

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 | 2040/13 | . . Aircraft turbines |
| NOTE | | 2040/14 | . Electric or magnetic purposes |
| | In this group, metals should be indexed according to their group of the Periodic Table. | 2040/16 | . . dielectric; Insulating oil |
| 2010/02 | . Group 1 | 2040/18 | . . in connection with recordings on magnetic tape or disc |
| 2010/04 | . Group 2 | 2040/20 | . Metal working |
| 2010/06 | . Group 3 | 2040/22 | . . with essential removal of material {, e.g. cutting; Cooling oil} |
| 2010/08 | . Group 4 | 2040/24 | . . without essential removal of material {Oil for deformation operations, e.g. drawing, rolling} |
| 2010/10 | . Group 5 | 2040/25 | . Internal combustion engines |
| 2010/12 | . Group 6 | 2040/26 | . . Two-stroke |
| 2010/14 | . Group 7 | 2040/28 | . . Rotary |
| 2010/16 | . Group 8 | 2040/30 | . Refrigerator lubricant |
| 2020/00 | Specified physical properties of component of lubricating compositions | 2040/32 | . Wire, rope or cable lubricants |
| 2020/02 | . Viscosity; Viscosity index | 2040/34 | . Lubricating-sealants |
| 2020/04 | . Molecular weight; Molecular weight distribution | 2040/36 | . Release agents |
| 2020/06 | . Particles of special shape or size | 2050/00 | Form in which the lubricant is applied to the material being lubricated |
| 2030/00 | Specified physical or chemical property which is improved by the additive characterising the lubricating composition, e.g. multifunctional additives | 2050/02 | . dissolved or suspended in a carrier which subsequently evaporates to leave a lubricant coating |
| 2030/02 | . Pour-point; Viscosity index | 2050/04 | . Aerosol |
| 2030/04 | . Detergent or dispersant property | 2050/06 | . Gaseous phase, at least during working conditions |
| 2030/06 | . Oiliness; Film-strength; Anti-wear; Resistance to extreme pressure | 2050/08 | . solid |
| 2030/08 | . Resistance to extreme temperature | 2050/10 | . semi-solids; greasy |
| 2030/10 | . Inhibition of oxidation, e.g. anti-oxidants | 2060/00 | Chemical after-treatment of the constituents of the lubricating composition |
| 2030/12 | . Inhibition of corrosion, e.g. anti-rust agents, anti-corrosives | 2060/003 | . {by organic hydroxy group containing compounds} |
| 2030/14 | . Metal deactivation | 2060/006 | . {by nitrogen containing compounds} |
| 2030/16 | . Antiseptic; Biocidal | 2060/02 | . Reduction, e.g. hydrogenation |
| 2030/18 | . Anti-foaming property | 2060/04 | . Oxidation, e.g. ozonisation |
| 2030/20 | . Colour, e.g. dyes | 2060/06 | . by epoxides |
| 2040/00 | Specified use or application for which the lubricating composition is intended | 2060/08 | . Halogenation |
| 2040/02 | . Bearings | 2060/10 | . by sulfur or a compound containing sulfur |
| 2040/04 | . Oil-bath; Gear-boxes; Automatic transmissions; Traction drives | 2060/12 | . by phosphorus or a compound containing phosphorus, e.g. P _x S _y |
| 2040/06 | . Instruments or other precision apparatus, e.g. damping fluids | 2060/14 | . by boron or a compound containing boron |
| 2040/08 | . Hydraulic fluids, e.g. brake-fluids | 2070/00 | Special methods of preparation |
| 2040/10 | . Running-in oil | 2080/00 | Special pretreatment of the material to be lubricated, e.g. phosphatising or chromatising of a metal |
| 2040/12 | . Gas-turbines | | |

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 | 2270/00 | Specific manufacturing methods for lubricant compositions or compounds not covered by groups C10N 2210/00 - C10N 2260/00 |
| 2240/20 | . Electrical or magnetic applications | 2270/02 | . concentrating of additives |
| 2240/201 | . . Dielectrics or insulators | | |
| 2240/202 | . . for electric contacts | 2280/00 | Specific pretreatment of the surface to be lubricated, e.g. phosphatising |
| 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 | | |
| 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 | . Microcapsules | | |
| 2250/18 | . Composite materials, or sliding materials in which lubricants are integrally moulded | | |
| 2260/00 | Chemical after-treatment or modifications of compounds | | |