

CPC COOPERATIVE PATENT CLASSIFICATION

C CHEMISTRY; METALLURGY

(NOTES omitted)

CHEMISTRY

C10 PETROLEUM, GAS OR COKE INDUSTRIES; TECHNICAL GASES CONTAINING CARBON MONOXIDE; FUELS; LUBRICANTS; PEAT

C10M LUBRICATING COMPOSITIONS (well drilling compositions [C09K 8/02](#)); USE OF CHEMICAL SUBSTANCES EITHER ALONE OR AS LUBRICATING INGREDIENTS IN A LUBRICATING COMPOSITION ({lubricants for medical use [A61](#)} ; mould release, i.e. separating, agents for metals [B22C 3/00](#), for plastics or substances in a plastic state, in general [B29C 33/56](#), for glass [C03B 40/02](#); use of particular substances in particular apparatus or conditions, see [F16N](#) or the relevant groups for the application, e.g. [A21D 8/08](#), [B21C 9/00](#), [H01B 3/18](#); immersion oils for microscopy [G02B 21/33](#))

NOTES

1. In this subclass, the following terms are used with the meanings indicated:
 - "lubricant" or "lubricating composition" includes cutting oils, hydraulic fluids, metal drawing compositions, flushing oils, slushing oils, or the like;
 - "aliphatic" includes "cycloaliphatic".
2. In respect of the classification of mixtures, attention is drawn to Note (4) (e) below.
3. In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place. Thus, a compound having an aromatic ring is classified as aromatic regardless of whether the substituent(s) of interest are on the ring or on an aliphatic part of the molecule.
4. In this subclass:
 - a. metal or ammonium salts of a compound are classified as that compound;
 - b. salts or adducts formed between two or more organic compounds are classified according to all compounds forming the salt or adduct, if of interest;
 - c. a specified compound, e.g. phenols, acids, substituted by a macromolecular hydrocarbon radical is classified as that compound;
 - d. base-materials or thickeners or additives consisting of a mixture for which no specific main group is provided are classified in the most indented group covering all essential constituents of the mixture, for example,
 - a base-material mixture of ketone and amide - group [C10M 105/00](#)
 - a base-material mixture of ketone and ether - group [C10M 105/08](#)
 - an additive mixture of long and short chain esters - group [C10M 129/00](#)
 - an additive mixture of short chain aliphatic and aromatic carboxylic acids- group [C10M 129/26](#);
 - e. except for aqueous lubricating compositions containing more than 10% water, which are classified separately, classification is made according to the type of ingredient or mixture of types of ingredient (base-material, thickener or additive) which characterises the composition. Attention is drawn to the fact that a mixture of essential ingredients characterised by only one of its components, rather than by the mixture as a whole, is not classified as a mixture, e.g. a lubricating composition consisting of:
 - a known base-material and a new additive is classified only in the "additive" part of the classification scheme;
 - a known base-material with both a thickener and a further additive as essential ingredients, which may be individually classified as a mixture of thickener and additive;
 - known base-material with a combination of additives as essential ingredients, which may be individually known or not, is classified in the appropriate place for the additive mixture.
5. In this subclass, it is desirable to add the indexing codes of:
 - subclass [C10M](#), relating to the chemical constitution of individual compounds of the lubricating compositions;
 - subclass [C10N](#), relating to physico-chemical aspects of the lubricating compositions or of their compounding ingredients.
 For more information about the way of allocating these indexing codes, see the notes after the titles of the respective subclasses.
6. In this subclass, until May 2003, indexing codes were added, relating to:
 - each of the essential ingredients of a mixture. However, in the case of an aqueous lubricating composition covered by group [C10M 173/00](#), the presence of water is not indicated;
 - each of the essential reactants of a reaction product covered by groups [C10M 109/02](#), [C10M 121/04](#) or [C10M 159/12](#)
 The indexing codes, which are chosen from groups [C10M 101/00](#) - [C10M 109/00](#), [C10M 113/00](#) - [C10M 121/00](#), [C10M 125/00](#) - [C10M 139/00](#), [C10M 143/00](#) - [C10M 155/00](#), [C10M 159/00](#) or [C10M 163/00](#) - [C10M 167/00](#), were given using Combination Sets.

C10M

(continued)

7. In this subclass, until May 2003, the indexing codes of subclass [C10N](#) were added.

Documents classified with Combination Sets according to internal Notes 2), 3) and 5) are in the state of being reclassified according to Note 1).

WARNINGS

1. The following groups are no longer used for the classification of new documents from January, 1978:

- [C10M 1/00 - C10M 7/00](#)

The backlog of these groups is continuously being reclassified in groups [C10M 101/00 - C10M 177/00](#).

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.

IPC3 groups

1/00 {Liquid compositions essentially based on mineral lubricating oils or fatty oils; Their use as lubricants}

1/08 . {with additives}

3/00 {Liquid compositions essentially based on lubricating components other than mineral lubricating oils or fatty oils and their use as lubricants; Use as lubricants of single liquid substances (compositions in general essentially based on macromolecular compounds [C08L](#))}

5/00 {Solid or semi-solid compositions containing as the essential lubricating ingredient mineral lubricating oils or fatty oils and their use}

7/00 {Solid or semi-solid compositions essentially based on lubricating components other than mineral lubricating oils or fatty oils and their use as lubricants; Use as lubricants of single solid or semi-solid substances (compositions in general essentially based on macromolecular compounds [C08L](#))}

105/16

. . having hydroxy groups bound to a carbon atom of a six-membered aromatic ring

105/18

. . Ethers, e.g. epoxides

105/20

. . Aldehydes; Ketones

105/22

. . Carboxylic acids or their salts

105/24

. . . having only one carboxyl group bound to an acyclic carbon atom, cycloaliphatic carbon atom or hydrogen

105/26

. . . having more than one carboxyl group bound to an acyclic carbon atom or cycloaliphatic carbon atom

105/28

. . . having only one carboxyl group bound to a carbon atom of a six-membered aromatic ring

105/30

. . . having more than one carboxyl group bound to a carbon atom of a six-membered aromatic ring

105/32

. . Esters

105/34

. . . of monocarboxylic acids

105/36

. . . of polycarboxylic acids

105/38

. . . of polyhydroxy compounds

105/40

. . . containing free hydroxy or carboxyl groups

105/42

. . . Complex esters, i.e. compounds containing at least three esterified carboxyl groups and derived from the combination of at least three different types of the following five types of compound: monohydroxy compounds, polyhydroxy compounds, monocarboxylic acids, polycarboxylic acids and hydroxy carboxylic acids

105/44

. . . . derived from the combination of monocarboxylic acids, dicarboxylic acids and dihydroxy compounds only and having no free hydroxy or carboxyl groups

105/46

. . . . derived from the combination of monohydroxy compounds, dihydroxy compounds and dicarboxylic acids only and having no free hydroxy or carboxyl groups

105/48

. . . of carbonic acid

105/50

. containing halogen

105/52

. . containing carbon, hydrogen and halogen only

105/525

. . . {halogenated waxes}

105/54

. . containing carbon, hydrogen, halogen and oxygen

105/56

. containing nitrogen

105/58

. . Amines, e.g. polyalkylene polyamines, quaternary amines (polyalkylene polyamines with eleven or more monomer units [C10M 107/44](#))

105/60

. . . having amino groups bound to an acyclic or cycloaliphatic carbon atom

105/62

. . . . containing hydroxy groups

105/64

. . . having amino groups bound to a carbon atom of a six-membered aromatic ring

105/66

. . . . containing hydroxy groups

Base-Materials

101/00 Lubricating compositions characterised by the base-material being a mineral or fatty oil (containing more than 10% water [C10M 173/00](#))

101/02 . Petroleum fractions

101/025 . . {waxes}

101/04 . Fatty oil fractions

103/00 Lubricating compositions characterised by the base-material being an inorganic material (containing more than 10% water [C10M 173/00](#))

103/02 . Carbon; Graphite

103/04 . Metals; Alloys

103/06 . Metal compounds

105/00 Lubricating compositions characterised by the base-material being a non-macromolecular organic compound

105/02 . Well-defined hydrocarbons (petroleum fractions [C10M 101/02](#))

