487 Fluid loss control additives; Additives for reducing or preventing circulation loss
 - 8/493 Additives for reducing or preventing gas migration
 - 8/50 . Compositions for plastering borehole walls, i.e. compositions for temporary consolidation of borehole walls ([compositions for consolidating loose sand or the like around wells C09K 8/56](#))
 - 8/501 . . {[using spacer compositions](#)}
 - 8/502 . . Oil-based compositions
 - 8/504 . . Compositions based on water or polar solvents ([C09K 8/502 takes precedence](#))
 - 8/5045 . . . {[containing inorganic compounds](#)}
 - 8/506 . . . containing organic compounds
 - 8/508 macromolecular compounds ([C09K 8/512 takes precedence](#))
 - 8/5083 {[obtained by reactions only involving carbon-to-carbon unsaturated bonds](#)}
 - 8/5086 {[obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds](#)}
 - 8/512 containing cross-linking agents
 - 8/514 of natural origin, e.g. polysaccharides, cellulose ([C09K 8/512 takes precedence](#))
 - 8/516 . . characterised by their form or by the form of their components, e.g. encapsulated material
 - 8/518 . . . Foams
 - 8/52 . Compositions for preventing, limiting or eliminating depositions, e.g. for cleaning
 - 8/524 . . organic depositions, e.g. paraffins or asphaltenes
 - 8/528 . . inorganic depositions, e.g. sulfates or carbonates
 - 8/532 . . . Sulfur
 - 8/536 . . characterised by their form or by the form of their components, e.g. encapsulated material
 - 8/54 . Compositions for in situ inhibition of corrosion in boreholes or wells
 - 8/56 . Compositions for consolidating loose sand or the like around wells without excessively decreasing the permeability thereof ([compositions for plastering borehole walls C09K 8/50](#); [Soil-conditioning materials or soil-stabilising materials in general C09K 17/00](#))
 - 8/565 . . Oil-based compositions
 - 8/57 . . Compositions based on water or polar solvents ([C09K 8/565 takes precedence](#))
 - 8/572 . . . {[containing inorganic compounds](#)}
 - 8/575 . . . containing organic compounds
 - 8/5751 {[Macromolecular compounds C09K 8/5756 takes precedence](#)}
 - 8/5753 {[obtained by reactions only involving carbon-to-carbon unsaturated bonds](#)}
 - 8/5755 {[obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds](#)}
 - 8/5756 {[containing cross-linking agents](#)}
 - 8/5758 {[of natural origin, e.g. polysaccharides, cellulose C09K 8/5756 takes precedence](#)}
 - 8/58 . Compositions for enhanced recovery methods for obtaining hydrocarbons, i.e. for improving the mobility of the oil, e.g. displacing fluids
 - 8/582 . . characterised by the use of bacteria
 - 8/584 . . characterised by the use of specific surfactants
 - 8/588 . . characterised by the use of specific polymers ([polymeric surfactants C09K 8/584](#))
 - 8/592 . . Compositions used in combination with generated heat, e.g. by steam injection
 - 8/594 . . Compositions used in combination with injected gas {, e.g. CO₂ or carbonated gas} ([C09K 8/592 takes precedence](#))
 - 8/60 . Compositions for stimulating production by acting on the underground formation
 - 8/601 . . {[using spacer compositions](#)}
 - 8/602 . . {[containing surfactants](#)}
 - 8/604 . . . {[Polymeric surfactants](#)}
 - 8/605 . . {[containing biocides](#)}
 - 8/607 . . {[specially adapted for clay formations](#)}
 - 8/608 . . . {[Polymer compositions](#)}
 - 8/62 . . Compositions for forming crevices or fractures
 - 8/64 . . . Oil-based compositions
 - 8/66 . . . Compositions based on water or polar solvents ([C09K 8/64 takes precedence](#))
 - 8/665 {[containing inorganic compounds \(proppants C09K 8/80\)](#)}
 - 8/68 containing organic compounds
- NOTE**
- Documents classified in this group are also classified in groups [C09K 8/88](#) - [C09K 8/905](#) according to the specific compositions
- 8/685 {[containing cross-linking agents](#)}
 - 8/70 . . . characterised by their form or by the form of their components, e.g. foams
 - 8/703 {[Foams](#)}
 - 8/706 {[Encapsulated breakers](#)}
 - 8/72 . . . Eroding chemicals, e.g. acids
 - 8/725 {[Compositions containing polymers](#)}
 - 8/74 combined with additives added for specific purposes
 - 8/76 for preventing or reducing fluid loss
 - 8/78 for preventing sealing
 - 8/80 . . Compositions for reinforcing fractures, e.g. compositions of proppants used to keep the fractures open
 - 8/805 . . . {[Coated proppants](#)}
 - 8/82 . . Oil-based compositions ([C09K 8/64 takes precedence](#))
 - 8/84 . . Compositions based on water or polar solvents ([C09K 8/66](#), [C09K 8/82 take precedence](#))
 - 8/845 . . . {[containing inorganic compounds](#)}
 - 8/86 . . . containing organic compounds
 - 8/88 macromolecular compounds
 - 8/882 {[obtained by reactions only involving carbon-to-carbon unsaturated bonds](#)}
 - 8/885 {[obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds](#)}
 - 8/887 {[containing cross-linking agents](#)}
 - 8/90 of natural origin, e.g. polysaccharides, cellulose

