

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 diene
- 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](#))

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

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

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	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	
2209/046	. . . used as thickening agents	2209/1085	. . . . used as base material
2209/06	. . containing monomers having an unsaturated radical bound to an acyloxy radical of saturated carboxylic or carbonic acid	2209/109	. . . esterified
2209/0606	. . . used as base material	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	
2209/0613	. . . used as thickening agents	2209/1095	. . . . used as base material
2209/062	. . . Vinyl esters of saturated carboxylic or carbonic acids, e.g. vinyl acetate	2209/11	. . Complex polyesters
2209/0625	. . . . used as base material	2209/1105	. . . used as base material
2209/08	. . containing monomers having an unsaturated radical bound to a carboxyl radical, e.g. acrylate type	2209/111	. . . having dicarboxylic acid centres
2209/0806	. . . used as base material	2209/1115	. . . . 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
2209/1125	. . . . used as base material
2209/12	. Polysaccharides, e.g. cellulose, biopolymers
2209/123	. . used as base material
2209/126	. . used as thickening agents
2211/00	Organic <u>non-macromolecular</u> compounds containing halogen as ingredients in lubricant compositions
2211/003	. used as base material
2211/006	. used as thickening agents
2211/02	. containing carbon, hydrogen and halogen only
2211/0206	. . used as base material
2211/0213	. . used as thickening agents
2211/022	. . aliphatic
2211/0225	. . . used as base material
2211/024	. . aromatic
2211/0245	. . . used as base material
2211/04	. containing carbon, hydrogen, halogen, and oxygen
2211/0406	. . used as base material
2211/0413	. . used as thickening agents
2211/042	. . Alcohols; Ethers; Aldehydes; Ketones
2211/0425	. . . used as base material
2211/044	. . Acids; Salts or esters thereof
2211/0445	. . . used as base material
2211/06	. Perfluorinated compounds
2211/063	. . used as base material
2211/066	. . used as thickening agents
2211/08	. Halogenated waxes
2211/083	. . used as base material
2211/086	. . used as thickening agents
2213/00	Organic <u>macromolecular</u> compounds containing halogen as ingredients in lubricant compositions
2213/003	. used as base material
2213/006	. used as thickening agents
2213/02	. obtained from monomers containing carbon, hydrogen and halogen only
2213/023	. . used as base material
2213/026	. . used as thickening agents
2213/04	. obtained from monomers containing carbon, hydrogen, halogen and oxygen
2213/043	. . used as base material
2213/046	. . used as thickening agents
2213/06	. Perfluoro polymers
2213/0606	. . used as base material
2213/0613	. . used as thickening agents
2213/062	. . Polytetrafluoroethylene [PTFE]
2213/0623	. . . used as base material
2213/0626	. . . used as thickening agents
2215/00	Organic <u>non-macromolecular</u> compounds containing nitrogen as ingredients in lubricant compositions
2215/003	. used as base material
2215/006	. used as thickening agents
2215/02	. Amines, e.g. polyalkylene polyamines; Quaternary amines (polyalkylene polyamines with eleven or more monomer units C10M 2217/046)
2215/023	. . used as base material
2215/026	. . used as thickening agents
2215/04	. . having amino groups bound to acyclic or cycloaliphatic carbon atoms
2215/041	. . . used as base material
2215/042	. . . containing hydroxy groups; Alkoxylated derivatives thereof
2215/0425	. . . . used as base material
2215/044	. . . having cycloaliphatic groups
2215/06	. . having amino groups bound to carbon atoms of six-membered aromatic rings
2215/061	. . . used as base material
2215/062	. . . containing hydroxy groups bound to the aromatic ring
2215/064	. . . Di- and triaryl amines
2215/065	. . . . Phenyl-Naphthyl amines
2215/066	. . . Arylene diamines
2215/067	. . . Polyaryl amine alkanes
2215/068	. . . having amino groups bound to polycyclic aromatic ring systems, i.e. systems with three or more condensed rings
2215/08	. Amides
2215/0806	. . used as base material
2215/0813	. . used as thickening agents
2215/082	. . containing hydroxyl groups; Alkoxylated derivatives
2215/086	. Imides
2215/0865	. . used as base material
2215/10	. Amides of carbonic or haloformic acids
2215/1006	. . used as base material
2215/1013	. . used as thickening agents
2215/102	. . Ureas; Semicarbazides; Allophanates
2215/1023	. . . used as base material
2215/1026	. . . used as thickening material
2215/12	. Partial amides of polycarboxylic acids
2215/121	. . used as thickening agents
2215/122	. . Phtalamic acid
2215/14	. Containing carbon-to-nitrogen double bonds, e.g. guanidines, hydrazones, semicarbazones
2215/16	. Nitriles
2215/18	. Containing nitrogen-to-nitrogen bonds, e.g. hydrazine
2215/182	. . Azo compounds
2215/20	. Containing nitrogen-to-oxygen bonds
2215/202	. . containing nitro groups
2215/204	. . containing nitroso groups
2215/206	. . hydroxylamines
2215/22	. Heterocyclic nitrogen compounds
2215/2203	. . used as base material
2215/2206	. . used as thickening agents
2215/221	. . Six-membered rings containing nitrogen and carbon only
2215/222	. . . Triazines
2215/2225	. . . . used as base material
2215/223	. . Five-membered rings containing nitrogen and carbon only
2215/224	. . . Imidazoles
2215/2245	. . . . used as base material
2215/225	. . the rings containing both nitrogen and oxygen
2215/226	. . . Morpholines
2215/2265	. . . . used as base material
2215/227	. . . Phthalocyanines
2215/2275	. . . . 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
2215/245	. . used as base material

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		

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

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