105/04 . . aliphatic

105/06 . . aromatic

105/08 . containing oxygen

105/10 . . having hydroxy groups bound to acyclic or cycloaliphatic carbon atoms

105/12 . . . monohydroxy

105/14 . . . polyhydroxy

- 105/68 . . Amides; Imides
 105/70 . . as ring hetero atom
 105/72 . containing sulfur, selenium or tellurium
 105/74 . containing phosphorus
 105/76 . containing silicon
 105/78 . containing boron
 105/80 . containing atoms of elements not provided for in groups [C10M 105/02](#) - [C10M 105/78](#)
- 107/00 Lubricating compositions characterised by the base-material being a macromolecular compound**
- 107/02 . Hydrocarbon polymers; Hydrocarbon polymers modified by oxidation
 107/04 . . Polyethene
 107/06 . . containing propene
 107/08 . . containing butene
 107/10 . . containing aliphatic monomer having more than 4 carbon atoms
 107/12 . . containing aromatic monomer, e.g. styrene
 107/14 . . containing conjugated dienes
 107/16 . . containing non-conjugated diene
 107/18 . . Hydrocarbon polymers modified by oxidation
 107/20 . containing oxygen ([C10M 107/18](#) takes precedence)
 107/22 . . Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
 107/24 . . . containing monomers having an unsaturated radical bound to an alcohol, aldehyde, ketonic, ether, ketal or acetal radical
 107/26 . . . containing monomers having an unsaturated radical bound to an acyloxy radical of a saturated carboxylic or carbonic acid
 107/28 . . . containing monomers having an unsaturated radical bound to a carboxyl radical, e.g. acrylate
 107/30 . . Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
 107/32 . . . Condensation polymers of aldehydes or ketones; Polyesters; Polyethers
 107/34 . . . Polyoxyalkylenes
 107/36 . . Polysaccharides, e.g. cellulose
 107/38 . containing halogen
 107/40 . containing nitrogen
 107/42 . . Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
 107/44 . . Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
 107/46 . containing sulfur
 107/48 . containing phosphorus
 107/50 . containing silicon
 107/52 . containing boron
 107/54 . containing atoms of elements not provided for in groups [C10M 107/02](#) - [C10M 107/52](#)
- 109/00 Lubricating compositions characterised by the base-material being a compound of unknown or incompletely defined constitution ([C10M 101/00](#) takes precedence)**
- 109/02 . Reaction products

- 111/00 Lubrication compositions characterised by the base-material being a mixture of two or more compounds covered by more than one of the main groups [C10M 101/00](#) - [C10M 109/00](#), each of these compounds being essential**
- 111/02 . at least one of them being a non-macromolecular organic compound
 111/04 . at least one of them being a macromolecular organic compound
 111/06 . at least one of them being a compound of the type covered by group [C10M 109/00](#)

Thickeners

NOTE

In groups [C10M 113/00](#)-[C10M 123/00](#), the following term is used with the meaning indicated:

- "thickener" is an agent which solidifies other liquid components to form a grease. Solid lubricants consisting of solid components are classified in groups [C10M 103/00](#) - [C10M 111/00](#).

- 113/00 Lubricating compositions characterised by the thickening agent being an inorganic material**
- 113/02 . Carbon; Graphite
 113/04 . Sulfur
 113/06 . Metals; Alloys
 113/08 . Metal compounds
 113/10 . Clays; Micas
 113/12 . Silica
 113/14 . Glass
 113/16 . Inorganic material treated with organic compounds, e.g. coated
- 115/00 Lubricating compositions characterised by the thickener being a non-macromolecular organic compound other than a carboxylic acid or salt thereof**
- 115/02 . Hydrocarbons ([petroleum fractions C10M 121/02](#))
 115/04 . containing oxygen
 115/06 . containing halogen
 115/08 . containing nitrogen
 115/10 . containing sulfur
 115/12 . containing phosphorus
- 117/00 Lubricating compositions characterised by the thickener being a non-macromolecular carboxylic acid or salt thereof**
- 117/02 . having only one carboxyl group bound to an acyclic carbon atom, cycloaliphatic carbon atom or hydrogen
 117/04 . . containing hydroxy groups
 117/06 . having more than one carboxyl group bound to an acyclic carbon atom or cycloaliphatic carbon atom
 117/08 . having only one carboxyl group bound to a carbon atom of a six-membered aromatic ring
 117/10 . having more than one carboxyl group bound to a carbon atom of a six-membered aromatic ring
- 119/00 Lubricating compositions characterised by the thickener being a macromolecular compound**
- 119/02 . Hydrocarbon polymers; Hydrocarbon polymers modified by oxidation
 119/04 . containing oxygen ([hydrocarbon polymers modified by oxidation C10M 119/02](#))

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|------------------|--|---------------|---|
| 119/06 | . . Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds | 125/26 | . Compounds containing silicon or boron, e.g. silica, sand |
| 119/08 | . . . containing monomers having an unsaturated radical bound to an alcohol, aldehyde, ketonic, ether, ketal or acetal radical | 125/28 | . . Glass |
| 119/10 | . . . containing monomers having an unsaturated radical bound to an acyloxy radical of a saturated carboxylic or carbonic acid | 125/30 | . . Clay |
| 119/12 | . . . containing monomers having an unsaturated radical bound to a carboxyl radical, e.g. acrylate | 127/00 | Lubricating compositions characterised by the additive being a non- macromolecular hydrocarbon (petroleum fractions C10M 159/04) |
| 119/14 | . . Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds | 127/02 | . well-defined aliphatic |
| 119/16 | . . . Condensation polymers of aldehydes or ketones; Polyesters; Polyethers | 127/04 | . well-defined aromatic |
| 119/18 | . . . Polyoxyalkylenes | 127/06 | . Alkylated aromatic hydrocarbons |
| 119/20 | . . Polysaccharides, e.g. cellulose | 129/00 | Lubricating compositions characterised by the additive being an organic non-macromolecular compound containing oxygen |
| 119/22 | . containing halogen | 129/02 | . having a carbon chain of less than 30 atoms |
| 119/24 | . containing nitrogen | 129/04 | . . Hydroxy compounds |
| 119/26 | . containing sulfur | 129/06 | . . . having hydroxy groups bound to acyclic or cycloaliphatic carbon atoms |
| 119/28 | . containing phosphorus | 129/08 | containing at least 2 hydroxy groups |
| 119/30 | . containing atoms of elements not provided for in groups C10M 119/02 - C10M 119/28 | 129/10 | . . . having hydroxy groups bound to a carbon atom of a six-membered aromatic ring |
| 121/00 | Lubricating compositions characterised by the thickener being a compound of unknown or incompletely defined constitution | 129/12 | with condensed rings |
| 121/02 | . Petroleum fractions, e.g. tars | 129/14 | containing at least 2 hydroxy groups |
| 121/04 | . Reaction products | 129/16 | . . Ethers |
| 123/00 | Lubricating compositions characterised by the thickener being a mixture of two or more compounds covered by more than one of the main groups C10M 113/00 - C10M 121/00, each of these compounds being essential (inorganic materials coated with organic compounds C10M 113/16) | 129/18 | . . . Epoxides |
| 123/02 | . at least one of them being a non-macromolecular compound | 129/20 | . . . Cyclic ethers having 4 or more ring atoms, e.g. furans, dioxolanes |
| 123/04 | . at least one of them being a macromolecular compound | 129/22 | . . Peroxides; Ozonides |
| 123/06 | . at least one of them being a compound of the type covered by group C10M 121/00 | 129/24 | . . Aldehydes; Ketones |
| Additives | | 129/26 | . . Carboxylic acids; Salts thereof |
| 125/00 | Lubricating compositions characterised by the additive being an inorganic material | 129/28 | . . . having carboxyl groups bound to acyclic or cycloaliphatic carbon atoms |
| 125/02 | . Carbon; Graphite | 129/30 | having 7 or less carbon atoms |
| 125/04 | . Metals; Alloys | 129/32 | monocarboxylic |
| 125/06 | . Sulfur | 129/34 | polycarboxylic |
| 125/08 | . Metal carbides or hydrides | 129/36 | containing hydroxy groups |
| 125/10 | . Metal oxides, hydroxides, carbonates or bicarbonates | 129/38 | having 8 or more carbon atoms |
| 125/12 | . Metal carbonyls | 129/40 | monocarboxylic |
| 125/14 | . Water (aqueous lubricating compositions containing more than 10% water C10M 173/00) | 129/42 | polycarboxylic |
| 125/16 | . Hydrogen peroxide; Oxygenated water | 129/44 | containing hydroxy groups |
| 125/18 | . Compounds containing halogen | 129/46 | cycloaliphatic |
| 125/20 | . Compounds containing nitrogen | 129/48 | . . . having carboxyl groups bound to a carbon atom of a six-membered aromatic ring |
| 125/22 | . Compounds containing sulfur, selenium or tellurium | 129/50 | monocarboxylic |
| 125/24 | . Compounds containing phosphorus, arsenic or antimony | 129/52 | polycarboxylic |
| | | 129/54 | containing hydroxy groups |
| | | 129/56 | . . . Acids of unknown or incompletely defined constitution |
| | | 129/58 | Naphthenic acids |
| | | 129/60 | Tall oil acids |
| | | 129/62 | Rosin acids |
| | | 129/64 | . . . Acids obtained from polymerised unsaturated acids |
| | | 129/66 | . . Epoxidised acids or esters |
| | | 129/68 | . . Esters (epoxidised C10M 129/66) |
| | | 129/70 | . . . of monocarboxylic acids |
| | | 129/72 | . . . of polycarboxylic acids |
| | | 129/74 | . . . of polyhydroxy compounds |
| | | 129/76 | . . . containing free hydroxy or carboxyl groups |