- 8/905 {Biopolymers}
- 8/92 . . characterised by their form or by the form of their components, e.g. encapsulated material ([C09K 8/70](#) takes precedence)
- 8/94 . . . Foams
- 9/00 Tenebrescent materials, i.e. materials for which the range of wavelength for energy absorption is changed as result of excitation by some form of energy** ({liquid crystal materials [C09K 19/00](#); photochromic glass [C03C 4/06](#); in thermometers [G01K 11/12](#); in photochromic filters [G02B 5/23](#); in optical modulation devices [G02F 1/00](#)}; photosensitive materials for photographic purposes [G03C](#); {in cathodochromic screens [H01J 29/14](#)})
- NOTE**
- When classifying in groups [C09K 9/02](#) the chemical nature of the tenebrescent material can be further indexed by using indexing codes chosen from [C09K 2211/00](#) - [C09K 2211/188](#)
- 9/02 . Organic tenebrescent materials
- 11/00 Luminescent, e.g. electroluminescent, chemiluminescent materials**
- 11/01 . Recovery of luminescent materials
- 11/02 . Use of particular materials as binders, particle coatings or suspension media therefor
- 11/025 . . {Use of non-luminescent materials other than binders}
- 11/04 . containing natural or artificial radioactive elements or unspecified radioactive elements
- 11/06 . containig organic luminescent materials
- NOTE**
- When classifying in groups [C09K 11/06](#) and [C09K 11/07](#) the chemical nature of the luminescent material can be further indexed by using indexing codes chosen from [C09K 2211/00](#) - [C09K 2211/188](#)
- 11/07 . . having chemically interreactive components, e.g. reactive chemiluminescent compositions
- 11/08 . containing inorganic luminescent materials
- NOTES**
1. In groups [C09K 11/08](#) - [C09K 11/897](#), in the absence of an indication to the contrary, classification of materials is made in the last appropriate place
 2. { In this group, magnesium is considered as an alkaline earth metal }
- WARNING**
- Groups [C09K 11/0805](#) - [C09K 11/0894](#), with the exception of [C09K 11/0883](#) for classifying nitrides, are no longer used for classification of new documents. The backlog of this group is being continuously reclassified to subgroups [C09K 11/54](#) - [C09K 11/897](#)
- 11/0805 . . {Chalcogenides}
- 11/0811 . . . {with Zn or Cd}
- 11/0816 . . . {with alkaline earth metals}
- 11/0822 . . . {with rare earth metals}
- 11/0827 . . {Halogenides ([C09K 11/0805](#), [C09K 11/0838](#) - [C09K 11/0894](#) take precedence)}
- 11/0833 . . . {with alkali or alkaline earth metals}
- 11/0838 . . {Aluminates; Silicates}
- 11/0844 . . {Germanates}
- 11/085 . . {Vanadates}
- 11/0855 . . {Phosphates}
- 11/0861 . . . {with alkaline earth metals}
- 11/0866 {with halogens}
- 11/0872 . . . {with rare earth metals}
- 11/0877 . . {Borates}
- 11/0883 . . {Arsenides; Nitrides; Phosphides}
- 11/0888 . . {Sulfates}
- 11/0894 . . {Antimonates; Arsenates}
- 11/54 . . containing zinc or cadmium
- 11/55 . . containing beryllium, magnesium, alkali metals or alkaline earch metals
- 11/56 . . containing sulfur
- 11/562 . . . {Chalcogenides}
- 11/565 {with zinc cadmium}
- 11/567 {with alkaline earth metals}
- 11/57 . . containing manganese or rhenium
- 11/572 . . . {Chalcogenides}
- 11/574 {with zinc or cadmium}
- 11/576 {with alkaline earth metals}
- 11/578 . . . {Sulfates}
- 11/58 . . containing copper, silver or gold
- 11/582 . . . {Chalcogenides}
- 11/584 {with zinc or cadmium}
- 11/586 {with alkaline earth metals}
- 11/588 . . . {Sulfates}
- 11/59 . . containing silicon
- 11/592 . . . {Chalcogenides}
- 11/595 {with zinc or cadmium}
- 11/597 . . . {Sulfates}
- 11/60 . . containing iron, cobalt or nickel
- 11/602 . . . {Chalcogenides}
- 11/605 {with zinc or cadmium}
- 11/607 . . . {Silicates}
- 11/61 . . containing fluorine, chlorine, bromine, iodine or unspecified halogen elements
- 11/611 . . . {Chalcogenides}
- 11/612 {with zinc or cadmium}
- 11/613 {with alkali or alkaline earth metals}
- 11/615 . . . {Halogenides ([C09K 11/617](#) and [C09K 11/618](#) take precedence)}
- 11/616 {with alkali or alkaline earth metals}
- 11/617 . . . {Silicates}
- 11/618 . . . {Sulfates}
- 11/62 . . containing gallium, indium or thallium
- 11/621 . . . {Chalcogenides}
- 11/623 {with zinc or cadmium}
- 11/625 {with alkaline earth metals}
- 11/626 . . . {Halogenides ([C09K 11/621](#) takes precedence)}
- 11/628 {with alkali or alkaline earth metals}
- 11/63 . . containing boron
- 11/632 . . . {Halogenides ([C09K 11/636](#) and [C09K 11/638](#) take precedence)}
- 11/634 {with alkali or alkaline earth metals}
- 11/636 . . . {Silicates}
- 11/638 . . . {Sulfates}

11/64	. . containing aluminium	11/727	. . . . {Aluminates; Silicates}
11/641	. . . {Chalcogenides}	11/73	. . . . also containing alkaline earth metals
11/642	. . . . {with zinc or cadmium}	11/74	. . containing arsenic, antimony or bismuth
11/643	. . . . {with alkaline earth metals}	11/7407	. . . {Chalcogenides}
11/644	. . . {Halogenides (C09K 11/641 , C09K 11/646 - C09K 11/648 take precedence)}	11/7414	. . . . {with zinc or cadmium}
11/645	. . . . {with alkali or alkaline earth metals}	11/7421	. . . . {with alkaline earth metals}
11/646	. . . {Silicates}	11/7428	. . . {Halogenides (C09K 11/7407 , C09K 11/7442 - C09K 11/7492 take precedence)}
11/647	. . . {Borates}	11/7435	. . . . {with alkali or alkaline earth metals}
11/648	. . . {Sulfates}	11/7442	. . . {Aluminates; Silicates}
11/65	. . containing carbon (in organic compounds C09K 11/06)	11/745	. . . {Germanates}
11/655	. . . {Aluminates; Silicates}	11/7457	. . . {Vanadates; Chromates; Molybdates; Tungstates}
11/66	. . containing germanium, tin or lead	11/7464	. . . {Phosphates}
11/661	. . . {Chalcogenides}	11/7471	. . . . {with alkaline earth metals}
11/662	. . . . {with zinc or cadmium}	11/7478	. . . . {with halogens}
11/663	. . . . {with alkaline earth metals}	11/7485	. . . {Borates}
11/664	. . . {Halogenides (C09K 11/661 , C09K 11/666 - C09K 11/668 take precedence)}	11/7492	. . . {Arsenides; Nitrides; Phosphides}
11/665	. . . . {with alkali or alkaline earth metals}	11/75	. . . containing antimony
11/666	. . . {Aluminates; Silicates}	11/751	. . . . {Chalcogenides}
11/667	. . . {Borates}	11/752	. . . . {with zinc or cadmium}
11/668	. . . {Sulfates}	11/753	. . . . {with alkaline earth metals}
11/67	. . containing refractory metals	11/755	. . . . {Halogenides (C09K 11/751 , C09K 11/757 and C09K 11/758 take precedence)}
11/671	. . . {Chalcogenides}	11/756	. . . . {with alkali or alkaline earth metals}
11/672	. . . . {with zinc or cadmium}	11/757	. . . . {Aluminates; Silicates}
11/673	. . . . {with alkaline earth metals}	11/758	. . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/674	. . . {Halogenides (C09K 11/671 , C09K 11/676 - C09K 11/679 take precedence)}	11/76	. . . . also containing phosphorus and halogen, e.g. halophosphates
11/675	. . . . {with alkali or alkaline earth metals}	11/765	. . . . {Borates}
11/676	. . . {Aluminates; Silicates}	11/77	. . containing rare earth metals
11/677	. . . {Germanates}	11/7701	. . . {Chalcogenides}
11/678	. . . {Borates}	11/7702	. . . . {with zinc or cadmium}
11/679	. . . {Sulfates}	11/7703	. . . . {with alkaline earth metals}
11/68	. . . containing chromium, molybdenum or tungsten	11/7704	. . . {Halogenides (C09K 11/7701 , C09K 11/7706 - C09K 11/7714 take precedence)}
11/681	. . . . {Chalcogenides}	11/7705	. . . . {with alkali or alkaline earth metals}
11/682	. . . . {with zinc or cadmium}	11/7706	. . . {Aluminates; Silicates}
11/684	. . . . {with alkaline earth metals}	11/7707	. . . {Germanates}
11/685	. . . . {Aluminates; Silicates}	11/7708	. . . {Vanadates; Chromates; Molybdates; Tungstates}
11/687	. . . . {Borates}	11/7709	. . . {Phosphates}
11/688	. . . . {Sulfates}	11/771	. . . . {with alkaline earth metals}
11/69	. . . containing vanadium	11/7711	. . . . {with halogens}
11/691	. . . . {Chalcogenides}	11/7712	. . . {Borates}
11/693	. . . . {with zinc or cadmium}	11/7713	. . . {Sulfates}
11/695	. . . . {with alkaline earth metals}	11/7714	. . . {Antimonates; Arsenates}
11/696	. . . . {Halogenides}	11/7715	. . . {containing cerium}
11/698	. . . . {Aluminates; Silicates}	11/7716	. . . . {Chalcogenides}
11/70	. . containing phosphorus	11/7717	. . . . {with zinc or cadmium}
11/701	. . . {Chalcogenides}	11/7718	. . . . {with alkaline earth metals}
11/703	. . . . {with zinc and/or cadmium}	11/7719	. . . . {Halogenides (C09K 11/7716 , C09K 11/7721 - C09K 11/7727 take precedence)}
11/705	. . . {Halogenides (C09K 11/701 , C09K 11/706 and C09K 11/708 take precedence)}	11/772	. . . . {with alkali or alkaline earth metals}
11/706	. . . {Aluminates; Silicates}	11/7721	. . . . {Aluminates; Silicates}
11/708	. . . {Borates}	11/7722	. . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/71	. . . also containing alkaline earth metals	11/7723	. . . . {Phosphates}
11/712	. . . . {Halogenides (C09K 11/717 takes precedence)}		
11/715	. . . . {with alkali or alkaline earth metals}		
11/717	. . . . {Aluminates; Silicates}		
11/72	. . . also containing halogen, e.g. halophosphates		
11/722	. . . . {Chalcogenides}		
11/725	. . . . {with alkaline earth metals}		

