C09K

MATERIALS FOR MISCELLANEOUS APPLICATIONS, NOT PROVIDED FOR ELSEWHERE

Definition statement

This subclass/group covers:

The use of materials for applications not provided for elsewhere, e.g. sealing materials, drilling fluids.

The use of materials in general having specific properties, not provided for elsewhere, e.g. anti-static properties, anti-oxidation properties.

Materials selected for uses or applications not provided for elsewhere.

All entries in this subclass relate to specific properties (e.g. C09K 3/16 relates to materials with anti-static properties) or specific applications of materials (e.g. C09K 17/00 relates to soil-conditioning or soil-stabilizing materials), except for main group C09K 3/00 itself, which is the residual place for classifying materials with properties or applications for which no entries exist in C09K itself nor elsewhere in IPC.

References relevant to classification in this subclass

This subclass/group does not cover:

Materials or their applications or uses for which entries are available elsewhere in IPC.

Places in relation to which this subclass is residual:

Applications of materials relating to agriculture, foodstuffs, medical or cosmetic preparations,	A
e.g. preparations for medical, dental, or toilet purposes	A61K
Applications of materials relating to physical or chemical processes in general,	B
e.g. sorbent compositions or catalysts	B01
Chemical treatment of wood or similar materials	B27K
Pure chemistry, which covers compounds and their methods for	

preparation:	
inorganic chemistry	C01
organic chemistry	C07
organic macromolecular compounds and their compositions	C08
Coating compositions, e.g. paints	C09D
Fuels	C10L
Applications of materials relating to fibrous materials, textiles or paper	D
Applications of materials relating to photography, cinematography and analogous techniques	G03
Applications of materials relating to electric or electronic elements	H
Selection of materials for their conductive, insulating, or dielectric properties	H01B
Selection of materials for electrochemical generators, e.g. batteries	H01M
Selection of materials for piezo-electric materials	H01L 41/16

Informative references

Attention is drawn to the following places, which may be of interest for search:

Solid sorbent compositions	B01J 20/00
Materials for treatment of water, waste water, or sewage	C02F
Fertilisers,	C05

e.g. mixtures of soil-conditioning or soil-stabilising materials with fertilisers characterised by their fertilising activity	C05G

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Materials	include compounds, compositions, mixtures and preparations

C09K 3/00

Materials not provided for elsewhere

Definition statement

This subclass/group covers:

Only materials for which no specific application is mentioned, for example thickeners that can be used for any composition are classified in this class .

Relationship between large subject matter areas

Compositions for which an application is mentioned i.e. an application class is available , the documents are classified in the relevant application class only , for example: thickener for food A23, for cosmetics A61, for paints C09D.

C09K 3/10

[N: Materials in mouldable or extrudable form] for sealing or packing joints or covers (filling pastes HYPERLINK "sfpluscla://ECLA/C09D5/34" C09D5/34)

Definition statement

This subclass/group covers:

Material in extrudable or mouldable form

Relationship between large subject matter areas

C09K relates to materials not provided elsewhere,

therefore

If the sealant is only claimed with regard to a specific application and if in said specific application field a class related to the chemical nature of the sealant exists the document should only be classified in the application field

e.g.:

B29C 73/16 (tyre puncture sealing)

B60R 13/06 (sealing strips)

C09K 8/50-C09K 8/518 (sealing or packing boreholes or wells)

References relevant to classification in this group

This subclass/group does not cover:

Filling pastes	C09D 5/34
Adhesives	C09J
Lime, cements, mortars	C04B

Informative references

Attention is drawn to the following places, which may be of interest for search:

Compositions of macromolecular compounds	C08L
Use of inorganic ingredients	C08K 3/00-C08K 3/40
Use of organic ingredients	C08K 5/00-C08K 5/59

Special rules of classification within this subclass/group

If no specific application of the sealant is cited, the document should only be classified in the appropriate C09K 3/10 class.

If the sealant is claimed without specific uses the document should be classified in the appropriate C09K 3/10 class,

however

If specific applications are cited (e.g. in the description) the document should

additionally be classified in the relevant application fields

and

if many different applications are cited the document should only be classified in the appropriate C09K 3/10 class.

C09K 3/1006 is not used for classification.

All documents not falling under the definition of C09K 3/1003 or in the range C09K 3/1009 to C09K 3/1021 should be classified in C09K 3/10

Classification of additional information is done by using Indexing Codes:

for indexing the properties and uses of the material : C09K 3/10 to C09K 2003/1096

for indexing the chemical nature of the material: C09K 2200/00 to C09K 2200/0697

C09K 3/14

Anti-slip materials; Abrasives [N: (products specifically intended for the fabrication of abrasive tools, blocks or papers, or for operations of the kind of sand-blasting and barrelling B24B31/14, B24C1/00; polishing compositions containing abrasive or grinding agents C09G1/02; polishing of semi-conductors H01L; friction compositions for brakes or clutches F16D69/02)]

References relevant to classification in this group

This subclass/group does not cover:

Polishing compositions containing an abrasive which is not specific or polishing compositions WITHOUT abrasive	C09G 1/02
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

Informative references

Attention is drawn to the following places, which may be of interest for search:

Abrasives as fillers for polymers	C08K 3/00
Cleaning or scraping pads	A47L 17/00
Lapping	B24B
Polishing of glass	C03C
Polishing of metals	C23F
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;
Sawing fluids e.g. of silicon ingots, precious stones	B28D
Tools, grinding wheels	B24D
; polishing compositions containing abrasive or grinding agents	C09G 1/02
polishing of semi-conductors	H01L;
friction compositions for brakes or clutches	F16D 69/02

Special rules of classification within this group

In this class boron and silicon are considered as metals , as well as association of carbon with metals e.g. carbides . Particles coated with boron , silicon or carbides : C09K 3/1445

C09K 3/1409

[N: Abrasive particles per se (preparation of diamond C01B31/06)]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Preparation of particles in general	B01J
Abrasive particles for sand blasting	B24C 11/00
Preparation of diamond	C01B 31/06
Abrasives particles as fillers for polymers	C08K 3/00

C09K 3/1454

[N: Abrasive powders, suspensions and pastes for polishing]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Lapping	B24B
Methods and processes for polishing semi-conductors	H01L
Polishing of glass	C03C 19/00
Polishing of semi-conductors	H01L 21/00
Sawing fluids e.g. of silicon ingots, precious stones	B28D

C09K 3/16

Anti-static materials

References relevant to classification in this group

This subclass/group does not cover:

Conductive materials	H01B 1/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Photo paper	G03C 1/00
Antistatic paper	D21H 5/00

C09K 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 B01J2/30); 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, C09K5/00)

Definition statement

This subclass/group covers:

Compositions for non permanent treatment , with no formation of a permanent coating

Relationship between large subject matter areas

A permanent coating, film on a surface is classified in C09D, e.g. water based barrier cohesive film

References relevant to classification in this group

This subclass/group does not cover:

Rendering particulate materials free flowing, in general, e.g. making them hydrophobic	B01J 2/30
Permanent coating (polymer -> film)	C09D
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

Informative references

Attention is drawn to the following places, which may be of interest for search:

Dewatering of surfaces	C23G 5/00
Glass surfaces	C03C
Process for dewatering	B01D 43/00
Treatment of agricultural products	A01F 25/00
Treatment of bulk material e.g. sand or coal	B65G 3/00
Treatment of textiles	D06M

C09K 3/22

For dust-laying or dust-absorbing

Definition statement

This subclass/group covers:

Compositions for non-permanent treatment

Informative references

Attention is drawn to the following places, which may be of interest for search:

Treatment of fertilisers in powder form	C05G
Treatment of mines	E21F 5/00
Treatment of road surfaces	E01H 3/00
Treatment of tunnel walls	E21F 5/18

C09K 3/24

For simulating ice or snow

Informative references

Attention is drawn to the following places, which may be of interest for search:

Fabrication of Ice or snow for sports	F25C 3/00
Artificial surfaces for winter sports	E01C 13/10

C09K 3/30

for aerosols (aerosol containers HYPERLINK "sfpluscla://ECLA/B65D83/14" B65D83/14)

Definition statement

This subclass/group covers:

Chemical compounds and mixtures of chemical compounds, e.g. propellants for aerosols

Informative references

Attention is drawn to the following places, which may be of interest for search:

Aerosol containers	B65D 83/14
Inhalators	A61M 15/00
Sprayers for therapeutic purposes	A61M 11/00

C09K 3/32

For absorbing liquids to remove pollution, e.g. oil, gasoline, fat

Informative references

Attention is drawn to the following places, which may be of interest for search:

Apparatus for removing oil from water	E02B 15/04
Litters for animals	A01K 1/015
Solid sorbents	B01J 20/22
Treatment of water	C02F

C09K 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

Definition statement

This subclass/group covers:

Materials undergoing a change of physical change when used

Materials not undergoing a change of physical change when used

Materials undergoing chemical reactions when used

Antifreeze additives

Informative references

Attention is drawn to the following places, which may be of interest for search:

Arrangement or adaptations of heating, cooling, ventilating, or other air-treating devices specially for passenger or goods spaces of vehicles	B60H
Corrosion inhibitors	C23F 11/00
Details of heat-exchange and heat-transfer apparatus, of general application	F28F
Heat-exchange apparatus	F28D
Lubricating compositions	C10M
Refrigeration machines, plants or systems, combined heating and refrigeration systems; heat systems	F25B
Use of solar heat; selection of specific heat-exchange medium	F24J 2/00

Special rules of classification within this group

Last place rule applies

When classifying in C09K 5/042, C09K 5/044 and C09K 5/045 classification of additional information is done by using Indexing Codes:

for indexing the chemical nature of the material: C09K 2205/00 to C09K 2205/48

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 groups C09K 5/10 to C09K 5/14

The group C09K 5/18 might be incomplete as some of the patent documents classified in C09K 5/16 might need reclassification to C09K 5/18

C09K 8/00

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

References relevant to classification in this group

This subclass/group does not cover:

Oil recovery from bituminous sands	C10G 31/04

Special rules of classification within this group

C09K 8/02 to C09K 8/38 : Last Place Rule

Drilling fluids with fluid loss additives : C09K 8/02-C09K 8/38 and C09K 8/50-C09K 8/536

when appropriate use Indexing Code for "spotting" and E21B 31/03

Synonyms and Keywords

Spotting fluids	Fluids for releasing stuck drill string

Synonyms and Keywords

Spotting fluids	Fluids for releasing stuck drill string

C09K 8/03

Specific additives for general use in well-drilling compositions

Definition statement

This subclass/group covers:

Only when the additive as such is disclosed without specification of the drilling fluid OR if it is for any kind of drilling fluid : C09K 8/03-C09K 8/035

Special rules of classification within this group

mixtures of inorganic and organic additives : C09K 8/03 only

C09K 8/145

[N: characterised by the composition of the clay]

Definition statement

This subclass/group covers:

well defined clay sorts

Relationship between large subject matter areas

Organoclays per se are classified in C01B 33/44

Drilling fluids comprising organoclays will be classified in C09K 8/145 and C01B 33/44

References relevant to classification in this group

This subclass/group does not cover:

organoclays per se : C01B 33/44

C09K 8/22

Synthetic organic compounds

Definition statement

This subclass/group covers:

Monomers

C09K 8/34

Organic liquids

Definition statement

This subclass/group covers:

Specific non- oil components , e.g. olefins ,paraffins , special environmently friendly components

C09K 8/42

Compositions for cementing, e.g. for cementing casings into boreholes; Compositions for plugging, e.g. for killing wells (compositions for plastering C09K8/50)

References relevant to classification in this group

This subclass/group does not cover:

Compositions for plastering borehole walls	C09K 8/50
Proppants	C09K 8/80
Sealing or packing boreholes or wells	E21B 33/00
Well-drilling compositions	C09K 8/02

Special rules of classification within this group

Documents classified in C09K 8/42 and subgroups receive also a class and CIS codes in C04B in order to define the cementitious composition in more detail.

Multiple classes can be used where appropriate.

C09K 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 C09K8/56)

Definition statement

This subclass/group covers:

Temporary seal , sealing for control of water flow in or out the formation, fluid

loss control, profile modification

References relevant to classification in this group

This subclass/group does not cover:

Permanent seal for e.g. killing/closing a well	C09K 8/42, C04B
Compositions for consolidating loose sand or the like around wells	C09K 8/56

Special rules of classification within this group

- No last place rule in C09K 8/50 to C09K 8/94,multiple classification when appropriate

- When appropriate : use Indexing Code for fibers

Synonyms and Keywords

In patent documents the following expressions/words "fluid loss control" , "filtration control", "profile control" and "temporary sealing" are often used as synonyms.

C09K 8/516

characterised by their form or by the form of their components, e.g. encapsulated material

Special Rules of classification within this group

For fibers : use Indexing Code

C09K 8/52

Compositions for preventing, limiting or eliminating depositions, e.g. for cleaning[N0409]

Definition statement

This subclass/group covers:

Compositions for use in the well also for removing drilling residues

Cleaning is also called remediation

Relationship between large subject matter areas

Compositions for use in the pipes F17D

Special rules of classification within this group

- No last place rule in C09K 8/52 to C09K 8/536 , multiple classification needed if material incorporated in characteristic form.

- Compositions for removing drilling residues : C09K 8/52

- For preventing formation of hydrates formation C09K 8/52 and Indexing Code for "hydrates inhibition"

-Compositions for removing /preventing specific depositions C09K 8/524-C09K 8/532

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Cleaning	remediation

C09K 8/532

Sulfur

Definition statement

This subclass/group covers:

Also sulfides

Special rules of classification within this group

For H2S use corresponding Indexing Code

C09K 8/54

Compositions for in situ inhibition of corrosion in boreholes or wells

Informative References

Attention is drawn to the following places, which may be of interest for search:

Corrosion inhibitors as such	C23F

C09K 8/58

Compositions for enhanced recovery methods for obtaining hydrocarbons, i.e. for improving the mobility of the oil, e.g. displacing fluids

Definition statement

This subclass/group covers:

secondary and tertiary recovery

References relevant to classification in this group

This subclass/group does not cover:

Injection of Carbon dioxide alone	E21B 43/16
Method/Process for enhanced recovery	E21B 43/16 - E21B 43/248

Informative references

Attention is drawn to the following places, which may be of interest for search:

Bacteria	C12P,C12R
Surfactants as such	B01F 17/00

Special rules of classification within this group

- No last place rule in C09K 8/58-C09K 8/594, multiple classification might be needed

- Viscolelastic surfactants : Indexing Code for VES

C09K 8/582

characterised by the use of bacteria

Definition statement

This subclass/group covers:

also enzymes

Relationship between large subject matter areas

Bacteria as such : C12P, C12R

Synonyms and Keywords

In patent documents the following abbreviations are often used:

MEOR	Enhanced oil recovery using bacteria

C09K 8/584

characterised by the use of specific surfactants

Definition statement

This subclass/group covers:
also polymeric surfactants

Informative references

Attention is drawn to the following places, which may be of interest for search:

Surfactants as such	B01F 17/00

Special rules of classification within this group

Indexing Code for VES (viscoelastic surfactants)

C09K 8/594

Compositions used in combination with injected gas [N: e.g. CO2 or carbonated gas](C09K8/592) takes precedence

References relevant to classification in this group

This subclass/group does not cover:

Injection of CO2 alone	E21B 43/16
N: e.g. CO2 or carbonated gas	C09K 8/592

C09K 8/60

Compositions for stimulating production by acting on the underground formation

References relevant to classification in this group

This subclass/group does not cover:

Methods for stimulating production	E21B 43/25

Special rules of classification within this group

Details of composition: C09K 8/84 to C09K 8/88

C09K 8/602

[N: containing surfactants]

Definition statement

This subclass/group covers:
also demulsifiers surfactants

C09K 8/607

[N: specially adapted for clay formations]

Definition statement

This subclass/group covers:
capillary imbibition

C09K 8/62

Compositions for forming crevices or fractures

References relevant to classification in this group

This subclass/group does not cover:

Gas fracturing	C09K 8/70
Methods for forming fractures or crevices	E21B 43/26

Methods for reinforcing fractures by propping	E21B 43/267

Special rules of classification within this group

C09K 8/62 should be used in combination with the classes for specific components

C09K 8/665

[N: containing inorganic compounds (proppants C09K8/80)]

Definition statement

This subclass/group covers:

gel breakers

C09K 8/68

containing organic compounds

Definition statement

This subclass/group covers:

monomers and polymers

References relevant to classification in this group

This subclass/group does not cover:

Methods for fracturing	E21B 43/26
Proppants	C09K 8/80

Special rules of classification within this group

- defined polymers C09K 8/68 and classes C09K 8/88-C09K 8/905

- defined surfactants ,C09K 8/68 and class C09K 8/602 and Indexing Code for viscoelastic surfactants (VES) when appropriate.

-organic gel breakers : C09K 8/68 and Indexing Code for " gel breaker" or "bacteria or enzyme breaker"

C09K 8/70

Characterised by their form or by the form of their components, e.g. foams

Definition statement

This subclass/group covers:

also gas

C09K 8/706

[N: Encapsulated breakers]

Definition statement

This subclass/group covers:

also breakers with any coating which delays the action of the breaker (i.e. also surfactant around the particles)

C09K 8/72

Eroding chemicals, e.g. acids

Definition statement

This subclass/group covers:

acid fracturing - acidizing, - fracture acidizing- matrix acidizing

References relevant to classification in this group

This subclass/group does not cover:

Use of weak acids for cleaning without creating crevices	C09K 8/52

Special rules of classification within this group

Acidizing in combination with drilling , C09K 8/72 and C09K 8/02

C09K 8/74

combined with additives added for specific purposes

Definition statement

This subclass/group covers:
- corrosion inhibitors

- surfactants

- breakers

Special rules of classification within this group

when appropriate, use Indexing Codes for :

- anticorrosion

- Viscoelastic surfactant (VES)

- "gel breaker" or "bacteria or enzyme breaker"

C09K 8/78

for preventing sealing

Definition statement

This subclass/group covers:
anti-sludge additives

C09K 8/80

Compositions for reinforcing fractures, e.g. compositions of proppants used to keep the fractures open

Definition statement

This subclass/group covers:
Compositions for consolidating fractures and compositions of proppants

References relevant to classification in this group

This subclass/group does not cover:

Fabrication of inorganic particles	B01J
Fabrication of organic particles	C08J
Methods for reinforcing fractures by propping	E21B 43/267
Specific inorganic materials	C01

C09K 8/92

characterised by their form or by the form of their components, e.g. encapsulated material (C09K8/70 takes precedence)

Definition Statement

This subclass/group covers:

The group covers

also gas

References relevant to classification in this group

This subclass/group does not cover:

encapsulated material	C09K 8/70

C09K 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

Definition statement

This subclass/group covers:

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

Relationship between large subject matter areas

Photosensitive materials for photographic purposes G03C

References relevant to classification in this group

This subclass/group does not cover:

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
Materials in cathodochromic screens	H01J 29/14

Informative references

Attention is drawn to the following places, which may be of interest for search:

Luminescent materials	C09K 11/00

Special rules of classification within this group

Markush formulae or generic formulae are not classified, only concrete embodiments or examples are classified. Simple lists of known compounds (without application in an example or embodiment) are not classified.

C09K 9/02 (organic tenebrescent materials), C09K 11/06 (organic phosphors)

The respective Indexing Code-codes (range C09K 2211/00) for specific organic compounds have to be applied for all newly classified documents.

The documents have to be circulated to the corresponding classifiers in organic chemistry or polymers.

Other neighbouring fields should receive the document if an application in the respective field is mentioned (e.g. semiconductors, markers in biotechnology).

The last-place rule is strictly applied (no double classification in the main group and the respective sub-groups).

Markush formulae or general formulae are not classified, only concrete embodiments or examples.

C09K 11/00

Luminescent, e.g. electroluminescent, chemiluminescent materials

Definition statement

This subclass/group covers:

Luminescent materials, i.e. materials emitting light after excitation by some form of energy in the form of e.g. electrical energy, chemical energy, radiation

in the visible, ultraviolet, X-ray or gamma-ray range

References relevant to classification in this group

This subclass/group does not cover:

Liquid crystal materials	C09K 19/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Tenebrescent materials	C09K 9/00

Special rules of classification within this group

Markush formulae or generic formulae are not classified, only concrete embodiments or examples are classified. Simple lists of known compounds (without application in an example or embodiment) are not classified.

