

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

**C10N 2050/00 Form in which the lubricant is applied to the material being lubricated**

- 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

**C10N 2060/00 Chemical after-treatment of the constituents of the lubricating composition**

- 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

**C10N 2070/00 Special methods of preparation****C10N 2080/00 Special pretreatment of the material to be lubricated, e.g. phosphatising or chromatising of a metal****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
<b>C10N 2250/00</b>		<b>Form or state of lubricant compositions in which they are used</b>
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**