CPC COOPERATIVE PATENT CLASSIFICATION

C CHEMISTRY; METALLURGY

(NOTES omitted)

CHEMISTRY

C09 DYES; PAINTS; POLISHES; NATURAL RESINS; ADHESIVES; MISCELLANEOUS COMPOSITIONS; MISCELLANEOUS APPLICATIONS OF MATERIALS

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.

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   C09K 11/78-C09K 11/86 covered by
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

3/00 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)

3/1003 . . {Pure inorganic mixtures}

3/1006 . . {characterised by the chemical nature of one of its constituents}

3/1009 . . . {Fluorinated polymers, e.g. PTFE}

3/1012 . . . {Sulfur-containing polymers, e.g. polysulfides}

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-swellable materials}

2003/1043 . . . {Non water-swellable 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}

2003/109 . . . {Crown caps}

2003/1093 . . . {Cables}

2003/1096 . . . {Cylinder head gaskets}

3/12 . Materials for stopping leaks, e.g. in radiators, in tanks (filling pastes C09D 5/34)

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)}

NOTE

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

3/1409 . . {Abrasive particles per se (preparation of diamond C01B 32/25)}
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)
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. CO_2 orcarbonated 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 8/68 (continued)

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 wavelengths 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 . containing 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 earth 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 alkakine 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
11/641 . . . {Chalcogenides}
11/642 . . . . {with zinc or cadmium}
11/643 . . . . {with alkaline earth metals}
11/644 . . . {Halogenides (C09K 11/641, C09K 11/646 - C09K 11/648 take precedence)}
11/645 . . . . {with alkali or alkaline earth metals}
11/646 . . . {Silicates}
11/647 . . . {Borates}
11/648 . . . {Sulfates}
11/65 . . containing carbon (in organic compounds C09K 11/06)
11/655 . . . {Aluminates; Silicates}
11/66 . . containing germanium, tin or lead
11/661 . . . {Chalcogenides}
11/662 . . . . {with zinc or cadmium}
11/663 . . . . {with alkaline earth metals}
11/664 . . . {Halogenides (C09K 11/661, C09K 11/666 - C09K 11/668 take precedence)}
11/665 . . . . {with alkali or alkaline earth metals}
11/666 . . . {Aluminates; Silicates}
11/667 . . . {Borates}
11/668 . . . {Sulfates}
11/67 . . containing refractory metals
11/671 . . . {Chalcogenides}
11/672 . . . . {with zinc or cadmium}
11/673 . . . . {with alkaline earth metals}
11/674 . . . {Halogenides (C09K 11/671, C09K 11/676 - C09K 11/679 take precedence)}
11/675 . . . . {with alkali or alkaline earth metals}
11/676 . . . {Aluminates; Silicates}
11/677 . . . {Germanates}
11/678 . . . {Borates}
11/679 . . . {Sulfates}
11/68 . . . containing chromium, molybdenum or tungsten
11/681 . . . . {Chalcogenides}
11/682 . . . . . {with zinc or cadmium}
11/684 . . . . . {with alkaline earth metals}
11/685 . . . . {Aluminates; Silicates}
11/687 . . . . {Borates}
11/688 . . . . {Sulfates}
11/69 . . . containing vanadium
11/691 . . . . {Chalcogenides}
11/693 . . . . . {with zinc or cadmium}
11/695 . . . . . {with alkaline earth metals}
11/696 . . . . {Halogenides}
11/698 . . . . {Aluminates; Silicates}
11/70 . . containing phosphorus
11/701 . . . {Chalcogenides}
11/703 . . . . {with zinc and/or cadmium}
11/705 . . . {Halogenides (C09K 11/701, C09K 11/706 and C09K 11/708 take precedence)}
11/706 . . . {Aluminates; Silicates}
11/708 . . . {Borates}
11/71 . . . also containing alkaline earth metals
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}
11/727 . . . . {Aluminates; Silicates}
11/73 . . . . also containing alkaline earth metals
11/74 . . containing arsenic, antimony or bismuth
11/7407 . . . {Chalcogenides}
11/7414 . . . . {with zinc or cadmium}
11/7421 . . . . {with alkaline earth metals}
11/7428 . . . {Halogenides (C09K 11/7407, C09K 11/7442 - C09K 11/7492 take precedence)}
11/7435 . . . . {with alkali or alkaline earth metals}
11/7442 . . . {Aluminates; Silicates}
11/745 . . . {Germanates}
11/7457 . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7464 . . . {Phosphates}
11/7471 . . . . {with alkaline earth metals}
11/7478 . . . . . {with halogens}
11/7485 . . . {Borates}
11/7492 . . . {Arsenides; Nitrides; Phosphides}
11/75 . . . containing antimony
11/751 . . . . {Chalcogenides}
11/752 . . . . . {with zinc or cadmium}
11/753 . . . . . {with alkaline earth metals}
11/755 . . . . {Halogenides (C09K 11/751, C09K 11/757 and C09K 11/758 take precedence)}
11/756 . . . . . {with alkali or alkaline earth metals}
11/757 . . . . {Aluminates; Silicates}
11/758 . . . . {Vandates; Chromates; Molybdates; Tungstates}
11/76 . . . . also containing phosphorus and halogen, e.g. halophosphates