C09K 11/06 (organic phosphors)

The respective Indexing Code (range C09K 2211/00) for specific organic compounds have to be applied for all newly classified documents.

The documents have to be circulated to the corresponding classifiers in organic chemistry or polymers.

Other neighbouring fields should receive the document if an application in the respective field is mentioned (e.g. semiconductors, markers in biotechnology).

C09K 11/08 and subgroups (inorganic phosphors):

all elements in the inorganic compounds are used to determine the position in the scheme including the doping materials (Si,Al)(O,N) SiAlON, SiN, AlN phosphors are classified under the respective subclasses dealing with silicates/aluminates (e.g.C09K 11/7721, C09K 11/7734 etc.) and additionally under C09K 11/0883, in order to classify the nitride. A silicate and aluminate is a compound containing a silicion and/or aluminium atom and an anion. Under this definition nitrides ((Si,Al)(O,N)), fluorides (e.g.K2SiF6), sulfides (e.g. BaAl2S4) are considered as silicates/aluminates.

In all other cases the last-place rule is strictly applied (no double classification in the main group and the respective sub-groups).

Markush formulae or general formulae are not classified, only concrete embodiments or examples.

Magnesium is considered as an earth alkali metal for the purpose of this classification scheme.

C09K 13/00

Etching, surface-brightening or pickling compositions (for glass C03C15/00, [N: C03C25/66; for mortars, concrete, artificial or natural stone or ceramics C04B41/5338]; for metallic material C23F, C23G1/00, C25F1/00; [N: for semi-conductors H01L])

Definition statement

This subclass/group covers:

Also covers etching of silicon and germanium

References relevant to classification in this group

This subclass/group does not cover:

Etching of glass	C03C
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
Etching of metals	C23F, C23G
Etching of polymers	C08J 7/00
Methods for etching semi-conductors	H01L
Polishing compositions	C09G 1/02

Special rules of classification within this group

Last place rule is to be applied

C09K 15/00

Anti-oxidant composition; Compositions inhibiting chemical

change ([N: for use in well-specified applications, see the relevant places, e.g. in etching or pickling compositions C09K13/00, C23G], in foodstuffs A21D, A23, [N: 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 C11B5/00; in detergents C11D; [N: coating or impregnating carbon or graphite based bodies to protect them from oxidation C04B41/45]; corrosion inhibiting compositions for metallic material C23F11/00)

Definition statement

This subclass/group covers:

also UV absorbers

References relevant to classification in this group

This subclass/group does not cover:

Compositions for preserving food	A23L
In foodstuffs	A21D, A23
Oxygen scavengers in packaging materials	B65D
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

Special rules of classification within this group

- anti-oxidised compositions : classified according to the composition itself

- inhibited compositions

In C09K 15/00 to C09K 15/34 : Last Place Rule

Deviation from IPC definition : In present class a metallic salt or complex is classified in C09K 15/32 or C09K 15/326

C09K 17/00

Soil-conditioning materials or soil-stabilising materials (specially adapted for boreholes or wells C09K8/00; fertilisers C05; consolidating by placing solidifying or pore-filling substances in the soil E02D3/12)

Definition statement

This subclass/group covers:

Also covers mixtures of soil conditioning materials with fertilisers if the material is characterised by the soil conditioning or soil-stabilising activity

References relevant to classification in this group

This subclass/group does not cover:

Mixtures of soil conditioning materials with fertilisers characterised by the fertilising activity	C05B-C05G
Specially adapted for boreholes or wells	C09K 8/00
Consolidating by placing solidifying or pore-filling substances in the soil	E02D 3/12

Informative references

Attention is drawn to the following places, which may be of interest for search:

Cement grouts	C04B
Coating of dams	E02B 3/12
Fertilisers	C05B-C05G

Protection of foundations	E02D 1/00, E02D 19/00
Securing of slopes	E02D 17/20
Sports fields	A63K 1/00
Treatment of contaminated soils	B09C 1/00, B09B 3/00

Special rules of classification within this group

In C09K 17/02 to C09K 17/52 : Last Place Rule

C09K 17/08

Aluminium compounds, e.g. aluminium hydroxide

Definition statement

This subclass/group covers:
also aluminates, zeolites, pozzolanic materials

C09K 17/16

Applied in a physical form other than a solution or a grout, e.g. as platelets or granules

Definition statement

This subclass/group covers:
also foams

C09K 17/22

Polyacrylates; Polymethacrylates

Definition statement

This subclass/group covers:
also polyacrylamides

C09K 17/32

Of natural origin, e.g. cellulosic materials

Definition statement

This subclass/group covers:
also starch derivatives, sugars, proteins, biopolymers

C09K 17/42

Inorganic compounds mixed with organic active ingredients, e.g. accelerators

Definition statement

This subclass/group covers:
also microorganisms as organic active ingredient

C09K 17/52

Mulches

Definition statement

This subclass/group covers:
also

- film-forming compositions

- cover layers , geotextile

Informative references

Attention is drawn to the following places, which may be of interest for search:

Protective coverings for plants	A01G 13/02

C09K 19/00

Liquid crystal materials

Definition statement

This subclass/group covers:
Liquid crystal (LC) compounds (non-polymeric, as well as polymeric),

mixtures of liquid crystal compounds, and mixtures of liquid crystal compounds with additives that are NOT liquid crystal compounds (solvents, solid particles, macromolecular compounds, aligning agents, dopants, charge transfer agents, surfactants, pleochroic dyes).

