

CPC**COOPERATIVE PATENT CLASSIFICATION****C10N****INDEXING SCHEME ASSOCIATED WITH SUBCLASS [C10M](#)
RELATING TO LUBRICATING COMPOSITIONS****Guidance heading:****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

Guidance heading:**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

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

Guidance heading:

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

Guidance heading:

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
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