11/765 . . . . . {Borates}
11/77 . . containing rare earth metals
11/7701 . . . {Chalogenides}
11/7702 . . . . {with zinc or cadmium}
11/7703 . . . . {with alkaline earth metals}
11/7704 . . . {Halogenides (C09K 11/7701, C09K 11/7706 - C09K 11/7714 take precedence)}
11/7705 . . . . {with alkali or alkaline earth metals}
11/7706 . . . {Aluminates; Silicates}
11/7707 . . . {Germanates}
11/7708 . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7709 . . . {Phosphates}
11/771 . . . . {with alkaline earth metals}
11/7711 . . . . . {with halogens}
11/7712 . . . {Borates}
11/7713 . . . {Sulfates}
11/7714 . . . {Antimonates; Arsenates}
11/7715 . . . {containing cerium}
11/7716 . . . . {Chalcogenides}
11/7717 . . . . . {with zinc or cadmium}
11/7718 . . . . . {with alkaline earth metals}
11/7719 . . . . {Halogenides (C09K 11/7716, C09K 11/7721 - C09K 11/7727 take precedence)}
11/772 . . . . . {with alkali or alkaline earth metals}
11/7721 . . . . {Aluminates; Silicates}
11/7722 . . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7723 . . . . {Phosphates}
11/7724 . . . . . {with alkaline earth metals}
11/7725 . . . . . {with halogens}
11/7726 . . . . {Borates}
11/7727 . . . . {Sulfates}
11/7728 . . . {comprising europium}
11/7729 . . . . {Chalcogenides}
11/773 . . . . . {with zinc and cadmium}
11/7731 . . . . . {with alkaline earth metals}
11/7732 . . . . {Halogenides}
11/7733 . . . . . {with alkali or alkaline earth metals}
11/7734 . . . . {Aluminates; Silicates}
11/7735 . . . . {Germanates}
11/7736 . . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7737 . . . . {Phosphates}
11/7738 . . . . . {with alkaline earth metals}
11/7739 . . . . . {with halogens}
11/774 . . . . {Borates}
11/7741 . . . . {Sulfates}
11/7742 . . . . {Antimonates; Arsenates}
11/7743 . . . {containing terbium}
11/7744 . . . . {Chalcogenides}
11/7745 . . . . . {with zinc or cadmium}
11/7746 . . . . . {with alkaline earth metals}
11/7747 . . . . {Halogenides (C09K 11/7744, C09K 11/7749 - C09K 11/7755 take precedence)}
11/7748 . . . . . {with alkali or alkaline earth metals}
11/7749 . . . . {Aluminates; Silicates}
11/775 . . . . {Germanates}
11/7751 . . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7752 . . . . {Phosphates}
11/7753 . . . . . {with alkaline earth metals}
11/7754 . . . . . {with halogens}
11/7755 . . . . {Borates}
11/7756 . . . {containing neodynium}
11/7757 . . . . {Halogenides (C09K 11/7758 takes precedence)}
11/7758 . . . . {Aluminates; Silicates}
11/7759 . . . {containing samarium}
11/776 . . . . {Chalcogenides}
11/7761 . . . . . {with alkaline earth metals}
11/7762 . . . . {Halogenides (C09K 11/776, C09K 11/7764 and C09K 11/7765 take precedence)}
11/7763 . . . . . {with alkali or alkaline earth metals}
11/7764 . . . . {Aluminates; Silicates}
11/7765 . . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7766 . . . {containing two or more rare earth metals (containing europium C09K 11/7783)}
11/7767 . . . . {Chalcogenides}
11/7768 . . . . . {with alkaline earth metals}
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}
11/7775 . . . . {Germanates}
11/7776 . . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7777 . . . . {Phosphates}
11/7778 . . . . . {with alkaline earth metals}
11/7779 . . . . . {with halogens}
11/778 . . . . {Borates}
11/7781 . . . . {Sulfates}
11/7782 . . . . {Antimonates; Arsenates}
11/7783 . . . {containing two or more rare earth metals one of which being europium}
11/7784 . . . . {Chalcogenides}
11/7785 . . . . . {with zinc and or cadmium}
11/7786 . . . . . {with alkaline earth metals}
11/7787 . . . . . {Oxides (C09K 11/7785, C09K 11/7786 take precedence)}
11/7788 . . . . . {Oxyhalogenides}
11/7789 . . . . . {Oxysulfides}
11/779 . . . . {Halogenides (C09K 11/7784, C09K 11/7792 - C09K 11/7798 take precedence)}
11/7791 . . . . . {with alkali or alkaline earth metals}
11/7792 . . . . {Aluminates; Silicates}
11/7793 . . . . {Germanates}
11/7794 . . . . {Vanadates; Chromates; Molybdates; Tungstates}
11/7795 . . . . {Phosphates}
11/7796 . . . . . {with alkaline earth metals}
11/7797 . . . . {Borates}
11/7798 . . . . {Antimonates; Arsenates}