11/7724	. . . . . {with alkaline earth metals}	11/7775	. . . . . {Germanates}
11/7725	. . . . . {with halogens}	11/7776	. . . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7726	. . . . . {Borates}	11/7777	. . . . . {Phosphates}
11/7727	. . . . . {Sulfates}	11/7778	. . . . . {with alkaline earth metals}
11/7728	. . . {comprising europium}	11/7779	. . . . . {with halogens}
11/7729	. . . . . {Chalcogenides}	11/778	. . . . . {Borates}
11/773	. . . . . {with zinc and cadmium}	11/7781	. . . . . {Sulfates}
11/7731	. . . . . {with alkaline earth metals}	11/7782	. . . . . {Antimonates; Arsenates}
11/7732	. . . . . {Halogenides}	11/7783	. . . {containing two or more rare earth metals one of which being europium}
11/7733	. . . . . {with alkali or alkaline earth metals}	11/7784	. . . . . {Chalcogenides}
11/7734	. . . . . {Aluminates; Silicates}	11/7785	. . . . . {with zinc and or cadmium}
11/7735	. . . . . {Germanates}	11/7786	. . . . . {with alkaline earth metals}
11/7736	. . . . . {Vanadates; Chromates; Molybdates; Tungstates}	11/7787	. . . . . {Oxides (C09K 11/7785 , C09K 11/7786 take precedence)}
11/7737	. . . . . {Phosphates}	11/7788	. . . . . {Oxyhalogenides}
11/7738	. . . . . {with alkaline earth metals}	11/7789	. . . . . {Oxysulfides}
11/7739	. . . . . {with halogens}	11/779	. . . . . {Halogenides (C09K 11/7784 , C09K 11/7792 - C09K 11/7798 take precedence)}
11/774	. . . . . {Borates}	11/7791	. . . . . {with alkali or alkaline earth metals}
11/7741	. . . . . {Sulfates}	11/7792	. . . . . {Aluminates; Silicates}
11/7742	. . . . . {Antimonates; Arsenates}	11/7793	. . . . . {Germanates}
11/7743	. . . {containing terbium}	11/7794	. . . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7744	. . . . . {Chalcogenides}	11/7795	. . . . . {Phosphates}
11/7745	. . . . . {with zinc or cadmium}	11/7796	. . . . . {with alkaline earth metals}
11/7746	. . . . . {with alkaline earth metals}	11/7797	. . . . . {Borates}
11/7747	. . . . . {Halogenides (C09K 11/7744 , C09K 11/7749 - C09K 11/7755 take precedence)}	11/7798	. . . . . {Antimonates; Arsenates}
11/7748	. . . . . {with alkali or alkaline earth metals}	11/87	. . containing platina group metals
11/7749	. . . . . {Aluminates; Silicates}	11/873	. . . {Chalcogenides}
11/775	. . . . . {Germanates}	11/876	. . . . . {with zinc or cadmium}
11/7751	. . . . . {Vanadates; Chromates; Molybdates; Tungstates}	11/88	. . containing selenium, tellurium or unspecified chalcogen elements
11/7752	. . . . . {Phosphates}	11/881	. . . {Chalcogenides}
11/7753	. . . . . {with alkaline earth metals}	11/883	. . . . . {with zinc or cadmium}
11/7754	. . . . . {with halogens}	11/885	. . . . . {with alkaline earth metals}
11/7755	. . . . . {Borates}	11/886	. . . . . {with rare earth metals}
11/7756	. . . {containing neodymium}	11/888	. . . {Borates}
11/7757	. . . . . {Halogenides (C09K 11/7758 takes precedence)}	11/89	. . containing mercury
11/7758	. . . . . {Aluminates; Silicates}	11/892	. . . {Chalcogenides}
11/7759	. . . {containing samarium}	11/895	. . . {Halogenides (C09K 11/892 takes precedence)}
11/776	. . . . . {Chalcogenides}	11/897	. . . . . {with alkali or alkaline metals}
11/7761	. . . . . {with alkaline earth metals}	13/00	Etching, surface-brightening or pickling compositions (for glass C03C 15/00 , C03C 25/66 ; for mortars, concrete, artificial or natural stone or ceramics C04B 41/5338 ; for metallic material C23F, C23G 1/00 , C25F 1/00 ; for semi-conductors H01L))
11/7762	. . . . . {Halogenides (C09K 11/776 , C09K 11/7764 and C09K 11/7765 take precedence)}		NOTE
11/7763	. . . . . {with alkali or alkaline earth metals}		In groups C09K 13/02 - C09K 13/12 , in the absence of an indication to the contrary, materials are classified in the last appropriate place.
11/7764	. . . . . {Aluminates; Silicates}	13/02	. containing an alkali metal hydroxide
11/7765	. . . . . {Vanadates; Chromates; Molybdates; Tungstates}	13/04	. containing an inorganic acid
11/7766	. . . {containing two or more rare earth metals (containing europium C09K 11/7783)}	13/06	. . with organic material
11/7767	. . . . . {Chalcogenides}	13/08	. . containing a fluorine compound
11/7768	. . . . . {with alkaline earth metals}	13/10	. . containing a boron compound
11/7769	. . . . . {Oxides (C09K 11/7768 takes precedence)}		
11/777	. . . . . {Oxyhalogenides}		
11/7771	. . . . . {Oxysulfides}		
11/7772	. . . . . {Halogenides (C09K 11/7767 , C09K 11/7774 - C09K 11/7782 take precedence)}		
11/7773	. . . . . {with alkali or alkaline earth metal}		
11/7774	. . . . . {Aluminates; Silicates}		

- 13/12 . containing heavy metal salts in an amount of at least 50% of the non-solvent components

15/00 Anti-oxidant composition; Compositions inhibiting chemical change ({for use in well-specified applications, [see the relevant places](#), e.g. in etching or pickling compositions [C09K 13/00](#), [C23G](#)}, in foodstuffs [A21D](#), [A23](#), {in association with organic compounds [C07C](#), [C07D](#)}, in macromolecular compositions [C08](#); in liquid fuels or lubricants [C10](#); in fats, fatty substances, fatty oils or waxes [C11B 5/00](#); in detergents [C11D](#); {coating or impregnating carbon or graphite based bodies to protect them from oxidation [C04B 41/45](#)}; corrosion inhibiting compositions for metallic material [C23F 11/00](#))

NOTE

In groups [C09K 15/02](#) - [C09K 15/34](#), in the absence of an indication to the contrary, a composition is classified in the last appropriate place.