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| 129/78 | . . . Complex esters, i.e. compounds containing at least three esterified carboxyl groups and derived from the combination of at least three different types of the following five types of compound: monohydroxy compounds, polyhydroxy compounds, monocarboxylic acids, polycarboxylic acids, hydroxy carboxylic acids | 133/32 | . . . containing a nitro group |
| 129/80 | derived from the combination of monocarboxylic acids, dicarboxylic acids and dihydroxy compounds only and having no free hydroxy or carboxyl groups | 133/34 | . . . containing a nitroso group |
| 129/82 | derived from the combination of monohydroxy compounds, dihydroxy compounds and dicarboxylic acids only and having no free hydroxy or carboxyl groups | 133/36 | . . . Hydroxylamines |
| 129/84 | . . . of carbonic acid | 133/38 | . . Heterocyclic nitrogen compounds |
| 129/86 | . having a carbon chain of 30 or more atoms | 133/40 | . . . Six-membered ring containing nitrogen and carbon only |
| 129/88 | . . Hydroxy compounds | 133/42 | Triazines |
| 129/90 | . . . having hydroxy groups bound to acyclic or cycloaliphatic carbon atoms | 133/44 | . . . Five-membered ring containing nitrogen and carbon only |
| 129/91 | . . . having hydroxy groups bound to a carbon atom of a six-membered aromatic ring | 133/46 | Imidazoles |
| 129/92 | . . Carboxylic acids | 133/48 | . . . the ring containing both nitrogen and oxygen |
| 129/93 | . . . having carboxyl groups bound to acyclic or cycloaliphatic carbon atoms | 133/50 | Morpholines |
| 129/94 | . . . having carboxyl groups bound to a carbon atom of a six-membered aromatic ring | 133/52 | . having a carbon chain of 30 or more atoms |
| 129/95 | . . Esters | 133/54 | . . Amines |
| 131/00 | Lubricating compositions characterised by the additive being an organic non-macromolecular compound containing halogen | 133/56 | . . Amides; Imides |
| 131/02 | . containing carbon, hydrogen and halogen only | 133/58 | . . Heterocyclic compounds |
| 131/04 | . . aliphatic | 135/00 | Lubricating compositions characterised by the additive being an organic non-macromolecular compound containing sulfur, selenium or tellurium |
| 131/06 | . . aromatic | 135/02 | . Sulfurised compounds |
| 131/08 | . containing carbon, hydrogen, halogen and oxygen | 135/04 | . . Hydrocarbons |
| 131/10 | . . Alcohols; Ethers; Aldehydes; Ketones | 135/06 | . . Esters, e.g. fats |
| 131/12 | . . Acids; Salts or esters thereof | 135/08 | . containing a sulfur-to-oxygen bond |
| 131/14 | . Halogenated waxes | 135/10 | . . Sulfonic acids or derivatives thereof |
| 133/00 | Lubricating compositions characterised by the additive being an organic non-macromolecular compound containing nitrogen | 135/12 | . Thio-acids; Thiocyanates; Derivatives thereof |
| 133/02 | . having a carbon chain of less than 30 atoms | 135/14 | . . having a carbon-to-sulfur double bond |
| 133/04 | . . Amines, e.g. polyalkylene polyamines; Quaternary amines (polyalkylene polyamines with eleven or more monomer units C10M 149/22) | 135/16 | . . . thiourea type, i.e. containing the group |
| 133/06 | . . . having amino groups bound to acyclic or cycloaliphatic carbon atoms | | $\begin{array}{c} \text{S} \\ \\ >\text{N}-\text{C}-\text{N}< \end{array}$ |
| 133/08 | containing hydroxy groups | 135/18 | . . . thiocarbamic type, e.g. containing the groups |
| 133/10 | cycloaliphatic | | $\begin{array}{c} \text{S} \\ \\ >\text{N}-\text{C}-\text{S}- \end{array} \text{ or } \begin{array}{c} \text{S} \\ \\ >\text{N}-\text{C}-\text{O}- \end{array}$ |
| 133/12 | . . . having amino groups bound to a carbon atom of a six-membered aromatic ring | 135/20 | . Thiols; Sulfides; Polysulfides |
| 133/14 | containing hydroxy groups | 135/22 | . . containing sulfur atoms bound to acyclic or cycloaliphatic carbon atoms |
| 133/16 | . . Amides; Imides | 135/24 | . . . containing hydroxy groups; Derivatives thereof |
| 133/18 | . . . of carbonic or haloformic acids | 135/26 | . . . containing carboxyl groups; Derivatives thereof |
| 133/20 | Ureas; Semicarbazides; Allophanates | 135/28 | . . containing sulfur atoms bound to a carbon atom of a six-membered aromatic ring |
| 133/22 | . . containing a carbon-to-nitrogen double bond, e.g. guanidines, hydrazones, semicarbazones | 135/30 | . . . containing hydroxy groups; Derivatives thereof |
| 133/24 | . . Nitriles | 135/32 | . Heterocyclic sulfur, selenium or tellurium compounds |
| 133/26 | . . containing a nitrogen-to-nitrogen double bond | 135/34 | . . the ring containing sulfur and carbon only |
| 133/28 | . . . Azo compounds | 135/36 | . . the ring containing sulfur and carbon with nitrogen or oxygen |
| 133/30 | . . containing a nitrogen-to-oxygen bond | 137/00 | Lubricating compositions characterised by the additive being an organic non-macromolecular compound containing phosphorus |
| | | 137/02 | . having no phosphorus-to-carbon bond |
| | | 137/04 | . . Phosphate esters |
| | | 137/06 | . . . Metal salts |
| | | 137/08 | . . . Ammonium or amine salts |
| | | 137/10 | . . . Thio derivatives |
| | | 137/105 | {not containing metal} |
| | | 137/12 | . having a phosphorus-to-carbon bond |
| | | 137/14 | . . containing sulfur |
| | | 137/16 | . having a phosphorus-to-nitrogen bond |

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| 139/00 | Lubricating compositions characterised by the additive being an organic non-macromolecular compound containing atoms of elements not provided for in groups C10M 127/00 - C10M 137/00 | 145/18 | • Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds |
| 139/02 | • Esters of silicon acids | 145/20 | • • Condensation polymers of aldehydes or ketones |
| 139/04 | • having a silicon-to-carbon bond, e.g. silanes | 145/22 | • • Polyesters |
| 139/06 | • having a metal-to-carbon bond (metal complexes of unknown constitution C10M 159/18) | 145/24 | • • Polyethers |
| 141/00 | Lubricating compositions characterised by the additive being a mixture of two or more compounds covered by more than one of the main groups C10M 125/00 - C10M 139/00, each of these compounds being essential | 145/26 | • • • Polyoxyalkylenes |
| 141/02 | • at least one of them being an organic oxygen-containing compound | 145/28 | • • • of alkylene oxides containing 2 carbon atoms only |
| 141/04 | • at least one of them being an organic halogen-containing compound | 145/30 | • • • of alkylene oxides containing 3 carbon atoms only |
| 141/06 | • at least one of them being an organic nitrogen-containing compound | 145/32 | • • • of alkylene oxides containing 4 or more carbon atoms |
| 141/08 | • at least one of them being an organic sulfur-, selenium- or tellurium-containing compound | 145/34 | • • • of two or more specified different types |
| 141/10 | • at least one of them being an organic phosphorus-containing compound | 145/36 | • • • etherified |
| 141/12 | • at least one of them being an organic compound containing atoms of elements not provided for in groups C10M 141/02 - C10M 141/10 | 145/38 | • • • esterified |
| 143/00 | Lubricating compositions characterised by the additive being a macromolecular hydrocarbon or such hydrocarbon modified by oxidation | 145/40 | • Polysaccharides, e.g. cellulose |
| 143/02 | • Polyethylene | 147/00 | Lubricating compositions characterised by the additive being a macromolecular compound containing halogen |
| 143/04 | • containing propene | 147/02 | • Monomer containing carbon, hydrogen and halogen only |
| 143/06 | • containing butene | 147/04 | • Monomer containing carbon, hydrogen, halogen and oxygen |
| 143/08 | • containing aliphatic monomer having more than 4 carbon atoms | 149/00 | Lubricating compositions characterised by the additive being a macromolecular compound containing nitrogen |
| 143/10 | • containing aromatic monomer, e.g. styrene | 149/02 | • Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds |
| 143/12 | • containing conjugated diene | 149/04 | • • containing monomers having an unsaturated radical bound to an amino group |
| 143/14 | • containing non-conjugated diene | 149/06 | • • containing monomers having an unsaturated radical bound to an amido or imido group |
| 143/16 | • containing cycloaliphatic monomer | 149/08 | • • containing monomers having an unsaturated radical bound to a nitrile group |
| 143/18 | • Oxidised hydrocarbons, i.e. oxidised subsequent to macromolecular formation | 149/10 | • • containing monomers having an unsaturated radical bound to a nitrogen-containing hetero ring |
| 145/00 | Lubricating compositions characterised by the additive being a macromolecular compound containing oxygen (oxidised hydrocarbons C10M 143/18) | 149/12 | • Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds |
| 145/02 | • Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds | 149/14 | • • a condensation reaction being involved |
| 145/04 | • • containing monomers having an unsaturated radical bound to an alcohol, aldehyde, ketonic, ether, ketal or acetal radical | 149/16 | • • • between the nitrogen-containing monomer and an aldehyde or ketone |
| 145/06 | • • containing monomers having an unsaturated radical bound to an acyloxy radical of a saturated carboxylic or carbonic acid | 149/18 | • • • Polyamides |
| 145/08 | • • • Vinyl esters of a saturated carboxylic or carbonic acid | 149/20 | • • • Polyureas |
| 145/10 | • • containing monomers having an unsaturated radical bound to a carboxyl radical, e.g. acrylate | 149/22 | • • • Polyamines |
| 145/12 | • • • monocarboxylic | 151/00 | Lubricating compositions characterised by the additive being a macromolecular compound containing sulfur, selenium or tellurium |
| 145/14 | • • • Acrylate; Methacrylate | 151/02 | • Macromolecular compounds obtained by reactions involving only carbon-to-carbon unsaturated bonds |
| 145/16 | • • • polycarboxylic | 151/04 | • Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds |
| | | 153/00 | Lubricating compositions characterised by the additive being a macromolecular compound containing phosphorus |
| | | 153/02 | • Macromolecular compounds obtained by reactions involving only carbon-to-carbon unsaturated bonds |