11/87 . . containing platina group metals
11/873 . . . {Chalcogenides}
11/876 . . . . {with zinc or cadmium}
11/88 . . containing selenium, tellurium or unspecified chalcogen elements
11/881 . . . {Chalcogenides}
11/883 . . . . {with zinc or cadmium}
11/885 . . . . {with alkaline earth metals}
11/886 . . . . {with rare earth metals}
11/888 . . . {Borates}
11/89 . . containing mercury
11/892 . . . {Chalcogenides}
11/895 . . . {Halogenides (C09K 11/892 takes precedence)}
11/897 . . . . {with alkali or alkaline 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})

NOTE

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.

13/02 . containing an alkali metal hydroxide
13/04 . containing an inorganic acid
13/06 . . with organic material
13/08 . . containing a fluorine compound
13/10 . . containing a boron compound
13/12 . containing heavy metal salts in an amount of at least 50% of the non-solvent components

15/00 **Anti-oxidant compositions; 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.)}
19/0216 . . {Super Birefringence Effect (S.B.E.); Electrically Controlled Birefringence (E.C.B.)}
19/0225 . . {Ferroelectric}
19/0233 . . {Electroclinic}
19/0241 . . {Ferrielectric; Ferromagnetic}
19/025 . . {Ferronematic; Ferrosmetic}
19/0258 . . {Flexoelectric}
19/0266 . . {Antiferroelectrics}
19/0275 . . {Blue phase}
19/0283 . . {Cubic phase}
19/0291 . . {anticlinic}
19/04 . characterised by the chemical structure of the liquid crystal components {, e.g. by a specific unit}
19/0403 . . {the structure containing one or more specific, optionally substituted ring or ring systems}
2019/0407 . . . {containing a carbocyclic ring, e.g. dicyano-benzene, chlorofluoro-benzene or cyclohexanone}
2019/0411 . . . {containing a chlorofluoro-benzene, e.g. 2-chloro-3-fluoro-phenylene-1,4-diyl}
2019/0414 . . . {containing a heterocyclic ring}
2019/0418 . . . {containing a dendromer structure; Dendritic liquid crystals}
19/0422 . . {Sugars (polysaccharides C09K 19/3819)}
2019/0425 . . {characterized by a specific unit that results in a functional effect}
2019/0429 . . . {the specific unit being a carbocyclic or heterocyclic discotic unit}
2019/0433 . . . {the specific unit being a luminescent or electroluminescent unit}
2019/0437 . . . {the specific unit being an optically active chain used as linking group between rings or as end group}
