

**CPC****COOPERATIVE PATENT CLASSIFICATION****C10N****INDEXING SCHEME ASSOCIATED WITH SUBCLASS [C10M](#)  
RELATING TO LUBRICATING COMPOSITIONS****C10N 2010/00****Metal present as such or in compounds****NOTE**

In this group, metals should be indexed according to their group of the Periodic Table.

**C10N 2010/02**

. Group 1

**C10N 2010/04**

. Group 2

**C10N 2010/06**

. Group 3

**C10N 2010/08**

. Group 4

**C10N 2010/10**

. Group 5

**C10N 2010/12**

. Group 6

**C10N 2010/14**

. Group 7

**C10N 2010/16**

. Group 8

**C10N 2020/00****Specified physical properties of component of lubricating compositions****C10N 2020/02**

. Viscosity; Viscosity index

**C10N 2020/04**

. Molecular weight; Molecular weight distribution

**C10N 2020/06**

. Particles of special shape or size

**C10N 2030/00****Specified physical or chemical property which is improved by the additive characterising the lubricating composition, e.g. multifunctional additives****C10N 2030/02**

. Pour-point; Viscosity index

**C10N 2030/04**

. Detergent or dispersant property

**C10N 2030/06**

. Oiliness; Film-strength; Anti-wear; Resistance to extreme pressure

**C10N 2030/08**

. Resistance to extreme temperature

**C10N 2030/10**

. Inhibition of oxidation, e.g. anti-oxidants

**C10N 2030/12**

. Inhibition of corrosion, e.g. anti-rust agents, anti-corrosives

**C10N 2030/14**

. Metal deactivation

**C10N 2030/16**

. Antiseptic; Biocidal

**C10N 2030/18**

. Anti-foaming property

**C10N 2030/20**

. Colour, e.g. dyes

**C10N 2040/00****Specified use or application for which the lubricating composition is intended****C10N 2040/02**

. Bearings

**C10N 2040/04**

. Oil-bath; Gear-boxes; Automatic transmissions; Traction drives

**C10N 2040/06**

. Instruments or other precision apparatus, e.g. damping fluids

C10N 2040/08	. Hydraulic fluids, e.g. brake-fluids
C10N 2040/10	. Running-in oil
C10N 2040/12	. Gas-turbines
C10N 2040/13	. . Aircraft turbines
C10N 2040/14	. Electric or magnetic purposes
C10N 2040/16	. . dielectric; Insulating oil
C10N 2040/18	. . in connection with recordings on magnetic tape or disc
C10N 2040/20	. Metal working
C10N 2040/22	. . with essential removal of material, {e.g. cutting; Cooling oil}
C10N 2040/24	. . without essential removal of material {Oil for deformation operations, e.g. drawing, rolling}
C10N 2040/25	. Internal combustion engines
C10N 2040/26	. . Two-stroke
C10N 2040/28	. . Rotary
C10N 2040/30	. Refrigerator lubricant
C10N 2040/32	. Wire, rope or cable lubricants
C10N 2040/34	. Lubricating-sealants
C10N 2040/36	. Release agents
<b>C10N 2050/00</b>	<b>Form in which the lubricant is applied to the material being lubricated</b>
C10N 2050/02	. dissolved or suspended in a carrier which subsequently evaporates to leave a lubricant coating
C10N 2050/04	. Aerosol
C10N 2050/06	. Gaseous phase, at least during working conditions
C10N 2050/08	. solid
C10N 2050/10	. semi-solids; greasy
<b>C10N 2060/00</b>	<b>Chemical after-treatment of the constituents of the lubricating composition</b>
C10N 2060/003	. {by organic hydroxy group containing compounds}
C10N 2060/006	. {by nitrogen containing compounds}
C10N 2060/02	. Reduction, e.g. hydrogenation
C10N 2060/04	. Oxidation, e.g. ozonisation
C10N 2060/06	. by epoxides
C10N 2060/08	. Halogenation
C10N 2060/10	. by sulfur or a compound containing sulfur
C10N 2060/12	. by phosphorus or a compound containing phosphorus, e.g. PxSy
C10N 2060/14	. by boron or a compound containing boron
<b>C10N 2070/00</b>	<b>Special methods of preparation</b>
<b>C10N 2080/00</b>	<b>Special pretreatment of the material to be lubricated, e.g. phosphatising or chromatising of a metal</b>

**C10N 2210/00****Nature of the metal present as such or in compounds, i.e. in salts****NOTE**

Indexing codes [C10N 2210/01](#) to [C10N 2210/08](#) are only to be used as linked codes in combination with codes chosen from subclass **M10M** identifying the chemical nature of the compounds concerned:

Example: [C10M 2201/084](#)+[C10N 2210/02](#)