- 15/02 . containing inorganic compounds
 15/04 . containing organic compounds
 15/06 . . containing oxygen
 15/08 . . . containing a phenol or quinone moiety
 15/10 . . containing sulfur
 15/12 . . containing sulfur and oxygen
 15/14 . . . containing a phenol or quinone moiety
 15/16 . . containing nitrogen
 15/18 . . . containing an amine or imine moiety
 15/20 . . containing nitrogen and oxygen
 15/22 . . . containing an amide or imide moiety
 15/24 . . . containing a phenol or quinone moiety
 15/26 . . containing nitrogen and sulfur
 15/28 . . containing nitrogen, oxygen and sulfur
 15/30 . . containing heterocyclic ring with at least one nitrogen atom as ring member
 15/32 . . containing {two or more of} boron, silicon, phosphorus, selenium, tellurium or a metal
 15/322 . . . {containing only phosphorus}
 15/324 {containing phosphorus and sulfur}
 15/326 . . . {containing only metals}
 15/328 . . . {containing boron, silicon, selenium or tellurium}
 15/34 . containing plant or animal materials of unknown composition

17/00 Soil-conditioning materials or soil-stabilising materials (specially adapted for boreholes or wells [C09K 8/00](#); fertilisers [C05](#); consolidating by placing solidifying or pore-filling substances in the soil [E02D 3/12](#))

NOTES

1. This group covers mixtures of soil-conditioning or soil-stabilising materials with fertilisers characterised by their soil-conditioning or soil-stabilising activity.
2. This group does not cover mixtures of soil-conditioning or soil-stabilising materials with fertilisers characterised by their fertilising activity which are covered by subclass [C05G](#).

3. For the purpose of classification in this group, the presence of fertilisers in the composition is not taken into account.

4. In groups [C09K 17/02](#) - [C09K 17/50](#), in the absence of an indication to the contrary, materials are classified in the last appropriate place.

- 17/02 . containing inorganic compounds only
 17/04 . . applied in a physical form other than a solution or a grout, e.g. as granules or gases
 17/045 . . . {applied as gases}
 17/06 . . Calcium compounds, e.g. lime
 17/08 . . Aluminium compounds, e.g. aluminium hydroxide
 17/10 . . Cements, e.g. Portland cement
 17/12 . . Water-soluble silicates, e.g. waterglass
 17/14 . containing organic compounds only
 17/16 . . applied in a physical form other than a solution or a grout, e.g. as platelets or granules
 17/18 . . Prepolymers; Macromolecular compounds
 17/20 . . . Vinyl polymers
 17/22 Polyacrylates; Polymethacrylates
 17/24 . . . Condensation polymers of aldehydes or ketones
 17/26 Phenol-aldehyde condensation polymers
 17/28 Urea-aldehyde condensation polymers
 17/30 . . . Polyisocyanates; Polyurethanes
 17/32 . . . of natural origin, e.g. cellulosic materials
 17/34 . . . Bituminous materials
 17/36 . . Compounds having one or more carbon-to-silicon linkages
 17/38 . . . Siloxanes
 17/40 . containing mixtures of inorganic and organic compounds
 17/42 . . Inorganic compounds mixed with organic active ingredients, e.g. accelerators
 17/44 . . . the inorganic compound being cement
 17/46 . . . the inorganic compound being a water-soluble silicate
 17/48 . . Organic compounds mixed with inorganic active ingredients, e.g. polymerisation catalysts
 17/50 . . . the organic compound being of natural origin, e.g. cellulose derivatives
 17/52 . Mulches

19/00 Liquid crystal materials

NOTES

1. In groups [C09K 19/02](#) - [C09K 19/60](#), { with the exception of groups [C09K 19/0208](#) - [C09K 19/0283](#) }, in the absence of an indication to the contrary, materials are classified in the last appropriate place.
2. Mixtures containing two or more liquid crystal compounds covered individually by the same one of groups [C09K 19/04](#) - [C09K 19/40](#) are classified only in that group.
3. If liquid crystal components of the mixtures classified in groups [C09K 19/42](#) - [C09K 19/50](#) are of importance as such, they should also be classified according to the compounds in groups [C09K 19/04](#) - [C09K 19/40](#).

- 19/02 . characterised by optical, electrical or physical properties of the components, in general