Relationship between large subject matter areas

Organic compounds C07

Organic macromolecular compounds C08

Optical elements, systems, or apparatus G02B

Devices or arrangements for the control of the intensity, colour, phase, polarisation or direction of light arriving from an independent light source, e.g. switching, gating, or modulating; Non-linear optics G02F 1/00

References relevant to classification in this group

This subclass/group does not cover:

The electronics of a liquid crystal display	G02F 1/00
Polarising elements	G02B 5/30
Light-modulating devices	G02F 1/00

Informative references

Attention is drawn to the following places, which may be of interest for search:

Copolymers in which the nature of only the monomers in minority is defined	C08F 246/00
Heterocyclic compounds containing five#membered rings, condensed with other rings, with one nitrogen atom as the only ring hetero atom	C07D 209/00
Holograms	G02B 5/32
Luminescent elements	G02F 1/13357L
Manufacture of films or sheets	C08J 5/18
Optical Filters	G02B 5/201
Record Carriers	G11B 7/24

Recording or reproducing by optical means;[N: Recording by modifying optical properties, (e.g. by using electromagnetic radiation)	G11B 7/00
Surface#induced orientation of the liquid crystal molecules, e.g. by alignment layers	G02F 1/1337

Special rules of classification within this group

In the subgroups C09K 19/02 to C09K 19/603, in the absence of an indication to the contrary, materials are classified in the last appropriate place. In the case of Markush formulae, the inventive idea is classified. Further, an attempt is made to classify each exemplified embodiment.

The general philosophy could be summarized as follows:

C09K 19/02 to C09K 19/0283

LC compounds or the LC mixtures characterised in general by the optical, electrical or physical properties of the components are classified in the subgroups C09K 19/02 to C09K 19/0283. The two-dot subgroups C09K 19/0208 to C09K 19/0283 are non-hierarchical and each embodiment or example of a LC compound or mixture should be classified and may be placed in a different subgroup.

C09K 19/04 to C09K 19/50

These subgroups cover LC compounds or the LC mixtures characterised in general by the chemical structure of the liquid crystal component, mainly the specific ring or rings or ring system(s) used, as well as the linking groups between the rings.

C09K 19/52 to C09K 19/603 These subgroups cover LC mixtures characterised in general by the chemical structure of the components, which are not liquid crystals, e.g. additives.

In short every document may classified

in one or more subgroups from C09K 19/02 to C09K 19/0283 and/or

in one or more subgroups from C09K 19/04 to C09K 19/50 and/or

in one or more subgroups from C09K 19/52 to C09K 19/603.

We place the LC embodiments in groups, where we expect to retrieve them accurately and efficiently during search. When in doubt, classify! What goes under a specific group is straightforward, since the title of the group is

comprehensive.

Next to the ECLA Scheme (based on the ring(s) of the LC molecules), a non-hierarchical Indexing Code has been developed to cater for cases, where a specific unit, a linking group, an end group, the positioning of a substituent, or a special bonding is the characterising part of the chemical structure of the liquid crystal component, instead of the ring or rings that constitute the LC molecule.

That means that documents in various groups may get the same Indexing Code.

Figuratively speaking, the Indexing Code (C09K 19/04 to M09K 19/04G04) cuts vertically the EC-Scheme.

In other cases (C09K 19/06 to end) the Indexing Code gives

a more detailed view of the sequence of rings and linkers in a LC molecule or

a more detailed list of the compounding ingredients.

C09K 19/02

characterised by optical, electrical or physical properties of the components, in general

Special rules of classification within this group

LC compounds or the LC mixtures characterised in general by the optical, electrical or physical properties of the components are classified in the subgroups C09K 19/02 to C09K 19/0283. The two-dot subgroups C09K 19/0208 to C09K 19/0283 are non-hierarchical and each embodiment or example of a LC compound or mixture should be classified and may be placed in a different subgroup.

C09K 19/04

characterised by the chemical structure of the liquid crystal components, [N: e.g. by a specific unit]

Definition statement

This subclass/group covers:

LC compounds or the LC mixtures characterised by the chemical structure of the liquid crystal components, that is by a specific unit - see the Indexing Code.

C09K 19/0403

[N: the structure containing one or more specific, optionally substituted ring or ring systems]

Definition statement

This subclass/group covers:

LC compounds or the LC mixtures characterised in that the structure contains one or more specific, optionally substituted ring or ring systems - see the Indexing Code.

C09K 19/0422

[N: Sugars (polysaccharides C09K19/3819)]

Definition statement

This subclass/group covers:

Sugars.

References relevant to classification in this group

This subclass/group does not cover:

Polysaccharides	C09K 19/3819

C09K 19/06

Non-steroidal liquid crystal compounds

Definition statement

This subclass/group covers:

Non-steroidal liquid crystal compounds; e.g. linear compounds without any rings, as well as mainly containing ONE non-condensed ring.