- 153/04 . Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds

155/00 Lubricating compositions characterised by the additive being a macromolecular compound containing atoms of elements not provided for in groups [C10M 143/00](#) - [C10M 153/00](#)

- 155/02 . Monomer containing silicon
155/04 . Monomer containing boron

157/00 Lubricating compositions characterised by the additive being a mixture of two or more macromolecular compounds covered by more than one of the main groups [C10M 143/00](#) - [C10M 155/00](#), each of these compounds being essential

- 157/02 . at least one of them being a halogen-containing compound
157/04 . at least one of them being a nitrogen-containing compound
157/06 . at least one of them being a sulfur-, selenium- or tellurium-containing compound
157/08 . at least one of them being a phosphorus-containing compound
157/10 . at least one of them being a compound containing atoms of elements not provided for in groups [C10M 157/02](#) - [C10M 157/08](#)

159/00 Lubricating compositions characterised by the additive being of unknown or incompletely defined constitution (carboxylic acids with less than 30 carbon atoms in the chain, of unknown or incompletely defined constitution [C10M 129/56](#))

- 159/005 . {Macromolecular compounds, e.g. macromolecular compounds composed of alternatively specified monomers not covered by the same main group}
159/02 . Natural products
159/04 . . Petroleum fractions, e.g. tars, solvents
159/06 . . Waxes, e.g. ozocerite, ceresine, petrolatum, slack-wax
159/08 . . Fatty oils
159/10 . . Rubber
159/12 . Reaction products
159/123 . . {obtained by phosphorus or phosphorus-containing compounds, e.g. P x S x with organic compounds}
159/126 . . . {with hydrocarbon polymers}
159/14 . . obtained by Friedel-Crafts condensation
159/16 . . obtained by Mannich reactions
159/18 . . Complexes with metals
159/20 . . Reaction mixtures having an excess of neutralising base, e.g. so-called overbasic or highly basic products
159/22 . . . containing phenol radicals
159/24 . . . containing sulfonic radicals

161/00 Lubricating compositions characterised by the additive being a mixture of a macromolecular compound and a non-macromolecular compound, each of these compounds being essential

163/00 Lubricating compositions characterised by the additive being a mixture of a compound of unknown or incompletely defined constitution and a non-macromolecular compound, each of these compounds being essential

NOTE

{ Compositions containing compounds covered by [C10M 159/005](#) as compounds of unknown or incompletely defined constitution are classified in [C10M 161/00](#)}

165/00 Lubricating compositions characterised by the additive being a mixture of a macromolecular compound and a compound of unknown or incompletely defined constitution, each of these compounds being essential

NOTE

{ Compositions containing compounds covered by [C10M 159/005](#), as compounds of unknown or incompletely defined constitution are classified in [C10M 157/00](#)}

167/00 Lubricating compositions characterised by the additive being a mixture of a macromolecular compound, a non-macromolecular compound and a compound of unknown or incompletely defined constitution, each of these compounds being essential

NOTE

{ Compositions containing compounds covered by [C10M 159/005](#), as compounds of unknown or incompletely defined constitution are classified in [C10M 161/00](#)}

Mixtures of base-materials, thickeners and additives

169/00 Lubricating compositions characterised by containing as components a mixture of at least two types of ingredient selected from base-materials, thickeners or additives, covered by the preceding groups, each of these compounds being essential

- 169/02 . Mixtures of base-materials and thickeners
169/04 . Mixtures of base-materials and additives
169/041 . . {the additives being macromolecular compounds only}
169/042 . . {the additives being compounds of unknown or incompletely defined constitution only}
169/044 . . {the additives being a mixture of non-macromolecular and macromolecular compounds}
169/045 . . {the additives being a mixture of compounds of unknown or incompletely defined constitution and non-macromolecular compounds}
169/047 . . {the additives being a mixture of compounds of unknown or incompletely defined constitution and macromolecular compounds}
169/048 . . {the additives being a mixture of compounds of unknown or incompletely defined constitution, non-macromolecular and macromolecular compounds}
169/06 . Mixtures of thickeners and additives

Compositions characterised by physical properties**NOTE**

Attention is drawn to Note (5) following the title of the subclass.

| | |
|---------------|--|
| 171/00 | Lubricating compositions characterised by purely physical criteria, e.g. containing as base-material, thickener or additive, ingredients which are characterised exclusively by their numerically specified physical properties, i.e. containing ingredients which are physically well-defined but for which the chemical nature is either unspecified or only very vaguely indicated (chemically defined ingredients C10M 101/00 - C10M 169/00; petroleum fractions C10M 101/02, C10M 121/02, C10M 159/04) |
| 171/001 | . {Electrorheological fluids; smart fluids} |
| 171/002 | . {Traction fluids} |
| 171/004 | . {Foam inhibited lubricant compositions} |
| 171/005 | . {Volatile oil compositions; Vaporous lubricants} |
| 171/007 | . {Coloured or dyes-containing lubricant compositions} |
| 171/008 | . {Lubricant compositions compatible with refrigerants} |
| 171/02 | . Specified values of viscosity or viscosity index |
| 171/04 | . Specified molecular weight or molecular weight distribution |
| 171/06 | . Particles of special shape or size |

Aqueous lubricating compositions**NOTE**

Attention is drawn to Note (5) following the title of the subclass.

| | |
|---------------|--|
| 173/00 | Lubricating compositions containing more than 10% water |
| 173/02 | . not containing mineral or fatty oils |
| 173/025 | . . {for lubricating conveyor belts} |

Working-up

| | |
|---------------|---|
| 175/00 | Working-up used lubricants to recover useful products {(destructive distillation C10B; extraction and elimination of PCBs C10G 7/006, C10G 21/006, C10G 25/006; combustion processes F23G; filtration, filters in general B01D); Cleaning (in a mechanical way B08B; integrated processes C23; solid waste B09B)} |
| 175/0008 | . {with the use of adsorbentia} |
| 175/0016 | . {with the use of chemical agents} |
| 175/0025 | . {by thermal processes} |
| 175/0033 | . . {using distillation processes; devices therefor} |
| 175/0041 | . . {by hydrogenation processes} |
| 175/005 | . {using extraction processes; apparatus therefor} |
| 175/0058 | . {by filtration and centrifugation processes; apparatus therefor} |
| 175/0066 | . {Use of electrical and magnetical means} |
| 175/0075 | . {synthetic oil based} |
| 175/0083 | . {Lubricating greases} |
| 175/0091 | . {Treatment of oils in a continuous lubricating circuit (e.g. motor oil system)} |
| 175/02 | . mineral-oil based |
| 175/04 | . aqueous emulsion based |
| 175/06 | . by ultrafiltration or osmosis |