- [C10N 2210/01](#) . Group I, e.g. Li, Na, K, Cs, Cu, Ag, Au
- [C10N 2210/02](#) . Group II, e.g. Mg, Ca, Ba, Zn, Cd, Hg
- [C10N 2210/03](#) . Group III, e.g. Al, In, La
- [C10N 2210/04](#) . Group IV, e.g. Sn, Pb, Ti, Zr
- [C10N 2210/05](#) . Group V, e.g. V, As, Sb, Bi
- [C10N 2210/06](#) . Group VI, e.g. Cr, Mo, W
- [C10N 2210/07](#) . Group VII or VIII
- [C10N 2210/08](#) .. Mn, Fe, Co, Ni

**C10N 2220/00****Specified physical or chemical properties or characteristics, i.e. function, of single compounds in lubricating compositions**

- [C10N 2220/02](#) . Physico-chemical properties
- [C10N 2220/021](#) .. Molecular weight
- [C10N 2220/022](#) .. Viscosity
- [C10N 2220/023](#) .. Cloud point
- [C10N 2220/024](#) .. Iodine value
- [C10N 2220/025](#) .. Saturated compounds
- [C10N 2220/026](#) .. Unsaturated compounds
- [C10N 2220/027](#) .. Linear chain compounds
- [C10N 2220/028](#) .. Branched chain compounds
- [C10N 2220/029](#) .. Star-shaped polymers
- [C10N 2220/03](#) .. Dendrimers
- [C10N 2220/031](#) .. Distillation range
- [C10N 2220/032](#) .. Specific gravity or density
- [C10N 2220/033](#) .. Shear stability
- [C10N 2220/04](#) .. Ionic liquids
- [C10N 2220/06](#) .. Liquid crystals
- [C10N 2220/08](#) .. Particles related characteristics
- [C10N 2220/082](#) ... Particle size or shape
- [C10N 2220/084](#) ... Coated particles
- [C10N 2220/086](#) ... Fibrous forms
- [C10N 2220/10](#) .. Biodegradable compounds
- [C10N 2220/12](#) .. Volatile compounds

C10N 2220/13	..	Non-volatile compounds
C10N 2220/14	.	Characteristics associated with water
C10N 2220/142	..	Water solubility
C10N 2220/144	..	Onsolubility in water
C10N 2220/146	..	Crystal water containing compounds
C10N 2220/30	..	Refrigerants

**NOTE**

Indexing codes [C10N 2220/301](#) to [C10N 2220/306](#) are only used in association with group [C10M 171/008](#) to provide information about the specific refrigerant.

C10N 2220/301	...	Chlorofluorocarbons
C10N 2220/302	...	Hydrofluorocarbons
C10N 2220/303	...	Hydrocarbons
C10N 2220/304	...	Nitrogen
C10N 2220/305	...	Ammonia
C10N 2220/306	...	Carbon dioxide

**C10N 2230/00****Specified physical or chemical properties of lubricating compositions**

C10N 2230/02	.	Viscosity or viscosity index
C10N 2230/04	.	Detergent properties, e.g. for cleaning, inhibition or removing varnish; Dispersion properties, e.g. for dispersing solids, carbon residues, sludge
C10N 2230/041	..	Soot induced viscosity control
C10N 2230/06	.	Resistance to extreme pressure; Oiliness; Abrasion resistance; Friction; Anti-wear
C10N 2230/08	.	Resistance to extreme heat; Resistance to extreme temperature
C10N 2230/10	.	Anti-oxidation characteristics
C10N 2230/12	.	Resistance to rust or corrosion
C10N 2230/14	.	Metal deactivation, i.e. passivation
C10N 2230/16	.	Bactericidal or (micro)biocidal
C10N 2230/18	.	Defoaming properties
C10N 2230/20	.	Colour
C10N 2230/22	.	Degreasing properties
C10N 2230/24	.	Emulsion properties
C10N 2230/26	.	Waterproofing or water-resistance
C10N 2230/28	.	Anti-static
C10N 2230/30	.	Anti-misting
C10N 2230/32	.	Light or X-ray resistance
C10N 2230/34	.	Fragrance or deodorising properties
C10N 2230/36	.	Seal compatibility, e.g. with rubber
C10N 2230/38	.	Catalyst protection, e.g. in exhaust gas converters
C10N 2230/40	.	Low content or no content compositions

