This Class 523 is considered to be an integral part of Class 520 (see the Class 520 schedule for the position of this Class in schedule hierarchy). This Class retains all pertinent definitions and class lines of Class 520.

**SYNTHETIC RESINS (CLASS 520, SUBCLASS 1)**

1. **Processes of preparing a desired or intentional composition of at least one nonreactant material and at least one solid polymer or specified intermediate condensation product, or product thereof**
   100. Food or tobacco contact composition or process of preparing
   101. Food release coating
   102. Odor masked, odor reduced or perfumed composition or process of preparing
   103. Composition having reduced health risks upon exposure thereto during incidental handling or body contact or process of preparing; other than friction elements
   105. Nonmedicated composition specifically intended for contact with living animal tissue or process of preparing; other than apparel
   106. Contact lens making composition
   107. Silicon-containing organic polymer
   108. Polymer of a heterocyclic N-vinyl polymerizable compound
   109. Dental or body impression taking material
   111. Compositions for use in tape adhesives, binder or impregnate for a body fluid adsorbent device, e.g., a surgical adhesive tape, etc.
   112. Non-thrombogenic

113. Composition suitable for use as tissue or body member replacement, restorative, or implant
114. Composition which anchors by ingrowth of surrounding tissue
115. Composition suitable for use as tooth or bone replacement, restorative, or implant
116. Cement or filling composition
117. Radio- or X-ray opaque
118. Sealant or adhesive
120. Denture plate repair, adhesive, cushion or modification composition, e.g., modification of denture base to improve fit, etc.
121. Aperture affecting composition, e.g., earplug, dilator, etc.
122. Composition having ingredient providing biocidal or biostatic protection thereto or process of preparing
123. Plant receptacle composition or process of preparing
124. Composition containing an additive which enhances degradation by environmental stimuli or process of preparing
125. By light, heat, or radiation
126. Containing organic salt of a transition metal
127. Containing organohalogen additive
128. Containing carbohydrate or cellular material derived from plant or animal
129. Composition containing nonresinous organic material derived from municipal solid waste disposal system or process of preparing
130. Composition for plugging pores in wells or other subterranean formations; consolidating formations in wells or cementing a well or process of preparing
CLASS 523 SYNTHETIC RESINS OR NATURAL RUBBERS -- PART OF THE CLASS 520 SERIES

131 ...Composition for treating unconsolidated or loose strata, e.g., sand consolidation, etc.
132 ...Composition for in situ soil conditioning or treating or process of preparing
134 ...Battery container or battery container cover composition or process of preparing
135 ...Solar energy absorption or solar reflection composition or process of preparing
136 ...Composition sensitive to or resistant to radioactive material or cathode rays (e.g., electron bombardment, etc.) or process of preparing
137 ...Electromagnetic wave absorbing composition or process of preparing (excludes visible, IR or UV portions of spectrum)
138 ...Composition for contact with hot propulsion or exhaust gas or process of preparing
139 ...Composition related to metal foundry molding or metallurgical furnace or process of preparing
140 ...Hot-top or taphole plug composition or process of preparing
141 ...Composition for metallurgical furnace or oven or process of preparing
142 ...Organic polyisocyanate or derived from polyisocyanate
143 ...Phenolic, amine, or ketone condensate with aldehyde
144 ...Furan-type material
145 ...Phenolic or amine or ketone condensate with aldehyde
146 ...With or derived from carboxylic acid or salt thereof, or organic sulfur material
147 ...With or derived from organic hydroxyl group containing material containing eight or more carbon atoms
148 ...Polyester based
149 ...Friction element composition or process of preparing
150 ...Nonskid or nonslip composition for vehicle or pedestrian movement
152 ...For wheeled vehicle
153 ...Containing fibrous or polycrystalline refractory oxide
155 ...Composition devoid of asbestos
156 ...Containing at least two organic materials, e.g., binder plus other organic material, etc.
157 ...Containing at least two organic materials, e.g., binder plus other organic material, etc.
158 ...Composition contains a phenolic, amine, or ketone condensate with aldehyde plus a polymer derived from ethylenic monomers only
159 ...Containing asbestos and at least one inorganic material
160 ...Printing ink composition for glass or ceramic substrate or process of preparing
161 ...Invisible, ballpoint, or typewriter ink compositions or process of preparing; or composition for correction ribbons or correction fluids or process of preparing
164 ...Lead pencil or marking crayon composition or process of preparing
166 ...Composition for puncture proof tire liner or in emergency tire repair (e.g., tire inflation, etc.) or process of preparing
167 ...Composition utilized in the manufacturing or repairing of shoes (excluding shoe heels or soles or polish) or process of preparing
168 ...Optical glass cementing or slide mounting composition or process of preparing
169 ...Antifogging or water repellent composition for optical or windshield application or process of preparing
170 ...Glass enamel composition or process of preparing