Preparation or after-treatment

| | |
|---------------|--|
| 177/00 | Special methods of preparation of lubricating compositions; Chemical modification by after-treatment of components or of the whole of a lubricating composition, not covered by other classes |
|---------------|--|

| | |
|----------------|---|
| 2201/00 | Inorganic compounds or elements as ingredients in lubricant compositions |
| 2201/003 | . used as base material |
| 2201/006 | . used as thickening agents |
| 2201/02 | . Water |
| 2201/022 | . . Hydrogen peroxide; Oxygenated water |
| 2201/04 | . Elements |
| 2201/0403 | . . used as base material |
| 2201/0406 | . . used as thickening agents |
| 2201/041 | . . Carbon; Graphite; Carbon black |
| 2201/0413 | . . . used as base material |
| 2201/0416 | . . . used as thickening agents |
| 2201/042 | . . . halogenated, i.e. graphite fluoride |
| 2201/0423 | used as base material |
| 2201/0426 | used as thickening agents |
| 2201/043 | . . Sulfur; Selenium; Tellurium |
| 2201/0433 | . . . used as base material |
| 2201/0436 | . . . used as thickening agents |
| 2201/05 | . . Metals; Alloys |
| 2201/053 | . . . used as base material |
| 2201/056 | . . . used as thickening agents |
| 2201/06 | . Metal compounds (of chromium C10M 2201/086) |
| 2201/0603 | . . used as base material |
| 2201/0606 | . . used as thickening agents |
| 2201/061 | . . Carbides; Hydrides; Nitrides |
| 2201/0613 | . . . used as base material |
| 2201/0616 | . . . used as thickening agents |
| 2201/062 | . . Oxides; Hydroxides; Carbonates or bicarbonates |
| 2201/0623 | . . . used as base material |
| 2201/0626 | . . . used as thickening agents |
| 2201/063 | . . Peroxides |
| 2201/064 | . . Carbonyls |
| 2201/065 | . . Sulfides; Selenides; Tellurides |
| 2201/0653 | . . . used as base material |
| 2201/0656 | . . . used as thickening agents |
| 2201/066 | . . . Molybdenum sulfide |
| 2201/0663 | used as base material |
| 2201/0666 | used as thickening agents |
| 2201/08 | . Inorganic acids or salts thereof (of phosphorus C10M 2201/085 , of chromium C10M 2201/086 , of boron C10M 2201/087 ; metal carbonates or bicarbonates C10M 2201/062) |
| 2201/0803 | . . used as base material |
| 2201/0806 | . . used as thickening agent |
| 2201/081 | . . containing halogen |
| 2201/082 | . . containing nitrogen (nitrides C10M 2201/061) |
| 2201/083 | . . . nitrites |
| 2201/084 | . . containing sulfur, selenium or tellurium (sulfides, tellurides, selenides C10M 2201/065) |
| 2201/085 | . Phosphorus oxides, acids or salts |
| 2201/0853 | . . used as base material |
| 2201/0856 | . . used as thickening agent |
| 2201/086 | . Chromium oxides, acids or salts |

| | |
|-----------|--|
| 2201/0863 | . . used as base material |
| 2201/0866 | . . used as thickening agent |
| 2201/087 | . Boron oxides, acids or salts |
| 2201/0873 | . . used as base material |
| 2201/0876 | . . used as thickening agent |
| 2201/10 | . Compounds containing silicon |
| 2201/1006 | . . used as base material |
| 2201/1013 | . . used as thickening agents |
| 2201/102 | . . Silicates |
| 2201/1023 | . . . used as base material |
| 2201/1026 | . . . used as thickening agents |
| 2201/103 | . . . Clays; Mica; Zeolites |
| 2201/1033 | used as base material |
| 2201/1036 | used as thickening agents |
| 2201/105 | . . Silica |
| 2201/1053 | . . . used as base material |
| 2201/1056 | . . . used as thickening agents |
| 2201/12 | . Glass |
| 2201/123 | . . used as base material |
| 2201/126 | . . used as thickening agents |
| 2201/14 | . inorganic compounds surface treated with organic compounds |
| 2201/145 | . . used as thickening agents |
| 2201/16 | . Carbon dioxide |
| 2201/18 | . Ammonia |

2203/00 Organic non-macromolecular hydrocarbon compounds and hydrocarbon fractions as ingredients in lubricant compositions

| | |
|-----------|---|
| 2203/003 | . used as base material |
| 2203/006 | . used as thickening agents |
| 2203/02 | . Well-defined aliphatic compounds |
| 2203/0206 | . . used as base material |
| 2203/0213 | . . used as thickening agents |
| 2203/022 | . . saturated |
| 2203/024 | . . unsaturated |
| 2203/04 | . Well-defined cycloaliphatic compounds |
| 2203/045 | . . used as base material |
| 2203/06 | . Well-defined aromatic compounds |
| 2203/065 | . . used as base material |
| 2203/10 | . Petroleum or coal fractions, e.g. tars, solvents, bitumen |
| 2203/1006 | . . used as base material |
| 2203/1013 | . . used as thickening agents |
| 2203/102 | . . Aliphatic fractions |
| 2203/1025 | . . . used as base material |
| 2203/104 | . . Aromatic fractions |
| 2203/1045 | . . . used as base material |
| 2203/106 | . . Naphthenic fractions |
| 2203/1065 | . . . used as base material |
| 2203/108 | . . Residual fractions, e.g. bright stocks |
| 2203/1085 | . . . used as base material |

2205/00 Organic macromolecular hydrocarbon compounds or fractions, whether or not modified by oxidation as ingredients in lubricant compositions

NOTE

Copolymers are indexed with the symbol for the main monomer always being present, (e.g. [C10M 2205/026](#), [C10M 2205/022](#)) according to the last place rule, followed by the symbol

of the other monomers, (e.g. [C10M 2205/022](#), [C10M 2205/00](#))

| | |
|-----------|--|
| 2205/003 | . used as base material |
| 2205/006 | . used as thickening agents |
| 2205/02 | . containing acyclic monomers |
| 2205/0206 | . . used as base material |
| 2205/0213 | . . used as thickening agents |
| 2205/022 | . . Ethene |
| 2205/0225 | . . . used as base material |
| 2205/024 | . . Propene |
| 2205/0245 | . . . used as base material |
| 2205/026 | . . Butene |
| 2205/0265 | . . . used as base material |
| 2205/028 | . . containing aliphatic monomers having more than four carbon atoms |
| 2205/0285 | . . . used as base material |
| 2205/04 | . containing aromatic monomers, e.g. styrene |
| 2205/043 | . . used as base material |
| 2205/046 | . . used as thickening agents |
| 2205/06 | . containing conjugated dienes |
| 2205/063 | . . used as base material |
| 2205/066 | . . used as thickening agents |
| 2205/08 | . containing non-conjugated dienes |
| 2205/083 | . . used as base material |
| 2205/086 | . . used as thickening agents |
| 2205/10 | . containing cycloaliphatic monomers |
| 2205/103 | . . used as base material |
| 2205/106 | . . use as thickening agent |
| 2205/12 | . Oxidised hydrocarbons, i.e. oxidised subsequent to macromolecular formation |
| 2205/123 | . . used as base material |
| 2205/126 | . . used as thickening agents |
| 2205/14 | . Synthetic waxes, e.g. polythene waxes |
| 2205/143 | . . used as base material |
| 2205/146 | . . used as thickening agents |
| 2205/16 | . Paraffin waxes; Petrolatum, e.g. slack wax |
| 2205/163 | . . used as base material |
| 2205/166 | . . used as thickening agent |
| 2205/17 | . Fisher Tropsch reaction products |
| 2205/173 | . . used as base material |
| 2205/176 | . . used as thickening agent |
| 2205/18 | . Natural waxes, e.g. ceresin, ozocerite, bees wax, carnauba; Degras |
| 2205/183 | . . used as base material |
| 2205/186 | . . used as thickening agents |
| 2205/20 | . Natural rubber; Natural resins |
| 2205/203 | . . used as base material |
| 2205/206 | . . used as thickening agents |
| 2205/22 | . Alkylation reaction products with aromatic type compounds, e.g. Friedel-Crafts |
| 2205/223 | . . used as base material |
| 2205/226 | . . use as thickening agent |

2207/00 Organic non-macromolecular hydrocarbon compounds containing hydrogen, carbon and oxygen as ingredients in lubricant compositions

