

**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. $P_xS_y$
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](#) - [C10N 2210/08](#) are only to be used as linked codes in combination with codes chosen from subclass [C10M](#) 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](#) - [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](#) - [C10N 2260/00](#)**

- C10N 2270/02 . concentrating of additives

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