19/0208	. . {Twisted Nematic (T.N.); Super Twisted Nematic (S.T.N.); Optical Mode Interference (O.M.I.)}	19/062	. . . {containing one non-condensed benzene ring}
19/0216	. . {Super Birefringence Effect (S.B.E.); Electrically Controlled Birefringence (E.C.B.)}	19/063	. . . {containing one non-condensed saturated non-aromatic ring, e.g. cyclohexane ring}
19/0225	. . {Ferroelectric}	19/065	. . . {containing one non-condensed unsaturated non-aromatic ring, e.g. cyclohexene ring}
19/0233	. . {Electroclinic}	19/066	. . . {containing one heterocyclic ring having oxygen as heteroatom}
19/0241	. . {Ferrielectric; Ferromagnetic}	19/067	. . . {containing one heterocyclic ring having nitrogen as heteroatom}
19/025	. . {Ferronematic; Ferrosmetic}	19/068	. . . {containing one heterocyclic ring having sulfur as heteroatom}
19/0258	. . {Flexoelectric}	19/08	. . . containing at least two non-condensed rings
19/0266	. . {Antiferroelectrics}	19/10	. . . . containing at least two benzene rings
19/0275	. . {Blue phase}	19/12	. . . . . at least two benzene rings directly linked, e.g. biphenyls
19/0283	. . {Cubic phase}	2019/121	. . . . . {Compounds containing phenylene-1,4-diyl (-Ph-)}
19/0291	. . {anticlinic}	2019/122	. . . . . {Ph-Ph}
19/04	. characterised by the chemical structure of the liquid crystal components, {e.g. by a specific unit}	2019/123	. . . . . {Ph-Ph-Ph}
19/0403	. . {the structure containing one or more specific, optionally substituted ring or ring systems}	2019/124	. . . . . {Ph-Ph-Ph-Ph}
2019/0407	. . . {containing a carbocyclic ring, e.g. dicyano-benzene, chlorofluoro-benzene or cyclohexanone}	2019/125	. . . . . {Ph-Ph-Ph-Ph-Ph or more Ph rings}
2019/0411	. . . {containing a chlorofluoro-benzene, e.g. 2-chloro-3-fluoro-phenylene-1,4-diyl}	19/126	. . . . . {Compounds containing at least one asymmetric carbon atom}
2019/0414	. . . {containing a heterocyclic ring}	2019/127	. . . . . {Compounds containing phenylene-1,3-diyl}
2019/0418	. . . {containing a dendromer structure; Dendritic liquid crystals}	2019/128	. . . . . {Compounds containing phenylene-1,2-diyl}
19/0422	. . {Sugars (polysaccharides C09K 19/3819)}	19/14	. . . . . linked by a carbon chain
2019/0425	. . {characterized by a specific unit that results in a functional effect}	19/16	. . . . . the chain containing carbon-to-carbon double bonds, e.g. stilbenes
2019/0429	. . . {the specific unit being a carbocyclic or heterocyclic discotic unit}	2019/161	. . . . . {Ph-CH=CH-Ph}
2019/0433	. . . {the specific unit being a luminescent or electroluminescent unit}	2019/163	. . . . . {Ph-Ph-CH=CH-Ph}
2019/0437	. . . {the specific unit being an optically active chain used as linking group between rings or as end group}	2019/165	. . . . . {Ph-Ph-CH=CH-Ph-Ph}
2019/044	. . . {the specific unit being a perfluoro chain used as an end group}	2019/166	. . . . . {Ph-Ph-Ph-CH=CH-Ph}
2019/0444	. . {characterized by a linking chain between rings or ring systems, a bridging chain between extensive mesogenic moieties or an end chain group}	2019/168	. . . . . {Ph-CH=CH-Ph-CH=CH-Ph}
2019/0448	. . . {the end chain group being a polymerizable end group, e.g. -Sp-P or acrylate}	19/18	. . . . . the chain containing carbon-to-carbon triple bonds, e.g. tolans
2019/0451	. . . {the end chain group being a CH ₃ CH=CHCH ₂ CH ₂ - chain}	2019/181	. . . . . {Ph-C?C-Ph (? is a triple bond)}
2019/0455	. . . {the linking chain being a -CF ₂ CF ₂ - , -CF ₂ CF ₂ CF ₂ CF ₂ - or -CH ₂ CF ₂ CF ₂ CH ₂ - chain}	2019/183	. . . . . {Ph-Ph-C?C-Ph (? is a triple bond)}
2019/0459	. . . {the linking chain being a -CF=CF- chain, e.g. 1,2-difluoroethen-1,2-diyl}	2019/185	. . . . . {Ph-Ph-C?C-Ph-Ph (? is a triple bond)}
2019/0462	. . . {the linking chain being a -CF ₂ CF ₂ O- chain}	2019/186	. . . . . {Ph-C?C-C?C-Ph (? is a triple bond)}
2019/0466	. . . {the linking chain being a -CF ₂ O- chain}	2019/188	. . . . . {Ph-C?C-Ph-C?C-Ph (? is a triple bond)}
2019/047	. . . {the linking chain being a -CH ₂ CF ₂ O- chain}	19/20	. . . . . linked by a chain containing carbon and oxygen atoms as chain links, e.g. esters {or ethers}
2019/0474	. . . {the linking chain being a -CHFO- chain}	19/2007	. . . . . {the chain containing -COO- or -OCO-groups}
2019/0477	. . {characterized by the positioning of substituents on phenylene}	19/2014	. . . . . {containing additionally a linking group other than -COO- or -OCO-, e.g. -CH ₂ -CH ₂ -, -CH=CH-, -C=C-; containing at least one additional carbon atom in the chain containing -COO- or -OCO- groups, e.g. -(CH ₂) _m -COO-(CH ₂) _n -}
2019/0481	. . . {Phenylene substituted in meta position}	19/2021	. . . . . {Compounds containing at least one asymmetric carbon atom}
2019/0485	. . . {Phenylene substituted in ortho position}		
2019/0488	. . {characterized by a special bonding}		
2019/0492	. . . {the special bonding being an hydrogen bond}		
2019/0496	. . . {the special bonding being a specific pi-conjugated group}		
19/06	. . Non-steroidal liquid crystal compounds		
19/061	. . . {Linear compounds without any rings}		