NOTE

In this group compounds, (e.g. phenols, succinic acid) substituted by an alkyl group derived from a polymerised olefin are not considered as macromolecular compounds

| | | | |
|-----------|---|-----------|---|
| 2207/003 | . used as base material | 2207/129 | . . . having hydrocarbon chains of thirty or more carbon atoms |
| 2207/006 | . used as thickening agents | 2207/1293 | used as base material |
| 2207/02 | . Hydroxy compounds | 2207/1296 | used as thickening agents |
| 2207/0203 | . . used as base material | 2207/14 | . . having carboxyl groups bound to carbon atoms of six-membered aromatic rings |
| 2207/0206 | . . used as thickening agents | 2207/1403 | . . . used as base material |
| 2207/021 | . . having hydroxy groups bound to acyclic or cycloaliphatic carbon atoms | 2207/1406 | . . . used as thickening agents |
| 2207/0215 | . . . used as base material | 2207/141 | . . . monocarboxylic |
| 2207/022 | . . . containing at least two hydroxy groups | 2207/1415 | used as thickening agent |
| 2207/0225 | used as base material | 2207/142 | . . . polycarboxylic |
| 2207/023 | . . having hydroxy groups bound to carbon atoms of six-membered aromatic rings | 2207/1423 | used as base material |
| 2207/0235 | . . . used as base material | 2207/1426 | used as thickening agent |
| 2207/024 | . . . having at least two phenol groups but no condensed ring | 2207/144 | . . . containing hydroxy groups |
| 2207/025 | . . . with condensed rings | 2207/1443 | used as base material |
| 2207/026 | . . . with tertiary alkyl groups | 2207/1446 | used as thickening agent |
| 2207/027 | . . . Neutral salts thereof | 2207/146 | . . . having carboxyl groups bound to carbon atoms of six-membered aromatic rings having a hydrocarbon substituent of thirty or more carbon atoms |
| 2207/028 | . . . Overbased salts thereof | 2207/1465 | used as base material |
| 2207/0285 | used as base material | 2207/16 | . . Naphthenic acids |
| 2207/04 | . Ethers; Acetals; Ortho-esters; Ortho-carbonates | 2207/163 | . . . used as base material |
| 2207/0406 | . . used as base material | 2207/166 | . . . used as thickening agents |
| 2207/0413 | . . used as thickening agent | 2207/18 | . . Tall oil acids |
| 2207/042 | . . Epoxides | 2207/183 | . . . used as base material |
| 2207/044 | . . Cyclic ethers having four or more ring atoms, e.g. furans, dioxolanes | 2207/186 | . . . used as thickening agents |
| 2207/046 | . . Hydroxy ethers | 2207/20 | . . Rosin acids |
| 2207/06 | . Peroxides; Ozonides | 2207/203 | . . . used as base material |
| 2207/08 | . Aldehydes; Ketones | 2207/206 | . . . used as thickening agents |
| 2207/085 | . . used as base material | 2207/22 | . . Acids obtained from polymerised unsaturated acids |
| 2207/09 | . Metal enolates, i.e. keto-enol metal complexes | 2207/223 | . . . used as base material |
| 2207/095 | . . used as thickening agent | 2207/226 | . . . used as thickening agents |
| 2207/10 | . Carboxylic acids; Neutral salts thereof | 2207/24 | . . Epoxidised acids; Ester derivatives thereof |
| 2207/103 | . . used as base material | 2207/243 | . . . used as base material |
| 2207/106 | . . used as thickening agents | 2207/246 | . . . used as thickening agents |
| 2207/12 | . . having carboxyl groups bound to acyclic or cycloaliphatic carbon atoms | 2207/26 | . Overbased carboxylic acid salts |
| 2207/1203 | . . . used as base material | 2207/2606 | . . used as base material |
| 2207/1206 | . . . used as thickening agents | 2207/2613 | . . used as thickening agents |
| 2207/121 | . . . having hydrocarbon chains of seven or less carbon atoms | 2207/262 | . . derived from hydroxy substituted aromatic acids, e.g. salicylates |
| 2207/1213 | used as base material | 2207/2623 | . . . used as base material |
| 2207/1216 | used as thickening agent | 2207/2626 | . . . used as thickening agents |
| 2207/122 | monocarboxylic | 2207/28 | . Esters (epoxidised esters C10M 2207/24) |
| 2207/1225 | used as thickening agent | 2207/2805 | . . used as base material |
| 2207/123 | polycarboxylic | 2207/281 | . . of (cyclo)aliphatic monocarboxylic acids |
| 2207/1233 | used as base material | 2207/2815 | . . . used as base material |
| 2207/1236 | used as thickening agent | 2207/282 | . . of (cyclo)aliphatic polycarboxylic acids |
| 2207/124 | containing hydroxy groups; Ethers thereof | 2207/2825 | . . . used as base material |
| 2207/1245 | used as thickening agent | 2207/283 | . . of polyhydroxy compounds |
| 2207/125 | . . . having hydrocarbon chains of eight up to twenty-nine carbon atoms, i.e. fatty acids | 2207/2835 | . . . used as base material |
| 2207/1253 | used as base material | 2207/284 | . . of aromatic monocarboxylic acids |
| 2207/1256 | used as thickening agent | 2207/2845 | . . . used as base material |
| 2207/126 | monocarboxylic | 2207/285 | . . of aromatic polycarboxylic acids |
| 2207/1265 | used as thickening agent | 2207/2855 | . . . used as base material |
| 2207/127 | polycarboxylic | 2207/286 | . . of polymerised unsaturated acids |
| 2207/1273 | used as base material | 2207/2865 | . . . used as base material |
| 2207/1276 | used as thickening agent | 2207/287 | . . Partial esters |
| 2207/128 | containing hydroxy groups; Ethers thereof | 2207/2875 | . . . used as base material |
| 2207/1285 | used as thickening agents | 2207/288 | . . . containing free carboxyl groups |
| | | 2207/2885 | used as base material |

| | | | |
|----------------|--|--|--|
| 2207/289 | . . . containing free hydroxy groups | 2209/0863 | used as base material |
| 2207/2895 | used as base material | 2209/0866 | used as thickening agents |
| 2207/30 | . . Complex esters, i.e. compounds containing at least three esterified carboxyl groups and derived from the combination of at least three different types of the following five types of compounds: monohydroxyl compounds, polyhydroxy compounds, monocarboxylic acids, polycarboxylic acids or hydroxy carboxylic acids | 2209/10 | . Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds |
| 2207/301 | . . . used as base material | 2209/1003 | . . used as base material |
| 2207/302 | . . . derived from the combination of monocarboxylic acids, dicarboxylic acids and dihydroxy compounds only and having no free hydroxy or carboxyl groups | 2209/1006 | . . used as thickening agents |
| 2207/3025 | used as base material | 2209/101 | . . Condensation polymers of aldehydes or ketones and phenols, e.g. Also polyoxyalkylene ether derivatives thereof |
| 2207/304 | . . . derived from the combination of monohydroxy compounds, dihydroxy compounds and dicarboxylic acids only and having no free hydroxy or carboxyl groups | 2209/1013 | . . . used as base material |
| 2207/3045 | used as base material | 2209/1016 | . . . used as thickening agents |
| 2207/32 | . . of carbonic acid | 2209/102 | . . Polyesters |
| 2207/325 | . . . used as base material | 2209/1023 | . . . used as base material |
| 2207/34 | . . Esters having a hydrocarbon substituent of thirty or more carbon atoms, e.g. substituted succinic acid derivatives | 2209/1026 | . . . use as thickening agent |
| 2207/345 | . . . used as base material | 2209/103 | . . Polyethers, i.e. containing di- or higher polyoxyalkylene groups |
| 2207/40 | . Fatty vegetable or animal oils | 2209/1033 | . . . used as base material |
| 2207/401 | . . used as base material | 2209/1036 | . . . used as thickening agents |
| 2207/402 | . . Castor oils | 2209/104 | . . . of alkylene oxides containing two carbon atoms only |
| 2207/404 | . . obtained from genetically modified species | 2209/1045 | used as base material |
| 2207/4045 | . . . used as base material | 2209/105 | . . . of alkylene oxides containing three carbon atoms only |
| 2209/00 | Organic <u>macromolecular</u> compounds containing oxygen as ingredients in lubricant compositions (oxidised hydrocarbons C10M 2205/12) | 2209/1055 | used as base material |
| 2209/003 | . used as base material | 2209/106 | . . . of alkylene oxides containing four carbon atoms only |
| 2209/006 | . used as thickening agents | 2209/1065 | used as base material |
| 2209/02 | . Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds | 2209/107 | . . . of two or more specified different alkylene oxides covered by groups C10M 2209/104 - C10M 2209/106 |
| 2209/023 | . . used as base material | 2209/1075 | used as base material |
| 2209/026 | . . used as thickening agents | 2209/108 | . . . etherified |
| 2209/04 | . . containing monomers having an unsaturated radical bound to an alcohol or ester thereof; bound to an aldehyde, ketonic, ether, ketal or acetal radical | NOTE When applying indexing code C10M 2209/108 , it should be linked to the appropriate code for identifying the alkylene oxide involved, chosen from groups C10M 2209/104 - C10M 2209/107 and by using alpha-numerical order in the combination. Example: C10M 2209/107 + C10M 2209/108 | |
| 2209/043 | . . . used as base material | 2209/1085 | used as base material |
| 2209/046 | . . . used as thickening agents | 2209/109 | . . . esterified |
| 2209/06 | . . containing monomers having an unsaturated radical bound to an acyloxy radical of saturated carboxylic or carbonic acid | NOTE When applying indexing code C10M 2209/109 , it should be linked to the appropriate code for identifying the alkylene oxide involved, chosen from groups C10M 2209/104 - C10M 2209/107 and by using alpha-numerical order in the combination. Example: C10M 2209/107 + C10M 2209/109 | |
| 2209/0606 | . . . used as base material | 2209/1095 | used as base material |
| 2209/0613 | . . . used as thickening agents | 2209/11 | . . Complex polyesters |
| 2209/062 | . . . Vinyl esters of saturated carboxylic or carbonic acids, e.g. vinyl acetate | 2209/1105 | . . . used as base material |
| 2209/0625 | used as base material | 2209/111 | . . . having dicarboxylic acid centres |
| 2209/08 | . . containing monomers having an unsaturated radical bound to a carboxyl radical, e.g. acrylate type | 2209/1115 | used as base material |
| 2209/0806 | . . . used as base material | | |
| 2209/0813 | . . . used as thickening agents | | |
| 2209/082 | . . . monocarboxylic | | |
| 2209/084 | . . . Acrylate; Methacrylate | | |
| 2209/0845 | used as base material | | |
| 2209/086 | . . . polycarboxylic, e.g. maleic acid | | |

