

CPC COOPERATIVE PATENT CLASSIFICATION

C10N INDEXING SCHEME ASSOCIATED WITH SUBCLASS [C10M](#) RELATING TO LUBRICATING COMPOSITIONS

2010/00	Metal present as such or in compounds	2040/24	<ul style="list-style-type: none">without essential removal of material {Oil for deformation operations, e.g. drawing, rolling}
	NOTE	2040/25	<ul style="list-style-type: none">Internal combustion engines
	In this group, metals should be indexed according to their group of the Periodic Table.	2040/26	<ul style="list-style-type: none">Two-stroke
2010/02	<ul style="list-style-type: none">Group 1	2040/28	<ul style="list-style-type: none">Rotary
2010/04	<ul style="list-style-type: none">Group 2	2040/30	<ul style="list-style-type: none">Refrigerator lubricant
2010/06	<ul style="list-style-type: none">Group 3	2040/32	<ul style="list-style-type: none">Wire, rope or cable lubricants
2010/08	<ul style="list-style-type: none">Group 4	2040/34	<ul style="list-style-type: none">Lubricating-sealants
2010/10	<ul style="list-style-type: none">Group 5	2040/36	<ul style="list-style-type: none">Release agents
2010/12	<ul style="list-style-type: none">Group 6	2050/00	Form in which the lubricant is applied to the material being lubricated
2010/14	<ul style="list-style-type: none">Group 7	2050/02	<ul style="list-style-type: none">dissolved or suspended in a carrier which subsequently evaporates to leave a lubricant coating
2010/16	<ul style="list-style-type: none">Group 8	2050/04	<ul style="list-style-type: none">Aerosol
2020/00	Specified physical properties of component of lubricating compositions	2050/06	<ul style="list-style-type: none">Gaseous phase, at least during working conditions
2020/02	<ul style="list-style-type: none">Viscosity; Viscosity index	2050/08	<ul style="list-style-type: none">solid
2020/04	<ul style="list-style-type: none">Molecular weight; Molecular weight distribution	2050/10	<ul style="list-style-type: none">semi-solids; greasy
2020/06	<ul style="list-style-type: none">Particles of special shape or size	2060/00	Chemical after-treatment of the constituents of the lubricating composition
2030/00	Specified physical or chemical property which is improved by the additive characterising the lubricating composition, e.g. multifunctional additives	2060/003	<ul style="list-style-type: none">{by organic hydroxy group containing compounds}
2030/02	<ul style="list-style-type: none">Pour-point; Viscosity index	2060/006	<ul style="list-style-type: none">{by nitrogen containing compounds}
2030/04	<ul style="list-style-type: none">Detergent or dispersant property	2060/02	<ul style="list-style-type: none">Reduction, e.g. hydrogenation
2030/06	<ul style="list-style-type: none">Oiliness; Film-strength; Anti-wear; Resistance to extreme pressure	2060/04	<ul style="list-style-type: none">Oxidation, e.g. ozonisation
2030/08	<ul style="list-style-type: none">Resistance to extreme temperature	2060/06	<ul style="list-style-type: none">by epoxides
2030/10	<ul style="list-style-type: none">Inhibition of oxidation, e.g. anti-oxidants	2060/08	<ul style="list-style-type: none">Halogenation
2030/12	<ul style="list-style-type: none">Inhibition of corrosion, e.g. anti-rust agents, anti-corrosives	2060/10	<ul style="list-style-type: none">by sulfur or a compound containing sulfur
2030/14	<ul style="list-style-type: none">Metal deactivation	2060/12	<ul style="list-style-type: none">by phosphorus or a compound containing phosphorus, e.g. P_xS_y
2030/16	<ul style="list-style-type: none">Antiseptic; Biocidal	2060/14	<ul style="list-style-type: none">by boron or a compound containing boron
2030/18	<ul style="list-style-type: none">Anti-foaming property	2070/00	Special methods of preparation
2030/20	<ul style="list-style-type: none">Colour, e.g. dyes	2080/00	Special pretreatment of the material to be lubricated, e.g. phosphatising or chromatising of a metal
2040/00	Specified use or application for which the lubricating composition is intended	2210/00	Nature of the metal present as such or in compounds, i.e. in salts
2040/02	<ul style="list-style-type: none">Bearings		NOTE
2040/04	<ul style="list-style-type: none">Oil-bath; Gear-boxes; Automatic transmissions; Traction drives		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:
2040/06	<ul style="list-style-type: none">Instruments or other precision apparatus, e.g. damping fluids		Example: C10M 2201/084 + C10N 2210/02
2040/08	<ul style="list-style-type: none">Hydraulic fluids, e.g. brake-fluids	2210/01	<ul style="list-style-type: none">Group I, e.g. Li, Na, K, Cs, Cu, Ag, Au
2040/10	<ul style="list-style-type: none">Running-in oil	2210/02	<ul style="list-style-type: none">Group II, e.g. Mg, Ca, Ba, Zn, Cd, Hg
2040/12	<ul style="list-style-type: none">Gas-turbines	2210/03	<ul style="list-style-type: none">Group III, e.g. Al, In, La
2040/13	<ul style="list-style-type: none">Aircraft turbines	2210/04	<ul style="list-style-type: none">Group IV, e.g. Sn, Pb, Ti, Zr
2040/14	<ul style="list-style-type: none">Electric or magnetic purposes	2210/05	<ul style="list-style-type: none">Group V, e.g. V, As, Sb, Bi
2040/16	<ul style="list-style-type: none">dielectric; Insulating oil	2210/06	<ul style="list-style-type: none">Group VI, e.g. Cr, Mo, W
2040/18	<ul style="list-style-type: none">in connection with recordings on magnetic tape or disc	2210/07	<ul style="list-style-type: none">Group VII or VIII
2040/20	<ul style="list-style-type: none">Metal working	2210/08	<ul style="list-style-type: none">Mn, Fe, Co, Ni
2040/22	<ul style="list-style-type: none">with essential removal of material, {e.g. cutting; Cooling oil}		