2019/044 . . . {the specific unit being a perfluoro chain used as an end group}
2019/0444 . . {characterized by a linking chain between rings or ring systems, a bridging chain between extensive mesogenic moieties or an end chain group}
2019/0448 . . . {the end chain group being a polymerizable end group, e.g. -Sp-P or acrylate}
2019/0451 . . . {the end chain group being a $CH_3CH=CHCH_2CH_2$- chain}
2019/0455 . . . {the linking chain being a -CF_2CF_2- , -$CF_2CF_2CF_2CF_2$- or -$CH_2CF_2CF_2CH_2$- chain}
2019/0459 . . . {the linking chain being a -CF=CF- chain, e.g. 1,2-difluoroethen-1,2-diyl}
2019/0462 . . . {the linking chain being a -CF_2CF_2O- chain}
2019/0466 . . . {the linking chain being a -CF_2O- chain}
2019/047 . . . {the linking chain being a -CH_2CF_2O- chain}
2019/0474 . . . {the linking chain being a -CHFO- chain}
2019/0477 . . {characterized by the positioning of substituents on phenylene}
2019/0481 . . . {Phenylene substituted in meta position}
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}
19/062 . . . {containing one non-condensed benzene ring}
19/063 . . . {containing one non-condensed saturated non-aromatic ring, e.g. cyclohexane ring}
19/065 . . . {containing one non-condensed unsaturated non-aromatic ring, e.g. cyclohexene ring}
19/066 . . . {containing one heterocyclic ring having oxygen as heteroatom}
19/067 . . . {containing one heterocyclic ring having nitrogen as heteroatom}
19/068 . . . {containing one heterocyclic ring having sulfur as heteroatom}
19/08 . . . containing at least two non-condensed rings
19/10 . . . . containing at least two benzene rings
19/12 . . . . . at least two benzene rings directly linked, e.g. biphenyls
2019/121 . . . . . {Compounds containing phenylene-1,4-diyl (-Ph-)}
2019/122 . . . . . {Ph-Ph}
2019/123 . . . . . {Ph-Ph-Ph}
2019/124 . . . . . {Ph-Ph-Ph-Ph}
2019/125 . . . . . {Ph-Ph-Ph-Ph-Ph or more Ph rings}
19/126 . . . . . {Compounds containing at least one asymmetric carbon atom}
2019/127 . . . . . {Compounds containing phenylene-1,3-diyl}
2019/128 . . . . . {Compounds containing phenylene-1,2-diyl}
19/14 . . . . . linked by a carbon chain
19/16 . . . . . the chain containing carbon-to-carbon double bonds, e.g. stilbenes
2019/161 . . . . . {Ph-CH=CH-Ph}
2019/163 . . . . . {Ph-Ph-CH=CH-Ph}