| | | | |
|----------------|---|-----------|--|
| 2209/112 | . . . having dihydric acid centres | 2215/042 | . . . containing hydroxy groups; Alkoxylated derivatives thereof |
| 2209/1125 | used as base material | 2215/0425 | used as base material |
| 2209/12 | . Polysaccharides, e.g. cellulose, biopolymers | 2215/044 | . . . having cycloaliphatic groups |
| 2209/123 | . . used as base material | 2215/06 | . . having amino groups bound to carbon atoms of six-membered aromatic rings |
| 2209/126 | . . used as thickening agents | 2215/061 | . . . used as base material |
| 2211/00 | Organic <u>non-macromolecular</u> compounds containing halogen as ingredients in lubricant compositions | 2215/062 | . . . containing hydroxy groups bound to the aromatic ring |
| 2211/003 | . used as base material | 2215/064 | . . . Di- and triaryl amines |
| 2211/006 | . used as thickening agents | 2215/065 | Phenyl-Naphthyl amines |
| 2211/02 | . containing carbon, hydrogen and halogen only | 2215/066 | . . . Arylene diamines |
| 2211/0206 | . . used as base material | 2215/067 | . . . Polyaryl amine alkanes |
| 2211/0213 | . . used as thickening agents | 2215/068 | . . . having amino groups bound to polycyclic aromatic ring systems, i.e. systems with three or more condensed rings |
| 2211/022 | . . aliphatic | 2215/08 | . Amides |
| 2211/0225 | . . . used as base material | 2215/0806 | . . used as base material |
| 2211/024 | . . aromatic | 2215/0813 | . . used as thickening agents |
| 2211/0245 | . . . used as base material | 2215/082 | . . containing hydroxyl groups; Alkoxylated derivatives |
| 2211/04 | . containing carbon, hydrogen, halogen, and oxygen | 2215/086 | . Imides |
| 2211/0406 | . . used as base material | 2215/0865 | . . used as base material |
| 2211/0413 | . . used as thickening agents | 2215/10 | . Amides of carbonic or haloformic acids |
| 2211/042 | . . Alcohols; Ethers; Aldehydes; Ketones | 2215/1006 | . . used as base material |
| 2211/0425 | . . . used as base material | 2215/1013 | . . used as thickening agents |
| 2211/044 | . . Acids; Salts or esters thereof | 2215/102 | . . Ureas; Semicarbazides; Allophanates |
| 2211/0445 | . . . used as base material | 2215/1023 | . . . used as base material |
| 2211/06 | . Perfluorinated compounds | 2215/1026 | . . . used as thickening material |
| 2211/063 | . . used as base material | 2215/12 | . Partial amides of polycarboxylic acids |
| 2211/066 | . . used as thickening agents | 2215/121 | . . used as thickening agents |
| 2211/08 | . Halogenated waxes | 2215/122 | . . Phtalamic acid |
| 2211/083 | . . used as base material | 2215/14 | . Containing carbon-to-nitrogen double bonds, e.g. guanidines, hydrazones, semicarbazones |
| 2211/086 | . . used as thickening agents | 2215/16 | . Nitriles |
| 2213/00 | Organic <u>macromolecular</u> compounds containing halogen as ingredients in lubricant compositions | 2215/18 | . Containing nitrogen-to-nitrogen bonds, e.g. hydrazine |
| 2213/003 | . used as base material | 2215/182 | . . Azo compounds |
| 2213/006 | . used as thickening agents | 2215/20 | . Containing nitrogen-to-oxygen bonds |
| 2213/02 | . obtained from monomers containing carbon, hydrogen and halogen only | 2215/202 | . . containing nitro groups |
| 2213/023 | . . used as base material | 2215/204 | . . containing nitroso groups |
| 2213/026 | . . used as thickening agents | 2215/206 | . . hydroxylamines |
| 2213/04 | . obtained from monomers containing carbon, hydrogen, halogen and oxygen | 2215/22 | . Heterocyclic nitrogen compounds |
| 2213/043 | . . used as base material | 2215/2203 | . . used as base material |
| 2213/046 | . . used as thickening agents | 2215/2206 | . . used as thickening agents |
| 2213/06 | . Perfluoro polymers | 2215/221 | . . Six-membered rings containing nitrogen and carbon only |
| 2213/0606 | . . used as base material | 2215/222 | . . . Triazines |
| 2213/0613 | . . used as thickening agents | 2215/2225 | used as base material |
| 2213/062 | . . Polytetrafluoroethylene [PTFE] | 2215/223 | . . Five-membered rings containing nitrogen and carbon only |
| 2213/0623 | . . . used as base material | 2215/224 | . . . Imidazoles |
| 2213/0626 | . . . used as thickening agents | 2215/2245 | used as base material |
| 2215/00 | Organic <u>non-macromolecular</u> compounds containing nitrogen as ingredients in lubricant compositions | 2215/225 | . . the rings containing both nitrogen and oxygen |
| 2215/003 | . used as base material | 2215/226 | . . . Morpholines |
| 2215/006 | . used as thickening agents | 2215/2265 | used as base material |
| 2215/02 | . Amines, e.g. polyalkylene polyamines; Quaternary amines (polyalkylene polyamines with eleven or more monomer units C10M 2217/046) | 2215/227 | . . . Phthalocyanines |
| 2215/023 | . . used as base material | 2215/2275 | used as thickening agents |
| 2215/026 | . . used as thickening agents | 2215/24 | . having hydrocarbon substituents containing <u>thirty or more carbon atoms</u> , e.g. nitrogen derivatives of substituted succinic acid |
| 2215/04 | . . having amino groups bound to acyclic or cycloaliphatic carbon atoms | 2215/245 | . . used as base material |
| 2215/041 | . . . used as base material | | |