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

- 2220/02 . Physico-chemical properties
- 2220/021 . . Molecular weight
- 2220/022 . . Viscosity
- 2220/023 . . Cloud point
- 2220/024 . . Iodine value
- 2220/025 . . Saturated compounds
- 2220/026 . . Unsaturated compounds
- 2220/027 . . Linear chain compounds
- 2220/028 . . Branched chain compounds
- 2220/029 . . Star-shaped polymers
- 2220/03 . . Dendrimers
- 2220/031 . . Distillation range
- 2220/032 . . Specific gravity or density
- 2220/033 . . Shear stability
- 2220/04 . . Ionic liquids
- 2220/06 . . Liquid crystals
- 2220/08 . . Particles related characteristics
- 2220/082 . . . Particle size or shape
- 2220/084 . . . Coated particles
- 2220/086 . . . Fibrous forms
- 2220/10 . . Biodegradable compounds
- 2220/12 . . Volatile compounds
- 2220/13 . . Non-volatile compounds
- 2220/14 . Characteristics associated with water
- 2220/142 . . Water solubility
- 2220/144 . . Insolubility in water
- 2220/146 . . Crystal water containing compounds
- 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.

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

2230/00 Specified physical or chemical properties of lubricating compositions

- 2230/02 . Viscosity or viscosity index
- 2230/04 . Detergent properties, e.g. for cleaning, inhibition or removing varnish; Dispersion properties, e.g. for dispersing solids, carbon residues, sludge
- 2230/041 . . Soot induced viscosity control
- 2230/06 . Resistance to extreme pressure; Oiliness; Abrasion resistance; Friction; Anti-wear
- 2230/08 . Resistance to extreme heat; Resistance to extreme temperature
- 2230/10 . Anti-oxidation characteristics
- 2230/12 . Resistance to rust or corrosion
- 2230/14 . Metal deactivation, i.e. passivation
- 2230/16 . Bactericidal or (micro)biocidal
- 2230/18 . Defoaming properties
- 2230/20 . Colour

- 2230/22 . Degreasing properties
- 2230/24 . Emulsion properties
- 2230/26 . Waterproofing or water-resistance
- 2230/28 . Anti-static
- 2230/30 . Anti-misting
- 2230/32 . Light or X-ray resistance
- 2230/34 . Fragrance or deodorising properties
- 2230/36 . Seal compatibility, e.g. with rubber
- 2230/38 . Catalyst protection, e.g. in exhaust gas converters
- 2230/40 . Low content or no content compositions
- 2230/41 . . Chlorine free or low chlorine content compositions
- 2230/42 . . Phosphor free or low phosphor content compositions
- 2230/43 . . Sulfur free or low sulfur content compositions
- 2230/44 . . Boron free or low content boron compositions
- 2230/45 . . Ashless or low ash content
- 2230/50 . Emission or smoke controlling properties
- 2230/52 . Base number (TBN)
- 2230/54 . Fuel economy
- 2230/56 . Boundary lubrication or thin film lubrication
- 2230/58 . Elastohydrodynamic lubrication, e.g. for high compressibility layers
- 2230/60 . Electro rheological properties
- 2230/62 . Food grade properties
- 2230/64 . Environmental friendly compositions
- 2230/66 . Hydrolytic stability
- 2230/68 . Shear stability
- 2230/70 . Soluble oils
- 2230/72 . Extended drain
- 2230/74 . Noack Volatility
- 2230/76 . Reduction of noise, shudder or vibrations
- 2230/78 . Fuel contamination

