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

NOTES

1. This subclass constitutes an indexing scheme associated with subclass C10M, relating to:
   - metals and the metal of a compound in group C10N 2010/00;
   - the properties of the lubricant composition or constituents thereof in groups C10N 2020/00, C10N 2030/00;
   - the use or application of the lubricant composition in group C10N 2040/00;
   - the form in which the lubricant composition is applied in group C10N 2050/00;
   - chemical modification by after-treatment of lubricant constituents in group C10N 2060/00;
   - special methods of preparation in group C10N 2070/00;
   - special pretreatment of the material to be lubricated in group C10N 2080/00.
2. In this subclass, the following terms or expressions are used with the meanings indicated:
   - "lubricant" or "lubricating composition" includes cutting oils, hydraulic fluids, metal drawing compositions, flushing oils, slushing oils, or the like;
   - "aliphatic" includes "cycloaliphatic".

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 . Groups 1 or 11
2010/04 . Groups 2 or 12
2010/06 . Groups 3 or 13
2010/08 . Groups 4 or 14
2010/10 . Groups 5 or 15
2010/12 . Groups 6 or 16
2010/14 . Group 7

WARNING

Group C10N 2010/14 is impacted by reclassification into group C10N 2010/16.

Groups C10N 2010/14 and C10N 2010/16 should be considered in order to perform a complete search.

2010/16 . Groups 8, 9, or 10

WARNING

Group C10N 2010/16 is incomplete pending reclassification of documents from group C10N 2010/14.

Groups C10N 2010/14 and C10N 2010/16 should be considered in order to perform a complete search.

2020/00 **Specified physical {or chemical properties or characteristics, i.e. function,} of component of lubricating compositions**

2020/01 . {Physico-chemical properties}
2020/011 . . {Cloud point}
2020/013 . . {Iodine value}
2020/015 . . {Distillation range}
2020/017 . . {Specific gravity or density}
2020/019 . . {Shear stability}
2020/02 . . Viscosity; Viscosity index
2020/04 . . Molecular weight; Molecular weight distribution
2020/055 . . {Particles related characteristics}
2020/06 . . . Particles of special shape or size
2020/061 . . . {Coated particles}
2020/063 . . . {Fibrous forms}
2020/065 . . {Saturated Compounds}
2020/067 . . {Unsaturated Compounds}
2020/069 . . {Linear chain compounds}
2020/071 . . {Branched chain compounds}
2020/073 . . {Star shaped polymers}
2020/075 . . {Dendrimers}
2020/077 . . {Ionic Liquids}
2020/079 . . {Liquid crystals}
2020/081 . . {Biodegradable compounds}
2020/083 . . {Volatile compounds}
2020/085 . . {Non-volatile compounds}
2020/09 . {Characteristics associated with water}
2020/091 . . {Water solubility}
2020/093 . . {Insolubility in water}
2020/095 . . {Crystal water containing compounds}
2020/097 . . {Refrigerants}

NOTE

{Indexing codes C10N 2020/099 - C10N 2020/106 are only used in association with group C10M 171/008

C10N 2020/097 (continued) to provide information about the specific refrigerant.}

2020/099 . . . {Containing Chlorofluorocarbons}
2020/101 . . . {Containing Hydrofluorocarbons}
2020/103 . . . {Containing Hydrocarbons}
2020/104 . . . {Containing Nitrogen}
2020/105 . . . {Containing Ammonia}
2020/106 . . . {Containing Carbon dioxide}

