

**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
<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

#### **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 . . Insolubility 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.

<a href="#">C10N 2220/301</a>	...	Chlorofluorocarbons
<a href="#">C10N 2220/302</a>	...	Hydrofluorocarbons
<a href="#">C10N 2220/303</a>	...	Hydrocarbons
<a href="#">C10N 2220/304</a>	...	Nitrogen
<a href="#">C10N 2220/305</a>	...	Ammonia
<a href="#">C10N 2220/306</a>	...	Carbon dioxide

**[C10N 2230/00](#)      Specified physical or chemical properties of lubricating compositions**

<a href="#">C10N 2230/02</a>	.	Viscosity or viscosity index
<a href="#">C10N 2230/04</a>	.	Detergent properties, e.g. for cleaning, inhibition or removing varnish; Dispersion properties, e.g. for dispersing solids, carbon residues, sludge
<a href="#">C10N 2230/041</a>	..	Soot induced viscosity control
<a href="#">C10N 2230/06</a>	.	Resistance to extreme pressure; Oiliness; Abrasion resistance; Friction; Anti-wear
<a href="#">C10N 2230/08</a>	.	Resistance to extreme heat; Resistance to extreme temperature
<a href="#">C10N 2230/10</a>	.	Anti-oxidation characteristics
<a href="#">C10N 2230/12</a>	.	Resistance to rust or corrosion
<a href="#">C10N 2230/14</a>	.	Metal deactivation, i.e. passivation
<a href="#">C10N 2230/16</a>	.	Bactericidal or (micro)biocidal
<a href="#">C10N 2230/18</a>	.	Defoaming properties
<a href="#">C10N 2230/20</a>	.	Colour
<a href="#">C10N 2230/22</a>	.	Degreasing properties
<a href="#">C10N 2230/24</a>	.	Emulsion properties
<a href="#">C10N 2230/26</a>	.	Waterproofing or water-resistance
<a href="#">C10N 2230/28</a>	.	Anti-static
<a href="#">C10N 2230/30</a>	.	Anti-misting
<a href="#">C10N 2230/32</a>	.	Light or X-ray resistance
<a href="#">C10N 2230/34</a>	.	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
<b>C10N 2240/00</b>	<b>Specified uses or applications of lubricating compositions</b>
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 [M10M 260/00](#)**
- [C10N 2270/02](#) . concentrating of additives
- [C10N 2280/00](#) **Specific pretreatment of the surface to be lubricated, e.g. phosphatising**