Special rules of classification within this group

Non-steroidal liquid crystal compounds; e.g. linear compounds like R1-COO-R2, R-O-CH=CH2, or R-COOH, as well as mainly containing ONE non-condensed ring like R-Cy-COOH, or R-(A-Z1)n-Cy-R2 with n=0-3.

C09K 19/08

containing at least two non-condensed rings

Definition statement

This subclass/group covers:

Liquid crystal compounds containing at least two non-condensed rings,

e.g. not naphthyl, fluorene and the like

If the rings are clearly defined,they are classified in lower subgroups C09K 19/10 to C09K 19/3098

C09K 19/10

containing at least two benzene rings

Definition statement

This subclass/group covers:

Liquid crystal compounds containing at least two benzene rings - see the Indexing Code.

Special rules of classification within this group

A mixture of C09K 19/12 and/or C09K 19/126 and/or C09K 19/14 and/or C09K 19/16 and/or C09K 19/18 is classified in C09K 19/10. Here we stay in the common nod of the hierarchical tree, from which the five nods depend.

C09K 19/12

at least two benzene rings directly linked, e.g. biphenyls

Special rules of classification within this group

In C09K 19/12 for example not only compounds such as Ph-Ph, Ph-Ph-Ph, Ph-Ph-Ph-Ph etc. are classified, but also mixtures of such compounds.

C09K 19/20

linked by a chain containing carbon and oxygen atoms as chain links, e.g. esters

Special rules of classification within this group

A mixture of Ph-O-C2H4-Ph (C09K 19/20) and Ph-COO-Ph (C09K 19/2007) is classified in C09K 19/20. Here the common nod of the hierarchical tree, from which the two nods depend, is the first nod.

C09K 19/30

containing saturated or unsaturated non-aromatic rings, e.g.

cyclohexane rings

Definition statement

This subclass/group covers:

Liquid crystal compounds containing saturated or unsaturated non-aromatic rings, e.g. cyclohexane, cyclohexene, cyclobutane rings - see the Indexing Code

Special rules of classification within this group

A mixture of Cy-C2H4-Cy (C09K 19/3028) (II) and Cy-Ph-Ph (C09K 19/3003) (III) is classified in C09K 19/3001 (I). Here we stay in the common nod (I) of the hierarchical tree, from which the two nods (II) and (III) depend.

A mixture of C09K 19/3001 and/or C09K 19/3003 and/or C09K 19/3028 and/or C09K 19/3048 and/or C09K 19/3059 is classified in C09K 19/3001. Here we stay in the common nod of the hierarchical tree, from which the five nods depend.

C09K 19/3003

[N: Compounds containing at least two rings in which the different rings are directly linked (covalent bond)]

Special rules of classification within this group

A mixture of Cy-Ph-Cy (C09K 19/3003) and Cy-Ph-Ph (C09K 19/3003) is classified in C09K 19/3003. Here we stay in the same nod of the hierarchical tree.

C09K 19/32

containing condensed ring systems, i.e. fused, bridged or spiro ring systems

Definition statement

This subclass/group covers:

Liquid crystal compounds containing condensed ring systems, i.e. fused, bridged or spiro ring systems.

Here is a non limited list of fused, bridged or spiro ring systems classified under this group: anthracene, phenanthrene, fluorene, triphenylene, azulene, perylene, dibenzopyrene, twistane, bicyclopentane, hexabenzocoronene, resorcinarenes, propellane, truxene, carboranes, cubane,chrysene, decacyclene, calixarenes, triptycene, metacyclophanes, cyclotriveratrylene, cyclotetraveratrylene, trisbenzocyclononene, tetrabenzocyclododecatatraene, hexahelicene, octahelicene, fullerene.

C09K 19/34

containing at least one heterocyclic ring

Definition statement

This subclass/group covers:

Liquid crystal compounds containing at least one heterocyclic ring.

Special rules of classification within this group

Liquid crystal compounds containing at least one heterocyclic ring, where the ring comprises oxygen, nitrogen, or sulfur or any combination of these three elements.

C09K 19/3452

[N: Pyrazine]

Informative references

Attention is drawn to the following places, which may be of interest for search:

Also fused compounds, like quinoxaline.

C09K 19/36

Steroidal liquid crystal compounds

Definition statement

This subclass/group covers:

Steroidal liquid crystal compounds.

Special rules of classification within this group

Liquid crystal cholesterol derivatives.

C09K 19/38

Polymers

Definition statement

This subclass/group covers:

Polymeric compounds with liquid crystalline properties.

References relevant to classification in this group

This subclass/group does not cover:

Mechanical properties of the polymers appear	C08G 63/00

Special rules of classification within this group

Here we classify polyesters and polyester derivatives such as polyamides, with mesogenic groups in the main chain.

C09K 19/40

containing elements other than carbon, hydrogen, halogen, oxygen, nitrogen or sulfur, e.g. silicon, metals

Definition statement

This subclass/group covers:

Liquid crystal compounds containing elements other than carbon, hydrogen, halogen, oxygen, nitrogen or sulfur, e.g. silicon, boron, phosphorus, metals.

C09K 19/42

Mixtures of liquid crystal compounds covered by two or more of the preceding groups C09K19/06 to C09K19/40

Definition statement

This subclass/group covers:

Mixtures of liquid crystal compounds.