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

2030/02 . Pour-point; Viscosity index
2030/04 . Detergent property or dispersant property
2030/041 . . {Soot induced viscosity control}
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 or anti-corrosives
2030/14 . Metal deactivation
2030/16 . Antiseptic; {(micro)} biocidal {or bactericidal}
2030/18 . Anti-foaming property
2030/20 . Colour, e.g. dyes
2030/22 . {Degreasing properties}
2030/24 . {Emulsion properties}
2030/26 . {Waterproofing or water resistance}
2030/28 . {Anti-static}
2030/30 . {Anti-misting}
2030/32 . {Light or X-ray resistance}
2030/34 . {Fragrance or deodorizing properties}
2030/36 . {Seal compatibility, e.g. with rubber}
2030/38 . {Catalyst protection, e.g. in exhaust gas converters}
2030/40 . {Low content or no content compositions}
2030/41 . . {Chlorine free or low chlorine content compositions}
2030/42 . . {Phosphor free or low phosphor content compositions}
2030/43 . . {Sulfur free or low sulfur content compositions}
2030/44 . . {Boron free or low content boron compositions}
2030/45 . . {Ash-less or low ash content}
2030/50 . {Emission or smoke controlling properties}
2030/52 . {Base number [TBN]}
2030/54 . {Fuel economy}
2030/56 . {Boundary lubrication or thin film lubrication}
2030/58 . {Elastohydrodynamic lubrication, e.g. for high compressibility layers}
2030/60 . {Electro rheological properties}
2030/62 . {Food grade properties}
2030/64 . {Environmental friendly compositions}
2030/66 . {Hydrolytic stability}
2030/68 . {Shear stability}
2030/70 . {Soluble oils}
2030/72 . {Extended drain}
2030/74 . {Noack Volatility}
2030/76 . {Reduction of noise, shudder, or vibrations}
2030/78 . {Fuel contamination}

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
2040/042 . . {for automatic transmissions}
2040/044 . . {for manual transmissions}
2040/045 . . {for continuous variable transmission [CVT]}
2040/046 . . {for 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 {; Grinding}
2040/12 . Gas-turbines
2040/13 . . Aircraft turbines
2040/135 . {Steam engines or turbines}
2040/14 . Electric or magnetic purposes
2040/16 . . Dielectric; Insulating oil {or insulators}
2040/17 . . {for electric contacts}
2040/175 . . {Pantographs, i.e. printing devices}
2040/18 . . in connection with recordings on magnetic tape or disc
2040/185 . . {Magnetic fluids}
2040/20 . Metal working
2040/22 . . with essential removal of material {, e.g. cutting, grinding or drilling}
2040/24 . . without essential removal of material {, e.g. forming, gorging, drawing, pressing, stamping, rolling or extruding}; Punching metal
2040/241 . . {Manufacturing joint-less pipes}
2040/242 . . {Hot working}
2040/243 . . {Cold working}
2040/244 . . {of specific metals}
2040/245 . . . {Soft metals, e.g. aluminum}
2040/246 . . . {Iron or steel}
2040/247 . . . {Stainless steel}
2040/25 . Internal-combustion engines
2040/251 . . {Alcohol fueled engines}
2040/252 . . {Diesel engines}
2040/253 . . . {Small diesel engines}
2040/255 . . {Gasoline engines}
2040/26 . . . Two-strokes {or two-cycle engines}
2040/28 . . . Rotary {engines}
2040/30 . Refrigerators lubricants {or compressors lubricants}
2040/32 . Wires, ropes or cables lubricants
2040/34 . Lubricating-sealants
2040/36 . Release agents {or mold release agents}
2040/38 . {Conveyors or chain belts}
2040/40 . {Generators or electric motors in oil or gas winning field}
2040/42 . {Flashing oils or marking oils}
2040/44 . {Super vacuum or supercritical use}
2040/46 . {Textile oils}
2040/48 . {Slushing oils}
2040/50 . {Medical uses}

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

2050/01 . {Emulsions, colloids, or micelles}
2050/011 . . {Oil-in-water}
2050/013 . . {Water-in-oil}
2050/015 . {Dispersions of solid lubricants}
2050/02 . . dissolved or suspended in a carrier which subsequently evaporates to leave a lubricant coating

2050/023 . {Multi-layer lubricant coatings}
2050/025 . . {in the form of films or sheets}
2050/04 . Aerosols
2050/06 . Gaseous phase, at least during working conditions
2050/08 . Solids
2050/10 . Semi-solids; greasy
2050/12 . {Micro capsules}
2050/14 . {Composite materials or sliding materials in which lubricants are integrally molded}

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

2060/01 . {by organic hydroxy group containing compounds}
2060/02 . Reduction, e.g. hydrogenation
2060/04 . Oxidation, e.g. ozonisation
2060/06 . by epoxydes {or oxyalkylation reactions}
2060/08 . Halogenation
2060/09 . {Treatment with nitrogen containing compounds}
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 Specific manufacturing methods for lubricant compositions

2070/02 . {Concentrating of additives}

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