19/2028	. . . . .	{containing additionally a linking group other than -COO- or -OCO-, e.g. -CH ₂ -CH ₂ -, -CH=CH-, -C=C-; containing at least one additional carbon atom in the chain containing -COO- or -OCO- groups, e.g. -COO-CH*-CH ₃ }
2019/2035	. . . . .	{Ph-COO-Ph}
2019/2042	. . . . .	{Ph-Ph-COO-Ph}
2019/205	. . . . .	{Ph-Ph-Ph-COO-Ph}
2019/2057	. . . . .	{Ph-Ph-Ph-Ph-COO-Ph, or more Ph rings}
2019/2064	. . . . .	{Ph-Ph-COO-Ph-Ph}
2019/2071	. . . . .	{Ph-Ph-Ph-COO-Ph-Ph, or more Ph rings}
2019/2078	. . . . .	{Ph-COO-Ph-COO-Ph}
2019/2085	. . . . .	{Ph-CH=CH-Ph-COO-Ph}
2019/2092	. . . . .	{Ph-C?C-Ph-COO-Ph (? is a triple bond)}
19/22	. . . . .	linked by a chain containing carbon and nitrogen atoms as chain links, e.g. Schiff bases
19/24	. . . . .	linked by a chain containing nitrogen-to-nitrogen bonds
19/26	. . . . .	Azoxy compounds
19/28	. . . . .	linked by a chain containing carbon and sulfur atoms as chain links, e.g. thioesters
19/30	. . . . .	containing saturated or unsaturated non-aromatic rings, e.g. cyclohexane rings
19/3001	. . . . .	{Cyclohexane rings}
19/3003	. . . . .	{Compounds containing at least two rings in which the different rings are directly linked (covalent bond)}
2019/3004	. . . . .	{Cy-Cy}
2019/3006	. . . . .	{Cy-Cy-Cy}
2019/3007	. . . . .	{Cy-Cy-Cy-Cy or more Cy rings}
2019/3009	. . . . .	{Cy-Ph}
2019/301	. . . . .	{Cy-Cy-Ph}
2019/3012	. . . . .	{Cy-Cy-Cy-Ph, or more Cy rings}
2019/3013	. . . . .	{Cy-Ph-Cy}
2019/3015	. . . . .	{Cy-Cy-Ph-Cy}
2019/3016	. . . . .	{Cy-Ph-Ph}
2019/3018	. . . . .	{Ph-Cy-Ph}
2019/3019	. . . . .	{Cy-Cy-Ph-Ph}
2019/3021	. . . . .	{Cy-Ph-Ph-Cy}
2019/3022	. . . . .	{Cy-Ph-Cy-Ph}
2019/3024	. . . . .	{Ph-Cy-Cy-Ph}
2019/3025	. . . . .	{Cy-Ph-Ph-Ph}
2019/3027	. . . . .	{Compounds comprising 1,4-cyclohexylene and 2,3-difluoro-1,4-phenylene}
19/3028	. . . . .	{in which at least two rings are linked by a carbon chain containing carbon to carbon single bonds}
2019/303	. . . . .	{Cy-C ₂ H ₄ -Cy}
2019/3031	. . . . .	{Cy-Cy-C ₂ H ₄ -Cy}
2019/3033	. . . . .	{Cy-Cy-Cy-C ₂ H ₄ -Cy}
2019/3034	. . . . .	{Cy-Cy-C ₂ H ₄ -Cy-Cy}
2019/3036	. . . . .	{Cy-C ₂ H ₄ -Ph}
2019/3037	. . . . .	{Cy-Cy-C ₂ H ₄ -Ph}
2019/3039	. . . . .	{Cy-Cy-Cy-C ₂ H ₄ -Ph}
2019/304	. . . . .	{Cy-C ₂ H ₄ -Ph-Ph}
2019/3042	. . . . .	{Cy-Cy-C ₂ H ₄ -Ph-Ph}
2019/3043	. . . . .	{Cy-Cy-C ₂ H ₄ -Ph-Cy}
2019/3045	. . . . .	{Cy-Ph-C ₂ H ₄ -Ph-Cy}
2019/3046	. . . . .	{Cy-C ₂ H ₄ -Ph-C ₂ H ₄ -Cy}
19/3048	. . . . .	{in which at least two rings are linked by a carbon chain containing carbon to carbon double bonds}
2019/305	. . . . .	{Cy-CH=CH-Cy}
2019/3051	. . . . .	{Cy-CH=CH-Cy-Ph}
2019/3053	. . . . .	{Cy-CH=CH-Ph}
2019/3054	. . . . .	{Cy-Cy-CH=CH-Ph}
2019/3056	. . . . .	{Cy-Ph-CH=CH-Ph}
2019/3057	. . . . .	{Cy-Ph-Ph-CH=CH-Ph}
19/3059	. . . . .	{in which at least two rings are linked by a carbon chain containing carbon to carbon triple bonds}
2019/306	. . . . .	{Cy-C?C-Cy (? is a triple bond)}
2019/3062	. . . . .	{Cy-C?C-Ph (? is a triple bond)}
2019/3063	. . . . .	{Cy-Ph-C?C-Ph (? is a triple bond)}
2019/3065	. . . . .	{Cy-Ph-Ph-C?C-Ph (? is a triple bond)}
19/3066	. . . . .	{in which the rings are linked by a chain containing carbon and oxygen atoms, e.g. esters or ethers}
19/3068	. . . . .	{chain containing -COO- or -OCO-groups}
2019/3069	. . . . .	{Cy-COO-Cy}
2019/3071	. . . . .	{Cy-Cy-COO-Cy}
2019/3072	. . . . .	{Cy-Cy-Cy-COO-Cy, or more Cy rings}
2019/3074	. . . . .	{Cy-Cy-COO-Cy-Cy, or more Cy rings}
2019/3075	. . . . .	{Cy-COO-Ph}
2019/3077	. . . . .	{Cy-Cy-COO-Ph}
2019/3078	. . . . .	{Cy-Cy-COO-Ph-Cy}
2019/308	. . . . .	{Cy-Cy-COO-Ph-Ph}
2019/3081	. . . . .	{Cy-Ph-COO-Cy}
2019/3083	. . . . .	{Cy-Ph-COO-Ph}
2019/3084	. . . . .	{Cy-Ph-COO-Ph-Cy}
19/3086	. . . . .	{in which at least two rings are linked by a chain containing nitrogen atoms}
19/3087	. . . . .	{in which at least two rings are linked by a chain containing sulfur atoms}
2019/3089	. . . . .	{Cy-S-Cy}
2019/309	. . . . .	{Cy-S-Ph}
2019/3092	. . . . .	{Cy-S-Ph-Ph}
2019/3093	. . . . .	{Cy-Ph-S-Ph}
2019/3095	. . . . .	{in which the end group is the monoterpene menthyl}
2019/3096	. . . . .	{Cyclobutane rings}
19/3098	. . . . .	{Unsaturated non-aromatic rings, e.g. cyclohexene rings}
19/32	. . . . .	containing condensed ring systems, i.e. fused, bridged or spiro ring systems
19/321	. . . . .	{Compounds containing a bicyclo [2,2,2] octane ring}
19/322	. . . . .	{Compounds containing a naphthalene ring or a completely or partially hydrogenated naphthalene ring}
2019/323	. . . . .	{containing a binaphthyl}
2019/324	. . . . .	{containing a dihydronaphthalene}
2019/325	. . . . .	{containing a tetrahydronaphthalene, e.g. -2,6-diyl (tetralin)}

2019/326	. . . . . {containing a decahydronaphthalene, e.g. -2,6-diyl (decalin)}	19/348	. . . . . {containing at least two nitrogen atoms}
2019/327	. . . . . {containing a spiro ring system}	19/3483	. . . . . {the heterocyclic ring being a non-aromatic ring}
2019/328	. . . . . {containing a triphenylene ring system}	19/3486	. . . . . {the heterocyclic ring containing nitrogen and oxygen atoms}
19/34	. . . . . containing at least one heterocyclic ring	19/3488	. . . . . {the heterocyclic ring having more than 6 members, e.g. macrocycles, phthalocyanines}
19/3402	. . . . . {having oxygen as hetero atom (sugars C09K 19/0422)}	19/3491	. . . . . {having sulfur as hetero atom}
19/3405	. . . . . {the heterocyclic ring being a five-membered ring}	19/3494	. . . . . {the heterocyclic ring containing sulfur and oxygen atoms}
2019/3408	. . . . . {Five-membered ring with oxygen(s) in fused, bridged or spiro ring systems}	19/3497	. . . . . {the heterocyclic ring containing sulfur and nitrogen atoms}
19/3411	. . . . . {the heterocyclic ring being a three-membered ring}	19/36	. . Steroidal liquid crystal compounds
2019/3413	. . . . . {Three-membered member ring with oxygen(s), e.g. oxirane in fused, bridged or spiro ring systems}	19/38	. . Polymers
2019/3416	. . . . . {the heterocyclic ring being a four-membered ring, e.g. oxetane}	19/3804	. . . {with mesogenic groups in the main chain}
2019/3419	. . . . . {Four-membered ring with oxygen(s), e.g. oxetane, in fused, bridged or spiro ring systems}	19/3809	. . . . {Polyesters; Polyester derivatives, e.g. polyamides}
2019/3422	. . . . . {the heterocyclic ring being a six-membered ring}	19/3814	. . . . {Polyethers}
2019/3425	. . . . . {Six-membered ring with oxygen(s) in fused, bridged or spiro ring systems}	19/3819	. . . . {Polysaccharides or derivatives thereof}
2019/3427	. . . . . {Six-membered ring with 3 or more oxygen atoms}	19/3823	. . . . {containing heterocycles having at least one nitrogen as ring hetero atom}
2019/343	. . . . . {the heterocyclic ring being a seven-membered ring}	19/3828	. . . . . {containing triazine rings}
2019/3433	. . . . . {Seven-membered ring with oxygen(s) in fused, bridged or spiro ring systems}	19/3833	. . . {with mesogenic groups in the side chain}
2019/3436	. . . . . {Seven-membered ring with 3 or more oxygen atoms}	19/3838	. . . . {Polyesters; Polyester derivatives}
2019/3438	. . . . . {Crown ethers}	19/3842	. . . . {Polyvinyl derivatives}
19/3441	. . . . . {having nitrogen as hetero atom}	19/3847	. . . . . {Polyvinylethers}
19/3444	. . . . . {the heterocyclic ring being a six-membered aromatic ring containing one nitrogen atom, e.g. pyridine}	19/3852	. . . . . {Poly(meth)acrylate derivatives}
19/3447	. . . . . {Pyridine condensed or bridged with another ring system, e.g. quinoline or acridine}	19/3857	. . . . . {containing at least one asymmetric carbon atom}
19/345	. . . . . {the heterocyclic ring being a six-membered aromatic ring containing two nitrogen atoms}	19/3861	. . . . . {containing condensed ring systems}
19/3452	. . . . . {Pyrazine}	19/3866	. . . . . {containing steroid groups}
19/3455	. . . . . {Pyridazine}	19/3871	. . . . . {containing amino acid derivatives}
19/3458	. . . . . {Uncondensed pyrimidines}	19/3876	. . . . {Polyoxyalkylene polymers}
19/3461	. . . . . {Pyrimidine-tolane}	19/388	. . . . . {Polyepoxides}
19/3463	. . . . . {Pyrimidine with a carbon chain containing at least one asymmetric carbon atom, i.e. optically active pyrimidines}	19/3885	. . . . {Polyurethanes}
19/3466	. . . . . {Pyrimidine with at least another heterocycle in the chain}	19/389	. . . . {Polypeptides}
19/3469	. . . . . {Pyrimidine with a specific end-group other than alkyl, alkoxy or -C*-}	19/3895	. . . . {containing two or more mesogenic groups per monomer unit, e.g. polyitaconates, polymaleates}
19/3472	. . . . . {Pyrimidine condensed or bridged with another ring system}	19/40	. . containing elements other than carbon, hydrogen, halogen, oxygen, nitrogen or sulfur, e.g. silicon, metals
19/3475	. . . . . {the heterocyclic ring being a six-membered aromatic ring containing at least three nitrogen atoms}	19/402	. . . {containing deuterium}
19/3477	. . . . . {the heterocyclic ring being a five-membered aromatic ring containing at least one nitrogen atom}	19/404	. . . {containing boron or phosphorus}
		19/406	. . . {containing silicon}
		19/408	. . . . {Polysiloxanes}
		19/42	. . Mixtures of liquid crystal compounds covered by two or more of the preceding groups C09K 19/06 - C09K 19/40
		19/44	. . . containing compounds with benzene rings directly linked
		19/46	. . . containing esters
		19/48	. . . containing Schiff bases
		19/50	. . . containing steroidal liquid crystal compounds
		19/52	. characterised by components which are not liquid crystals, e.g. additives {with special physical aspect: solvents, solid particles}
		2019/521	. . {Inorganic solid particles}
		2019/523	. . {Organic solid particles}
		2019/525	. . {Solvents}
		2019/526	. . {Gelling agents}
		2019/528	. . {Surfactants}

