

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

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| 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 |
| 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 . . 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.

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| 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

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|-------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |

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| 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 [M10M 260/00](#)**
- C10N 2270/02** . concentrating of additives
- C10N 2280/00** **Specific pretreatment of the surface to be lubricated, e.g. phosphatising**