

# CPC COOPERATIVE PATENT CLASSIFICATION

## C CHEMISTRY; METALLURGY

(NOTES omitted)

### CHEMISTRY

## C10 PETROLEUM, GAS OR COKE INDUSTRIES; TECHNICAL GASES CONTAINING CARBON MONOXIDE; FUELS; LUBRICANTS; PEAT

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

### 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.

2010/02 . Group 1

2010/04 . Group 2

2010/06 . Group 3

2010/08 . Group 4

2010/10 . Group 5

2010/12 . Group 6

2010/14 . Group 7

2010/16 . Group 8

### 2020/00 Specified physical properties of component of lubricating compositions

2020/02 . Viscosity; Viscosity index

2020/04 . Molecular weight; Molecular weight distribution

2020/06 . Particles of special shape or size

### 2030/00 Specified physical or chemical property which is improved by the additive characterising the lubricating composition, e.g. multifunctional additives

2030/02 . Pour-point; Viscosity index

2030/04 . Detergent or dispersant property

2030/06 . Oiliness; Film-strength; Anti-wear; Resistance to extreme pressure

2030/08 . Resistance to extreme temperature

2030/10 . Inhibition of oxidation, e.g. anti-oxidants

2030/12 . Inhibition of corrosion, e.g. anti-rust agents, anti-corrosives

2030/14 . Metal deactivation

2030/16 . Antiseptic; Biocidal

2030/18 . Anti-foaming property

2030/20 . Colour, e.g. dyes

### 2040/00 Specified use or application for which the lubricating composition is intended

2040/02 . Bearings

2040/04 . Oil-bath; Gear-boxes; Automatic transmissions; Traction drives

2040/06 . Instruments or other precision apparatus, e.g. damping fluids

2040/08 . Hydraulic fluids, e.g. brake-fluids

2040/10 . Running-in oil

2040/12 . Gas-turbines

2040/13 . . Aircraft turbines

2040/14 . Electric or magnetic purposes

2040/16 . . dielectric; Insulating oil

2040/18 . . in connection with recordings on magnetic tape or disc

2040/20 . Metal working

2040/22 . . with essential removal of material {, e.g. cutting; Cooling oil}

2040/24 . . without essential removal of material {Oil for deformation operations, e.g. drawing, rolling}

2040/25 . Internal combustion engines

2040/26 . . Two-stroke

2040/28 . . Rotary

2040/30 . Refrigerator lubricant

2040/32 . Wire, rope or cable lubricants

2040/34 . Lubricating-sealants

2040/36 . Release agents

### 2050/00 Form in which the lubricant is applied to the material being lubricated

2050/02 . dissolved or suspended in a carrier which subsequently evaporates to leave a lubricant coating

2050/04 . Aerosol

2050/06 . Gaseous phase, at least during working conditions

2050/08 . solid

2050/10 . semi-solids; greasy

### 2060/00 Chemical after-treatment of the constituents of the lubricating composition

2060/003 . {by organic hydroxy group containing compounds}

2060/006 . {by nitrogen containing compounds}

2060/02 . Reduction, e.g. hydrogenation

2060/04 . Oxidation, e.g. ozonisation

2060/06 . by epoxides

2060/08 . Halogenation

2060/10 . by sulfur or a compound containing sulfur

2060/12 . by phosphorus or a compound containing phosphorus, e.g.  $P_xS_y$

2060/14 . by boron or a compound containing boron

### 2070/00 Special methods of preparation

### 2080/00 Special pretreatment of the material to be lubricated, e.g. phosphatising or chromatising of a metal

**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](#)

- 2210/01 . Group I, e.g. Li, Na, K, Cs, Cu, Ag, Au
- 2210/02 . Group II, e.g. Mg, Ca, Ba, Zn, Cd, Hg
- 2210/03 . Group III, e.g. Al, In, La
- 2210/04 . Group IV, e.g. Sn, Pb, Ti, Zr
- 2210/05 . Group V, e.g. V, As, Sb, Bi
- 2210/06 . Group VI, e.g. Cr, Mo, W
- 2210/07 . Group VII or VIII
- 2210/08 . . Mn, Fe, Co, Ni

**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 contentn 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	2260/02	. Reduction
2240/101	. . Alcohol fuelled engines	2260/04	. Oxidation
2240/102	. . Diesel engines	2260/06	. Treatment with epoxides or oxyalkylation reactions
2240/103	. . . Small diesel engines	2260/08	. Halogenation
2240/104	. . Gasoline engines	2260/09	. Treatment with nitrogen containing compounds
2240/105	. . . Two-cycle engines	2260/10	. Treatment with sulfur or sulfur-containing compounds
2240/106	. . . Rotary engines		
2240/108	. . for running in; grinding	2260/12	. Treatment with phosphorus or phosphorus-containing compounds
2240/12	. Gas turbines	2260/14	. Treatment with boron or boron-containing compounds
2240/121	. . Aircraft turbines		
2240/14	. Steam engines or turbines	<b>2270/00</b>	<b>Specific manufacturing methods for lubricant compositions or compounds not covered by groups <a href="#">C10N 2210/00</a> - <a href="#">C10N 2260/00</a></b>
2240/20	. Electrical or magnetic applications	2270/02	. concentrating of additives
2240/201	. . Dielectrics or insulators		
2240/202	. . for electric contacts	<b>2280/00</b>	<b>Specific pretreatment of the surface to be lubricated, e.g. phosphatising</b>
2240/203	. . Pantographs, i.e. printing devices		
2240/204	. . Magnetic recording mediums		
2240/205	. . Magnetic fluids		
2240/22	. Lubricating sealants		
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	. Supercritical or supercritical use		
2240/62	. Textile oils		
2240/64	. Slushing oils		
2240/66	. Medical uses		
<b>2250/00</b>	<b>Form or state of lubricant compositions in which they are used</b>		
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	. Microcapsules		
2250/18	. Composite materials, or sliding materials in which lubricants are integrally moulded		
<b>2260/00</b>	<b>Chemical after-treatment or modifications of compounds</b>		