C10N 2230/41	.. Chlorine free or low chlorine content compositions
C10N 2230/42	.. Phosphor free or low phosphor content compositions
C10N 2230/43	.. Sulfur free or low sulfur content compositions
C10N 2230/44	.. Boron free or low contentn boron compositions
C10N 2230/45	.. Ashless or low ash content
C10N 2230/50	. Emission or smoke controlling properties
C10N 2230/52	. Base number (TBN)
C10N 2230/54	. Fuel economy
C10N 2230/56	. Boundary lubrication or thin film lubrication
C10N 2230/58	. Elastohydrodynamic lubrication, e.g. for high compressibility layers
C10N 2230/60	. Electro rheological properties
C10N 2230/62	. Food grade properties
C10N 2230/64	. Environmental friendly compositions
C10N 2230/66	. Hydrolytic stability
C10N 2230/68	. Shear stability
C10N 2230/70	. Soluble oils
C10N 2230/72	. Extended drain
C10N 2230/74	. Noack Volatility
C10N 2230/76	. Reduction of noise, shudder or vibrations
C10N 2230/78	. Fuel contamination

**C10N 2240/00****Specified uses or applications of lubricating compositions**

C10N 2240/02	. Bearings
C10N 2240/04	. Gear oil
C10N 2240/042	.. for automatic transmissions
C10N 2240/044	.. for manual transmissions
C10N 2240/045	.. for Continuous Variable Transmission (CVT)
C10N 2240/046	.. for traction drives
C10N 2240/06	. Precision machinery, instruments
C10N 2240/08	. Hydraulic fluids, e.g. for brakes, clutches
C10N 2240/10	. Internal-combustion engines
C10N 2240/101	.. Alcohol fuelled engines
C10N 2240/102	.. Diesel engines
C10N 2240/103	... Small diesel engines
C10N 2240/104	.. Gasoline engines
C10N 2240/105	... Two-cycle engines
C10N 2240/106	... Rotary engines
C10N 2240/108	.. for running in; grinding
C10N 2240/12	. Gas turbines
C10N 2240/121	.. Aircraft turbines

C10N 2240/14	. Steam engines or turbines
C10N 2240/20	. Electrical or magnetic applications
C10N 2240/201	.. Dielectrics or insulators
C10N 2240/202	.. for electric contacts
C10N 2240/203	.. Pantographs, i.e. printing devices
C10N 2240/204	.. Magnetic recording mediums
C10N 2240/205	.. Magnetic fluids
C10N 2240/22	. Lubricating sealants
C10N 2240/30	. Refrigerators; Compressors
C10N 2240/40	. Metal working
C10N 2240/401	.. with removal of material, e.g. cutting, grinding, drilling
C10N 2240/402	.. without removal of material, e.g. forming, gorging, drawing, pressing, stamping, rolling, extruding
C10N 2240/403	.. Manufacturing joint less pipes
C10N 2240/404	.. Hot working
C10N 2240/405	.. Cold working
C10N 2240/406	.. of specific metals
C10N 2240/407	... Soft metals, e.g. aluminium
C10N 2240/408	... Iron or steel
C10N 2240/409	... stainless steel
C10N 2240/50	. Wires, ropes or cables
C10N 2240/52	. Conveyors; Chain belts
C10N 2240/54	. Generators or electric motors in oil or gas winning field
C10N 2240/56	. Flashing oils; Marking oils
C10N 2240/58	. Mould release agents
C10N 2240/60	. Supervacuum or supercritical use
C10N 2240/62	. Textile oils
C10N 2240/64	. Slushing oils
C10N 2240/66	. Medical uses

**C10N 2250/00 Form or state of lubricant compositions in which they are used**

C10N 2250/02	. Emulsions; Colloids; Micelles
C10N 2250/021	.. Oil-in-water
C10N 2250/022	.. Water-in-oil
C10N 2250/04	. Aerosols
C10N 2250/06	. Gaseous form
C10N 2250/08	. Solids
C10N 2250/10	. Semi-solids or greases
C10N 2250/12	. Dispersions of solid lubricants
C10N 2250/121	.. compositions providing a coating after evaporation of a medium, e.g. of solvent, water

- C10N 2250/14 . Multi layer lubricant coatings
- C10N 2250/141 . . in the form of films or sheets
- C10N 2250/16 . Micro capsules
- C10N 2250/18 . Composite materials, or sliding materials in which lubricants are integrally moulded

**C10N 2260/00 Chemical after-treatment or modifications of compounds**

- C10N 2260/02 . Reduction
- C10N 2260/04 . Oxidation
- C10N 2260/06 . Treatment with epoxides or oxyalkylation reactions
- C10N 2260/08 . Halogenation
- C10N 2260/09 . Treatment with nitrogen containing compounds
- C10N 2260/10 . Treatment with sulfur or sulfur-containing compounds
- C10N 2260/12 . Treatment with phosphorus or phosphorus-containing compounds
- C10N 2260/14 . Treatment with boron or boron-containing compounds

**C10N 2270/00 Specific manufacturing methods for lubricant compositions or compounds not covered by groups [C10N 2210/00](#) to [C10N 2260/00](#)**

- C10N 2270/02 . concentrating of additives

**C10N 2280/00 Specific pretreatment of the surface to be lubricated, e.g. phosphatising**