2240/00 Specified uses or applications of lubricating compositions

- 2240/02 . Bearings
- 2240/04 . Gear oil
- 2240/042 . . for automatic transmissions
- 2240/044 . . for manual transmissions
- 2240/045 . . for Continuous Variable Transmission [CVT]
- 2240/046 . . for traction drives
- 2240/06 . Precision machinery, instruments
- 2240/08 . Hydraulic fluids, e.g. for brakes, clutches
- 2240/10 . Internal-combustion engines
- 2240/101 . . Alcohol fuelled engines
- 2240/102 . . Diesel engines
- 2240/103 . . . Small diesel engines
- 2240/104 . . Gasoline engines
- 2240/105 . . . Two-cycle engines
- 2240/106 . . . Rotary engines
- 2240/108 . . for running in; grinding
- 2240/12 . Gas turbines
- 2240/121 . . Aircraft turbines
- 2240/14 . Steam engines or turbines
- 2240/20 . Electrical or magnetic applications
- 2240/201 . . Dielectrics or insulators
- 2240/202 . . for electric contacts
- 2240/203 . . Pantographs, i.e. printing devices
- 2240/204 . . Magnetic recording mediums
- 2240/205 . . Magnetic fluids
- 2240/22 . Lubricating sealants

C10N

- 2240/30 . Refrigerators; Compressors
- 2240/40 . Metal working
- 2240/401 . . with removal of material, e.g. cutting, grinding, drilling
- 2240/402 . . without removal of material, e.g. forming, gorging, drawing, pressing, stamping, rolling, extruding
- 2240/403 . . Manufacturing joint less pipes
- 2240/404 . . Hot working
- 2240/405 . . Cold working
- 2240/406 . . of specific metals
- 2240/407 . . . Soft metals, e.g. aluminium
- 2240/408 . . . Iron or steel
- 2240/409 . . . stainless steel
- 2240/50 . Wires, ropes or cables
- 2240/52 . Conveyors; Chain belts
- 2240/54 . Generators or electric motors in oil or gas winning field
- 2240/56 . Flashing oils; Marking oils
- 2240/58 . Mould release agents
- 2240/60 . Supervacuum or supercritical use
- 2240/62 . Textile oils
- 2240/64 . Slushing oils
- 2240/66 . Medical uses
- 2250/00 Form or state of lubricant compositions in which they are used**
- 2250/02 . Emulsions; Colloids; Micelles
- 2250/021 . . Oil-in-water
- 2250/022 . . Water-in-oil
- 2250/04 . Aerosols
- 2250/06 . Gaseous form
- 2250/08 . Solids
- 2250/10 . Semi-solids or greases
- 2250/12 . Dispersions of solid lubricants
- 2250/121 . . compositions providing a coating after evaporation of a medium, e.g. of solvent, water
- 2250/14 . Multi layer lubricant coatings
- 2250/141 . . in the form of films or sheets
- 2250/16 . Micro capsules
- 2250/18 . Composite materials, or sliding materials in which lubricants are integrally moulded
- 2260/00 Chemical after-treatment or modifications of compounds**
- 2260/02 . Reduction
- 2260/04 . Oxidation
- 2260/06 . Treatment with epoxides or oxyalkylation reactions
- 2260/08 . Halogenation
- 2260/09 . Treatment with nitrogen containing compounds
- 2260/10 . Treatment with sulfur or sulfur-containing compounds
- 2260/12 . Treatment with phosphorus or phosphorus-containing compounds
- 2260/14 . Treatment with boron or boron-containing compounds
- 2270/00 Specific manufacturing methods for lubricant compositions or compounds not covered by groups [C10N 2210/00](#) - [C10N 2260/00](#)**
- 2270/02 . concentrating of additives
- 2280/00 Specific pretreatment of the surface to be lubricated, e.g. phosphatising**