19/54	. . Additives having no specific mesophase {characterised by their chemical composition}	2200/0247	. . . Silica
19/542	. . . {Macromolecular compounds}	2200/0252	. . . Clays
19/544	. . . . {as dispersing or encapsulating medium around the liquid crystal}	2200/0256	. . . . Bentonite
2019/546	. . . . {creating a polymeric network}	2200/026	. . . . Kaolin
2019/548	. . . . {stabilizing the alignment; Polymer stabilized alignment}	2200/0265	. . . Mica
19/56	. . . Aligning agents	2200/0269	. . Ceramics
19/58	. . Dopants or charge transfer agents	2200/0273	. . Boron-containing compounds
19/582	. . . {Electrically active dopants, e.g. charge transfer agents}	2200/0278	. . Fibres
19/584	. . . . {having a condensed ring system; macrocyclic compounds}	2200/0282	. . . Carbon fibres
19/586	. . . {Optically active dopants; chiral dopants}	2200/0286	. . . Asbestos
19/588	. . . . {Heterocyclic compounds}	2200/0291	. . . Glass fibres
19/60	. . Pleochroic dyes	2200/0295	. . . Ceramic fibres
19/601	. . . {Azoic}	2200/04	. Non-macromolecular organic compounds
19/603	. . . {Anthroquinonic}	2200/0405	. . Hydrocarbons
19/605	. . . {Azomethine dyes}	2200/0411	. . Halogen-containing compounds
19/606	. . . {Perylene dyes}	2200/0417	. . Phosphorus-containing compounds
19/608	. . . {Quinoxaline dyes}	2200/0423	. . Boron-containing compounds
21/00	Fireproofing materials (for use in a particular application, see the relevant places, e.g. fireproofing of wood B27K, of polymers C08, of textiles D06M, of paper D21H; fireproof paints C09D 5/18)	2200/0429	. . Alcohols, phenols, ethers
	NOTE	2200/0435	. . Aldehydes, ketones
	In groups C09K 21/02 - C09K 21/14, in the absence of an indication to the contrary, materials are classified in the last appropriate place.	2200/0441	. . Carboxylic acids, salts, anhydrides or esters thereof
21/02	. Inorganic materials	2200/0447	. . Fats, fatty oils, higher fatty acids or derivatives thereof
21/04	. . containing phosphorus	2200/0452	. . Carbohydrates or derivatives thereof
21/06	. Organic materials	2200/0458	. . Nitrogen-containing compounds
21/08	. . containing halogen	2200/0464	. . . Isocyanates
21/10	. . containing nitrogen	2200/047	. . . Amides, imides, imines, N-oxides
21/12	. . containing phosphorus	2200/0476	. . . Heterocyclic nitrogen compounds, e.g. melamine
21/14	. Macromolecular materials	2200/0482	. . . Peptides, proteins or derivatives thereof
2101/00	Agricultural use	2200/0488	. . Sulfur-containing compounds
2103/00	Civil engineering use	2200/0494	. . Silicon-containing compounds
2105/00	Erosion prevention	2200/06	. Macromolecular organic compounds, e.g. prepolymers
2107/00	Impermeabilisation	2200/0602	. . Polysaccharides or derivatives thereof
2109/00	pH regulation	2200/0605	. . Lignin-containing compounds
2200/00	Chemical nature of materials in mouldable or extrudable form for sealing or packing joints or covers	2200/0607	. . Rubber or rubber derivatives
2200/02	. Inorganic compounds	2200/061	. . . Butyl rubber
2200/0204	. . Elements	2200/0612	. . . Butadiene-acrylonitrile rubber
2200/0208	. . . Carbon	2200/0615	. . obtained by reactions only involving carbon-to- carbon unsaturated bonds
2200/0213	. . . Metals	2200/0617	. . . Polyalkenes
2200/0217	. . Salts	2200/062	. . . . Polyethylene
2200/0221	. . . Halogen-containing compounds	2200/0622	. . . Polyvinylalcohols, polyvinylacetates
2200/0226	. . . Nitrogen-containing compounds	2200/0625	. . . Polyacrylic esters or derivatives thereof
2200/023	. . . Sulfur-containing compounds	2200/0627	. . . . Nitrogen-containing polymers, e.g. polyacrylamide
2200/0234	. . . Phosphorous-containing compounds	2200/063	. . . Polyacrylonitriles
2200/0239	. . Oxides, hydroxides, carbonates	2200/0632	. . . Polystyrenes
2200/0243	. . Silica-rich compounds, e.g. silicates, cement, glass	2200/0635	. . . Halogen-containing polymers, e.g. PVC
		2200/0637	. . . . Fluoro-containing polymers, e.g. PTFE
		2200/064	. . . Coumarone polymers
		2200/0642	. . Copolymers containing at least three different monomers
		2200/0645	. . obtained otherwise than by reactions involving carbon-to-carbon unsaturated bonds
		2200/0647	. . . Polyepoxides
		2200/065	. . . Polyurethanes
		2200/0652	. . . Polyisocyanates
		2200/0655	. . . Polyesters
		2200/0657	. . . Polyethers
		2200/066	. . . . Polyester-polyethers