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| 2215/26 | . Amines | 2219/02 | . Sulfur-containing compounds obtained by sulfuration with sulfur or sulfur-containing compounds |
| 2215/265 | . . used as base material | 2219/021 | . . used as base material |
| 2215/28 | . Amides; Imides | 2219/022 | . . of hydrocarbons, e.g. olefines (polyolefins C10M 2221/041) |
| 2215/285 | . . used as base material | 2219/024 | . . of esters, e.g. fats |
| 2215/30 | . Heterocyclic compounds | 2219/04 | . containing sulfur-to-oxygen bonds, i.e. sulfones, sulfoxides |
| 2215/305 | . . used as base material | 2219/0406 | . . used as base material |
| 2217/00 | Organic macromolecular compounds containing nitrogen as ingredients in lubricant compositions | 2219/0413 | . . use as thickening agent |
| 2217/003 | . used as base material | 2219/042 | . . Sulfate esters |
| 2217/006 | . used as thickening agents | 2219/044 | . . Sulfonic acids, Derivatives thereof, e.g. neutral salts |
| 2217/02 | . Macromolecular compounds obtained from nitrogen containing monomers by reactions only involving carbon-to-carbon unsaturated bonds | 2219/0445 | . . . used as thickening agents |
| 2217/0206 | . . used as base material | 2219/046 | . . <u>Overbased</u> sulfonic acid salts |
| 2217/0213 | . . used as thickening agents | 2219/0463 | . . . used as base material |
| 2217/022 | . . containing monomers having an unsaturated radical bound to an amino group | 2219/0466 | . . . used as thickening agents |
| 2217/0225 | . . . used as base material | 2219/06 | . Thio-acids; Thiocyanates; Derivatives thereof |
| 2217/023 | . . . the amino group containing an ester bond | 2219/061 | . . used as base material |
| 2217/0235 | used as base material | 2219/062 | . . having carbon-to-sulfur double bonds |
| 2217/024 | . . containing monomers having an unsaturated radical bound to an amido or imido group | 2219/064 | . . . Thiourea type compounds |
| 2217/0245 | . . . used as base material | 2219/066 | . . . Thiocarbamic type compounds |
| 2217/026 | . . containing monomers having an unsaturated radical bound to a nitrile group | 2219/068 | Thiocarbamate metal salts |
| 2217/0265 | . . . used as base material | 2219/08 | . Thiols; Sulfides; Polysulfides; Mercaptals |
| 2217/028 | . . containing monomers having an unsaturated radical bound to a nitrogen-containing hetero ring | 2219/081 | . . used as base material |
| 2217/0285 | . . . used as base material | 2219/082 | . . containing sulfur atoms bound to acyclic or cycloaliphatic carbon atoms |
| 2217/04 | . Macromolecular compounds from nitrogen-containing monomers obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds | 2219/083 | . . . Dibenzyl sulfide |
| 2217/0403 | . . used as base material | 2219/084 | . . . containing hydroxy groups; Derivatives thereof |
| 2217/0406 | . . used as thickening agents | 2219/085 | . . . containing carboxyl groups; Derivatives thereof |
| 2217/041 | . . involving a condensation reaction | 2219/086 | . . . containing sulfur atoms bound to carbon atoms of six-membered aromatic rings |
| 2217/0415 | . . . used as base material | 2219/087 | . . . containing hydroxy groups; Derivatives thereof, e.g. sulfurised phenols |
| 2217/042 | . . between the nitrogen-containing monomer and an aldehyde or ketone | 2219/088 | Neutral salts |
| 2217/0425 | . . . used as base material | 2219/089 | Overbased salts |
| 2217/043 | . . Mannich bases | 2219/09 | . Heterocyclic compounds containing no sulfur, selenium or tellurium compounds in the ring |
| 2217/0435 | . . . used as base material | 2219/10 | . Heterocyclic compounds containing sulfur, selenium or tellurium compounds in the ring |
| 2217/044 | . . Polyamides | 2219/101 | . . used as base material |
| 2217/0443 | . . . used as base material | 2219/102 | . . containing sulfur and carbon only in the ring |
| 2217/0446 | . . . used as thickening agents | 2219/104 | . . containing sulfur and carbon with nitrogen or oxygen in the ring |
| 2217/045 | . . Polyureas; Polyurethanes | 2219/106 | . . . Thiadiazoles |
| 2217/0453 | . . . used as base material | 2219/108 | . . . Phenothiazine |
| 2217/0456 | . . . used as thickening agents | 2221/00 | Organic <u>macromolecular</u> compounds containing sulfur, selenium or tellurium as ingredients in lubricant compositions |
| 2217/046 | . . Polyamines, i.e. macromoleculars obtained by condensation of more than eleven amine monomers | 2221/003 | . used as base material |
| 2217/0465 | . . . used as base material | 2221/006 | . used as thickening agents |
| 2217/06 | . Macromolecular compounds obtained by functionalisation of polymers with a nitrogen containing compound | 2221/02 | . Macromolecular compounds obtained by reactions of monomers involving only carbon-to-carbon unsaturated bonds (sulfurised polyolefins C10M 2221/041) |
| 2217/065 | . . used as base material | 2221/025 | . . used as base material |
| 2219/00 | Organic <u>non-macromolecular</u> compounds containing sulfur, selenium or tellurium as ingredients in lubricant compositions | 2221/04 | . Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds |
| 2219/003 | . used as base material | 2221/0405 | . . used as base material |
| 2219/006 | . used as thickening agents | | |

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| 2221/041 | . . involving sulfurisation of macromolecular compounds, e.g. polyolefins | 2227/025 | . . used as base material |
| 2221/043 | . . Polyoxyalkylene ethers with a thioether group | 2227/04 | . having a silicon-to-carbon bond, e.g. organo-silanes |
| 2223/00 | Organic non-macromolecular compounds containing phosphorus as ingredients in lubricant compositions | 2227/045 | . . used as base material |
| 2223/003 | . used as base material | 2227/06 | . Organic compounds derived from inorganic acids or metal salts |
| 2223/006 | . used as thickening agents | 2227/0605 | . . used as base material |
| 2223/02 | . having no phosphorus-to-carbon bonds | 2227/061 | . . Esters derived from boron |
| 2223/023 | . . used as base material | 2227/0615 | . . . used as base material |
| 2223/026 | . . used as thickening agents | 2227/062 | . . . Cyclic esters |
| 2223/04 | . . Phosphate esters | 2227/0625 | used as base material |
| 2223/0405 | . . . used as base material | 2227/063 | . . Complexes of boron halides |
| 2223/041 | . . . Triaryl phosphates | 2227/065 | . . derived from Ti or Zr |
| 2223/0415 | used as base material | 2227/066 | . . derived from Mo or W |
| 2223/042 | . . . Metal salts thereof | 2227/08 | . having metal-to-carbon bonds (metal complexes of unknown constitution C10M 2227/09) |
| 2223/043 | . . . Ammonium or amine salts thereof | 2227/081 | . . with a metal carbon bond belonging to a ring, e.g. ferrocene |
| 2223/045 | . . . Metal containing thio derivatives | 2227/082 | . . Pb compounds |
| 2223/047 | . . . Thioderivatives not containing metallic elements | 2227/083 | . . Sn compounds |
| 2223/049 | . . Phosphite | 2227/09 | . Complexes with metals |
| 2223/0495 | . . . used as base material | 2229/00 | Organic macromolecular compounds containing atoms of elements not provided for in groups C10M 2205/00, C10M 2209/00, C10M 2213/00, C10M 2217/00, C10M 2221/00 or C10M 2225/00 as ingredients in lubricant compositions |
| 2223/06 | . having phosphorus-to-carbon bonds | 2229/003 | . used as base material |
| 2223/0603 | . . used as base material | 2229/006 | . used as thickening agents |
| 2223/0606 | . . used as thickening agents | 2229/02 | . Unspecified siloxanes; Silicones |
| 2223/061 | . . Metal salts | 2229/025 | . . used as base material |
| 2223/063 | . . Ammonium or amine salts | 2229/04 | . Siloxanes with specific structure |
| 2223/065 | . . containing sulfur | 2229/0405 | . . used as base material |
| 2223/0655 | . . . used as thickening agents | 2229/041 | . . containing aliphatic substituents |
| 2223/08 | . having phosphorus-to-nitrogen bonds | 2229/0415 | . . . used as base material |
| 2223/083 | . . used as base material | 2229/042 | . . containing aromatic substituents |
| 2223/086 | . . used as thickening agents | 2229/0425 | . . . used as base material |
| 2223/10 | . Phosphatides, e.g. lecithin, cephalin | 2229/043 | . . containing carbon-to-carbon double bonds |
| 2223/103 | . . used as base material | 2229/0435 | . . . used as base material |
| 2223/106 | . . used as thickening agents | 2229/044 | . . containing silicon-to-hydrogen bonds |
| 2223/12 | . obtained by phosphorisation of organic compounds, e.g. with PxSy, PxSyHal or PxOy | 2229/0445 | . . . used as base material |
| 2223/121 | . . of alcohols or phenols | 2229/045 | . . containing silicon-to-hydroxyl bonds |
| 2225/00 | Organic macromolecular compounds containing phosphorus as ingredients in lubricant compositions | 2229/0455 | . . . used as base material |
| 2225/003 | . used as base material | 2229/046 | . . containing silicon-oxygen-carbon bonds |
| 2225/006 | . used as thickening agents | 2229/0465 | . . . used as base material |
| 2225/02 | . Macromolecular compounds from phosphorus-containing monomers, obtained by reactions involving only carbon-to-carbon unsaturated bonds | 2229/047 | . . containing alkylene oxide groups |
| 2225/025 | . . used as base material | 2229/0475 | . . . used as base material |
| 2225/04 | . obtained by phosphorisation of macromolecular compounds not containing phosphorus in the monomers | 2229/048 | . . containing carboxyl groups |
| 2225/0405 | . . used as base material | 2229/0485 | . . . used as base material |
| 2225/041 | . . Hydrocarbon polymers | 2229/05 | . . containing atoms other than silicon, hydrogen, oxygen or carbon |
| 2227/00 | Organic non-macromolecular compounds containing atoms of elements not provided for in groups C10M 2203/00, C10M 2207/00, C10M 2211/00, C10M 2215/00, C10M 2219/00 or C10M 2223/00 as ingredients in lubricant compositions | 2229/0505 | . . . used as base material |
| 2227/003 | . used as base material | 2229/051 | . . . containing halogen |
| 2227/006 | . used as thickening agents | 2229/0515 | used as base material |
| 2227/02 | . Esters of silicic acids | 2229/052 | . . . containing nitrogen |
| | | 2229/0525 | used as base material |
| | | 2229/053 | . . . containing sulfur |
| | | 2229/0535 | used as base material |
| | | 2229/054 | . . . containing phosphorus |
| | | 2229/0545 | used as base material |
| | | 2290/00 | Mixtures of base materials or thickeners or additives |
| | | 2290/02 | . Mineral base oils; Mixtures of fractions |

C10M

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| 2290/026 | • Fuels |
| 2290/04 | • Synthetic base oils |
| 2290/10 | • Thickener |