Mixtures containing two or more liquid crystal compounds covered individually by the same group C09K 19/04 to C09K 19/408 are classified only in that group. In other words, in C09K 19/12 for example not only compounds such as Ph-Ph, Ph-Ph-Ph, Ph-Ph-Ph-Ph etc. are classified, but also mixtures of such compounds.

Different embodiments for LC mixtures may be classified in a different group. If liquid crystal components of the mixtures classified in groups from C09K 19/42 to C09K 19/50 are of importance as such, they should also be classified according to the compounds in groups from C09K 19/04 to C09K 19/408.

Special rules of classification within this group

Here we classify mixtures of liquid crystal compounds containing compounds

covered by two or more of the preceding groups C09K 19/06 through C09K 19/408 - compare the numbered sets 4 to 12 of the main subgroups. However, if all compounds of the mixture fall under the same head subgroup, the mixture is classified in that head subgroup. Some examples might clarify this:

• A mixture of Cy-Ph-Cy (C09K 19/39A1) and Cy-Ph-Ph (C09K 19/39A1) is classified in C09K 19/39A1. Here we stay in the same nod of the hierarchical tree.

• A mixture of Cy-C2H4-Cy (C09K 19/39A2) (II) and Cy-Ph-Ph (C09K 19/39A1) (III) is classified in C09K 19/39A (I). Here we stay in the common nod (I) of the hierarchical tree, from which the two nods (II) and (III) depend.

• A mixture of Ph-O-C2H4-Ph (C09K 19/20) and Ph-COO-Ph (C09K 19/2007) is classified in C09K 19/20. Here the common nod of the hierarchical tree, from which the two nods depend, is the first nod.

• A mixture of C09K 19/12 and/or C09K 19/126 and/or C09K 19/14 and/or C09K 19/16 and/or C09K 19/18 is classified in C09K 19/10. Here we stay in the common nod of the hierarchical tree, from which the five nods depend.

• A mixture of C09K 19/3001 and/or C09K 19/3003 and/or C09K 19/3028 and/or C09K 19/3048 and/or C09K 19/3059 is classified in C09K 19/3001. Here we stay in the common nod of the hierarchical tree, from which the five nods depend.

C09K 19/44

Containing compounds with benzene rings directly linked

Special rules of classification within this group

Here we classify mixtures of liquid crystal compounds containing compounds with benzene rings directly linked falling under C09K 19/12. Example Cy-C2H4-Cy and Ph-Ph.

C09K 19/46

containing esters

Special rules of classification within this group

Here we classify mixtures of liquid crystal compounds containing ester compounds falling under C09K 19/2007 through C09K 19/2028, or under C09K 19/3068. Example Cy-OCF2-Cy and Ph-COO-Ph.

C09K 19/48

containing Schiff bases

Special rules of classification within this group

Here we classify mixtures of liquid crystal compounds containing Schiff base compounds falling under C09K 19/22. Example Cy-OCH 2-Cy and Ph -CH=N-Ph.

C09K 19/50

containing steroidal liquid crystal compounds

Special rules of classification within this group

Here we classify mixtures of liquid crystal compounds containing steroidal liquid crystal compounds falling under C09K 19/36.

C09K 19/52

characterised by components which are not liquid crystals, e.g. additives [N: with special physical aspect: solvents, solid particles]

Special rules of classification within this group

These subgroups cover LC mixtures characterised in general by the chemical structure of the components, which are not liquid crystals, e.g. additives, solvents, organic or inorganic solid particles, macromolecular compounds, dopants.

C09K 19/56

Aligning agents

References relevant to classification in this group

This subclass/group does not cover:

The alignment layers per se	G02F 1/1337

Special rules of classification within this group

Here we classify Aligning Agents used in admixture with LC materials to improve the aligning properties of the LC materials.

C09K 21/00

Fireproofing materials

Definition statement

This subclass/group covers:

Inorganic materials

Organic materials

Macromolecular materials

References relevant to classification in this group

This subclass/group does not cover:

Fire-extinguishing compositions	A62D 1/00 - A62D 1/06
Fire-fighting	A62C
Laminates	B32B
Refractory materials	C04B 35/00 - C04B 35/597

Informative references

Attention is drawn to the following places, which may be of interest for search:

Fireproof paints	C09D 5/18
Fireproofing of paper)	D21H
Fireproofing of polymers	C08
Fireproofing of textiles	D06M
Fireproofing of wood	B27K
Protection of cables	H01B
Protection of constructions against fire	E04B 1/94
Protection of pipes by means of non-inflammable material	F16L 57/04

Special rules of classification within this group

C09K relates to materials not provided elsewhere,

therefore

If the fire-proofing material is only claimed with regard to a particular application and if in said particular application field a class related to the chemical nature of the fireproofing material exists the document should only be classified in the application field

If no particular application of the fireproofing material is cited the document should only be classified in the appropriate C09K 21/00 group.

If the fireproofing material is claimed without particular uses the document should be classified in the appropriate C09K 21/00 group,

however

If particular applications are cited (e.g. in the description) the document should additionally be classified in the relevant application fields

and

if many different applications are cited the document should only be classified in the appropriate C09K 21/00 group.