2019/165 . . . . . {Ph-Ph-CH=CH-Ph-Ph}
2019/166 . . . . . {Ph-Ph-Ph-CH=CH-Ph}
2019/168 . . . . . {Ph-CH=CH-Ph-CH=CH-Ph}
19/18 . . . . . the chain containing carbon-to-carbon triple bonds, e.g. tolans
2019/181 . . . . . {Ph-C≡C-Ph}
2019/183 . . . . . {Ph-Ph-C≡C-Ph}
2019/185 . . . . . {Ph-Ph-C≡C-Ph-Ph}
2019/186 . . . . . {Ph-C≡C-C≡C-Ph}
2019/188 . . . . . {Ph-C≡C-Ph-C≡C-Ph}
19/20 . . . . . linked by a chain containing carbon and oxygen atoms as chain links, e.g. esters {or ethers}
19/2007 . . . . . {the chain containing -COO- or -OCO- groups}
19/2014 . . . . . {containing additionally a linking group other than -COO- or -OCO-, e.g. -CH2-CH2-, -CH=CH-, -C=C-; containing at least one additional carbon atom in the chain containing -COO- or -OCO- groups, e.g. -(CH2)m-COO-(CH2)n-}
19/2021 . . . . . {Compounds containing at least one asymmetric carbon atom}
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}
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_2H_4-Cy}
2019/3031 . . . . . {Cy-Cy-C_2H_4-Cy}
2019/3033 . . . . . {Cy-Cy-Cy-C_2H_4-Cy}
2019/3034 . . . . . {Cy-Cy-C_2H_4-Cy-Cy}
2019/3036 . . . . . {Cy-C_2H_4-Ph}
2019/3037 . . . . . {Cy-Cy-C_2H_4-Ph}
2019/3039 . . . . . {Cy-Cy-Cy-C_2H_4-Ph}
2019/304 . . . . . {Cy-C_2H_4-Ph-Ph}
2019/3042 . . . . . {Cy-Cy-C_2H_4-Ph-Ph}
2019/3043 . . . . . {Cy-Cy-C_2H_4-Ph-Cy}
2019/3045 . . . . . {Cy-Ph-C_2H_4-Ph-Cy}
2019/3046 . . . . . {Cy-C_2H_4-Ph-C_2H_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}
2019/3062 . . . . . {Cy-C≡C-Ph}
2019/3063 . . . . . {Cy-Ph-C≡C-Ph}
2019/3065 . . . . . {Cy-Ph-Ph-C≡C-Ph}
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)}
2019/327 . . . . {containing a spiro ring system}
2019/328 . . . . {containing a triphenylene ring system}
19/34 . . . containing at least one heterocyclic ring
19/3402 . . . . {having oxygen as hetero atom (sugars C09K 19/0422)}
19/3405 . . . . . {the heterocyclic ring being a five-membered ring}
2019/3408 . . . . . {Five-membered ring with oxygen(s) in fused, bridged or spiro ring systems}
19/3411 . . . . . {the heterocyclic ring being a three-membered ring}
2019/3413 . . . . . {Three-membered member ring with oxygen(s), e.g. oxirane in fused, bridged or spiro ring systems}
2019/3416 . . . . . {the heterocyclic ring being a four-membered ring, e.g. oxetane}
2019/3419 . . . . . {Four-membered ring with oxygen(s), e.g. oxetane, in fused, bridged or spiro ring systems}
2019/3422 . . . . . {the heterocyclic ring being a six-membered ring}
2019/3425 . . . . . {Six-membered ring with oxygen(s) in fused, bridged or spiro ring systems}
2019/3427 . . . . . {Six-membered ring with 3 or more oxygen atoms}
2019/343 . . . . . {the heterocyclic ring being a seven-membered ring}
2019/3433 . . . . . {Seven-membered ring with oxygen(s) in fused, bridged or spiro ring systems}