- 2200/0662 Polyether-polyol
 2200/0665 . . . Polyurea
 2200/0667 . . . Polyamides, polyimides
 2200/067 . . . Condensation polymers of aldehydes or ketones
 2200/0672 Phenol-aldehyde condensation polymers
 2200/0675 Melamine-formaldehyde condensation polymers
 2200/0677 Urea-formaldehyde condensation polymers
 2200/068 . . . Containing also other elements than carbon, oxygen or nitrogen in the polymer main chain
 2200/0682 . . . Containing sulfur
 2200/0685 . . . Containing silicon
 2200/0687 . . Natural resins, e.g. rosin
 2200/069 . . Bituminous materials, e.g. tar, pitch
 2200/0692 . . Fibres
 2200/0695 . . . Polyamide fibres
 2200/0697 . . . Cellulose fibres
- 2205/00 Aspects relating to compounds used in compression type refrigeration systems**
 2205/10 . Components
 2205/102 . . Alcohols
 2205/104 . . Carboxylic acid esters
 2205/106 . . Carbon dioxide
 2205/108 . . Aldehydes or ketones
 2205/11 . . Ethers
 2205/112 . . . Halogenated ethers
 2205/114 . . . Cyclic ethers
 2205/116 . . . Halogenated cyclic ethers
 2205/12 . . Hydrocarbons
 2205/122 . . . Halogenated hydrocarbons
 2205/124 . . . Fluorinated cyclic hydrocarbons
 2205/126 . . . Unsaturated fluorinated hydrocarbons
 2205/128 . . . Perfluorinated hydrocarbons ([C09K 2205/124](#), [C09K 2205/126](#) take precedence)
 2205/13 . . Inert gases
 2205/132 . . containing nitrogen
 2205/134 . . containing sulfur
 2205/22 . All components of a mixture being fluoro compounds
 2205/24 . Only one single fluoro component present
 2205/32 . The mixture being azeotropic
 2205/34 . The mixture being non-azeotropic
 2205/40 . Replacement mixtures
 2205/41 . . Type R11
 2205/42 . . Type R12
 2205/43 . . Type R22
 2205/44 . . Type R13B1
 2205/45 . . Type R500
 2205/46 . . Type R501
 2205/47 . . Type R502
 2205/48 . . Type R503
- 2208/00 Aspects relating to compositions of drilling or well treatment fluids**
 2208/02 . Spotting, i.e. using additives for releasing a stuck drill
 2208/04 . Hulls, shells or bark containing well drilling or treatment fluids
 2208/06 . Structured surfactants, i.e. well drilling or treating fluids with a lamellar or spherulitic phase
 2208/08 . Fiber-containing well treatment fluids
 2208/10 . Nanoparticle-containing well treatment fluids
 2208/12 . Swell inhibition, i.e. using additives to drilling or well treatment fluids for inhibiting clay or shale swelling or desintegrating
 2208/14 . Double emulsions, i.e. oil-in-water-in-oil emulsions or water-in-oil-in-water emulsions
 2208/18 . Bridging agents, i.e. particles for temporarily filling the pores of a formation; Graded salts
 2208/20 . Hydrogen sulfide elimination
 2208/22 . Hydrates inhibition by using well treatment fluids containing inhibitors of hydrate formers
 2208/24 . Bacteria or enzyme containing gel breakers
 2208/26 . Gel breakers other than bacteria or enzymes
 2208/28 . Friction or drag reducing additives
 2208/30 . Viscoelastic surfactants [VES]
 2208/32 . Anticorrosion additives
 2208/34 . Lubricant additives
- 2211/00 Chemical nature of organic luminescent or tenebrescent compounds**
 2211/10 . Non-macromolecular compounds
 2211/1003 . . Carbocyclic compounds
 2211/1007 . . . Non-condensed systems
 2211/1011 . . . Condensed systems
 2211/1014 . . . bridged by heteroatoms, e.g. N, P, Si or B
 2211/1018 . . Heterocyclic compounds
 2211/1022 . . . bridged by heteroatoms, e.g. N, P, Si or B
 2211/1025 . . . characterised by ligands
- NOTE**
 In groups
[C09K 2211/1025](#) - [C09K 2211/1074](#)
 indexing is made in the last appropriate place
- 2211/1029 containing one nitrogen atom as the heteroatom
 2211/1033 with oxygen
 2211/1037 with sulfur
 2211/104 with other heteroatoms
 2211/1044 containing two nitrogen atoms as heteroatoms
 2211/1048 with oxygen
 2211/1051 with sulfur
 2211/1055 with other heteroatoms
 2211/1059 containing three nitrogen atoms as heteroatoms
 2211/1062 with oxygen
 2211/1066 with sulfur
 2211/107 with other heteroatoms
 2211/1074 containing more than three nitrogen atoms as heteroatoms
 2211/1077 with oxygen
 2211/1081 with sulfur
 2211/1085 with other heteroatoms
 2211/1088 containing oxygen as the only heteroatom
 2211/1092 containing sulfur as the only heteroatom
 2211/1096 containing other heteroatoms
 2211/14 . Macromolecular compounds
 2211/1408 . . Carbocyclic compounds
 2211/1416 . . . Condensed systems
 2211/1425 . . . Non-condensed systems
 2211/1433 . . . bridged by heteroatoms, e.g. N, P, Si or B

2211/1441 . . Heterocyclic

NOTE

In groups [C09K 2211/1441](#) - [C09K 2211/1483](#)
indexing is made in the last appropriate place

- 2211/145 . . . containing oxygen as the only heteroatom
- 2211/1458 . . . containing sulfur as the only heteroatom
- 2211/1466 . . . containing nitrogen as the only heteroatom
- 2211/1475 . . . containing nitrogen and oxygen as heteroatoms
- 2211/1483 . . . containing nitrogen and sulfur as heteroatoms
- 2211/1491 . . . containing other combinations of heteroatoms
- 2211/18 . Metal complexes
- 2211/181 . . of the alkali metals and alkaline earth metals
- 2211/182 . . of the rare earth metals, i.e. Sc, Y or lanthanide
- 2211/183 . . of the refractory metals, i.e. Ti, V, Cr, Zr, Nb, Mo, Hf, Ta or W
- 2211/185 . . of the platinum group, i.e. Os, Ir, Pt, Ru, Rh or Pd
- 2211/186 . . of the light metals other than alkali metals and alkaline earth metals, i.e. Be, Al or Mg
- 2211/187 . . of the iron group metals, i.e. Fe, Co or Ni
- 2211/188 . . of other metals not provided for in one of the previous groups

2219/00 Aspects relating to the form of the liquid chrystal [LC] material, or by the technical area in which LC material are used

- 2219/01 . in the form of fibres, e.g. fibres after polymerisation of LC precursor
- 2219/03 . in the form of films, e.g. films after polymerisation of LC precursor
- 2219/11 . used in the High Frequency technical field
- 2219/13 . used in the technical field of thermotropic switches
- 2219/15 . used as a medium, in which chemical reactions take place
- 2219/17 . used as a medium, in which detection of chemical compounds takes place