2019/3436 . . . . . {Seven-membered ring with 3 or more oxygen atoms}
2019/3438 . . . . . {Crown ethers}
19/3441 . . . . {having nitrogen as hetero atom}
19/3444 . . . . . {the heterocyclic ring being a six-membered aromatic ring containing one nitrogen atom, e.g. pyridine}
19/3447 . . . . . {Pyridine condensed or bridged with another ring system, e.g. quinoline or acridine}
19/345 . . . . . {the heterocyclic ring being a six-membered aromatic ring containing two nitrogen atoms}
19/3452 . . . . . {Pyrazine}
19/3455 . . . . . {Pyridazine}
19/3458 . . . . . {Uncondensed pyrimidines}
19/3461 . . . . . {Pyrimidine-tolane}
19/3463 . . . . . {Pyrimidine with a carbon chain containing at least one asymmetric carbon atom, i.e. optically active pyrimidines}
19/3466 . . . . . {Pyrimidine with at least another heterocycle in the chain}
19/3469 . . . . . {Pyrimidine with a specific end-group other than alkyl, alkoxy or -C*-}
19/3472 . . . . . {Pyrimidine condensed or bridged with another ring system}
19/3475 . . . . . {the heterocyclic ring being a six-membered aromatic ring containing at least three nitrogen atoms}
19/3477 . . . . . {the heterocyclic ring being a five-membered aromatic ring containing at least one nitrogen atom}
19/348 . . . . . {containing at least two nitrogen atoms}
19/3483 . . . . . {the heterocyclic ring being a non-aromatic ring}
19/3486 . . . . . {the heterocyclic ring containing nitrogen and oxygen atoms}
19/3488 . . . . . {the heterocyclic ring having more than 6 members, e.g. macrocycles, phthalocyanines}
19/3491 . . . . {having sulfur as hetero atom}
19/3494 . . . . . {the heterocyclic ring containing sulfur and oxygen atoms}
19/3497 . . . . . {the heterocyclic ring containing sulfur and nitrogen atoms}
19/36 . . Steroidal liquid crystal compounds
19/38 . . Polymers
19/3804 . . . {with mesogenic groups in the main chain}
19/3809 . . . . {Polyesters; Polyester derivatives, e.g. polyamides}
19/3814 . . . . {Polyethers}
19/3819 . . . . {Polysaccharides or derivatives thereof}
19/3823 . . . . {containing heterocycles having at least one nitrogen as ring hetero atom}
19/3828 . . . . . {containing triazine rings}
19/3833 . . . {with mesogenic groups in the side chain}
19/3838 . . . . {Polyesters; Polyester derivatives}
19/3842 . . . . {Polyvinyl derivatives}
19/3847 . . . . . {Polyvinylethers}
19/3852 . . . . . {Poly(meth)acrylate derivatives}
19/3857 . . . . . {containing at least one asymmetric carbon atom}
19/3861 . . . . . {containing condensed ring systems}
19/3866 . . . . . {containing steroid groups}
19/3871 . . . . . {containing amino acid derivatives}
19/3876 . . . . {Polyoxyalkylene polymers}
19/388 . . . . . {Polyepoxides}
19/3885 . . . . {Polyurethanes}
19/389 . . . . {Polypeptides}
19/3895 . . . . {containing two or more mesogenic groups per monomer unit, e.g. polyitaconates, polymaleates}

19/40 . . containing elements other than carbon, hydrogen, halogen, oxygen, nitrogen or sulfur, e.g. silicon, metals
19/402 . . . {containing deuterium}
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}
19/542 . . . {Macromolecular compounds}
19/544 . . . . {as dispersing or encapsulating medium around the liquid crystal}
2019/546 . . . . {creating a polymeric network}
2019/548 . . . . {stabilizing the alignment; Polymer stabilized alignment}
19/56 . . . Aligning agents
19/58 . . Dopants or charge transfer agents
19/582 . . . {Electrically active dopants, e.g. charge transfer agents}
19/584 . . . . {having a condensed ring system; macrocyclic compounds}
19/586 . . . {Optically active dopants; chiral dopants}
19/588 . . . . {Heterocyclic compounds}
19/60 . . Pleochroic dyes
19/601 . . . {Azoic}
19/603 . . . {Anthroquinonic}
19/605 . . . {Azomethine dyes}
19/606 . . . {Perylene dyes}
19/608 . . . {Quinoxaline dyes}

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)

NOTE

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.

21/02 . Inorganic materials
21/04 . . containing phosphorus
21/06 . Organic materials
21/08 . . containing halogen
21/10 . . containing nitrogen
21/12 . . containing phosphorus
21/14 . Macromolecular materials

2101/00 **Agricultural use**

2103/00 **Civil engineering use**

2105/00 **Erosion prevention**

2107/00 **Impermeabilisation**

2109/00 **pH regulation**

2200/00 **Chemical nature of materials in mouldable or extrudable form for sealing or packing joints or covers**

2200/02 . Inorganic compounds
2200/0204 . . Elements
2200/0208 . . . Carbon
2200/0213 . . . Metals
2200/0217 . . Salts
2200/0221 . . . Halogen-containing compounds
2200/0226 . . . Nitrogen-containing compounds
2200/023 . . . Sulfur-containing compounds
2200/0234 . . . Phosphorous-containing compounds
2200/0239 . . Oxides, hydroxides, carbonates
2200/0243 . . Silica-rich compounds, e.g. silicates, cement, glass
2200/0247 . . . Silica
2200/0252 . . . Clays
2200/0256 . . . . Bentonite
2200/026 . . . . Kaolin
2200/0265 . . . Mica
2200/0269 . . Ceramics
2200/0273 . . Boron-containing compounds
2200/0278 . . Fibres
2200/0282 . . . Carbon fibres
2200/0286 . . . Asbestos
2200/0291 . . . Glass fibres
2200/0295 . . . Ceramic fibres
2200/04 . Non-macromolecular organic compounds
2200/0405 . . Hydrocarbons
2200/0411 . . Halogen-containing compounds
2200/0417 . . Phosphorus-containing compounds
2200/0423 . . Boron-containing compounds
2200/0429 . . Alcohols, phenols, ethers
2200/0435 . . Aldehydes, ketones
2200/0441 . . Carboxylic acids, salts, anhydrides or esters thereof
2200/0447 . . Fats, fatty oils, higher fatty acids or derivatives thereof
2200/0452 . . Carbohydrates or derivatives thereof
2200/0458 . . Nitrogen-containing compounds
2200/0464 . . . Isocyanates
2200/047 . . . Amides, imides, imines, N-oxides
2200/0476 . . . Heterocyclic nitrogen compounds, e.g. melamine
2200/0482 . . . Peptides, proteins or derivatives thereof
2200/0488 . . Sulfur-containing compounds
2200/0494 . . Silicon-containing compounds
2200/06 . Macromolecular organic compounds, e.g. prepolymers
2200/0602 . . Polysaccharides or derivatives thereof
2200/0605 . . Lignin-containing compounds
2200/0607 . . Rubber or rubber derivatives
2200/061 . . . Butyl rubber
2200/0612 . . . Butadiene-acrylonitrile rubber

2200/0615 . . obtained by reactions only involving carbon-to-carbon unsaturated bonds
2200/0617 . . . Polyalkenes
2200/062 . . . . Polyethylene
2200/0622 . . . Polyvinylalcohols, polyvinylacetates
2200/0625 . . . Polyacrylic esters or derivatives thereof
2200/0627 . . . . Nitrogen-containing polymers, e.g. polyacrylamide
2200/063 . . . Polyacrylonitriles
2200/0632 . . . Polystyrenes
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 disintegrating
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