March 2012
171 Composition having opalescent, pearlescent, or variegated color or process of preparing
172 Pavement or sign marking or reflex reflecting composition or process of preparing
173 Cable filling or flooding composition or process of preparing
174 Phonograph record molding composition or process of preparing
175 Liquid-solid drag reduction composition or process of preparing
176 Anaerobic adhesive or thread sealing composition or process of preparing
177 Coating or adhesive composition for application to a wet or contaminated surface (e.g., underwater or oil-contaminated, etc.) or process of preparing
179 Intumescent coating or ablative composition or process of preparing
180 Solid propellant binder composition or process of preparing
181 Composition devoid of magnetic materials and suitable for preparation of magnetic tape recording or process of preparing
200 Process of forming a composition of a solid polymer or solid polymer forming system by admixing a product in the form of a surface coated, impregnated, encapsulated, or surface modified fiber, sheet, particle, or web, with a material; or composition which is the result of said admixing
201 Solid polymer particle enclosed in layer of diverse solid polymer, e.g., core-shell, etc.
202 Product having a monomeric ethylenic reactant material
203 Silicon ethylenic reactant
204 Product having an inorganic material surface coated onto an organic substrate
205 Product having a solid synthetic polymer or solid polymer-forming system
206 Product having two or more solid synthetic polymers, or a solid polymer and a solid polymer-forming system
207 Solid polymer or solid polymer-forming system is encapsulated in or impregnated in a nonreactant material
208 Solid polymer or solid polymer-forming system is or derived from an aldehyde or derivative
209 Product having a silicon atom
210 Product having a material encapsulated in or impregnated in a nonreactant material
211 Reactant or catalyst is material encapsulated or impregnated
212 Product having a silicon atom as part of an organic compound
213 Silicon containing organic material having an atom other than Si, C, H, or oxygen
214 Product having glass
215 Product having elemental carbon
216 Product having a silicon atom
217 Glass
218 Process of forming a composition having a nonreactant material selected for its special void characteristic; or composition containing same, e.g., syntactic foam, etc.
219 Glass void
220 Process of forming a composition having two or more solid materials having defined physical dimensions or surface areas; or composition containing same
221 Two or more solid synthetic polymers having defined physical dimension or surface area
222 Process of forming a composition having a fiber which is twisted, coiled, or involves specific mechanically interengaged fibers other than fibers solely of glass; or composition containing same, e.g., textiles, cloth, fiber bundles, mats, etc.

223 Process of forming a composition of a spheroidal material having physical dimension or composition containing same.

300 Utilizing direct application of magnetic, electrical, or wave energy.

303 Controlling process in response to a stated measurement or test.

305 Adding material to maintain a stated equilibrium condition wherein the added material does not merely displace an equal amount from the treatment zone.

306 Utilizing energy potential described as obtained as waste or by-product from a prior or concurrent operation.

307 Utilizing a temperature greater than 250 degrees C (482 degrees F) or less than 0 degrees C.

309 With removal or comminution of material at a temperature greater than 250 degrees C or less than 0 degrees C, e.g., freeze drying, etc.

310 Utilizing an ion exchanger or a solid sorptive material or semipermeable membrane.

312 Utilizing quiescent treatment condition.

313 Utilizing mixing in a manner designed to avoid or minimize turbulence or shear, e.g., laminar flow, etc.

315 Utilizing streams or masses moving relative to each other at a described angle of coincidence other than mere pouring, e.g., counter-current mixing, etc.

318 Utilizing stream or mass moving in a described attitude of presentment relative to a zone, vessel, or another apparently stationary mass or stream, excluding mere "pouring into", e.g., from above, below, tangentially, etc.

319 Utilizing treating or forming motion described by numerical data other than mere temperature, pressure, time, or amounts of material.

322 Rotational rate (RPM) or velocity.

323 Work input, e.g., horsepower-hour/pound, etc.

324 Utilizing a treatment zone specifically described by shape (other than nominally helical) or at least a part of which zone is specifically described by dimension, material, proportion, or angle or orientation.

326 Adding steam or hot water (T at least 60 degrees C, i.e., 140 degrees F).

328 Removal of material by treatment with hot water or steam, e.g., steam stripping, etc.

330 Utilizing a gaseous stream to suspend or agitate a particulate solid polymer composition, e.g., fluidized bed, etc.

331 Drying a composition which is situated on a moving substrate or drying utilizing a thin film evaporator.

332 Extracting material from solid polymer latex or aqueous dispersion or suspension with a liquid nonreactant material, e.g., solvent stripping, coprecipitation, etc.

333 Admixing a nonreactive additive ingredient in the form of a slurry, dispersion, or suspension (liquid-solid); said slurry dispersion or suspension containing no solid polymer or SICP.
...Slurried, dispersed, or suspended ingredient admixed with previously formed latex, aqueous dispersion or aqueous suspension of a solid polymer

...Creaming, agglomerating, or coalescing a solid polymer latex or aqueous dispersion wherein solid polymer latex or aqueous dispersion is the result

...Inverting phase relationships or reapporitoning the distribution of ingredients among phases

...Inversion to form water-in-oil system

...With removal of a phase

...Removing material at reduced pressure, e.g., flashing, sublimation, spray drying, etc.

...With step of spraying or centrifuging

...Treating an intentional composition with a step of removing and recycling material into the composition

...Multistep operation achieved within a stated interval of time, e.g., total cycle time, etc.

...Utilizing plural mixing operations of specified varying intensity, e.g., intensity of each mixing is reduced, etc.

...Utilizing plural discrete pressures different than ambient

...Utilizing plural interconnected distinct forming or treating zones or locations other than nominal screw extruder, e.g., zones interconnected in parallel or having varying flow velocity, etc.

...Utilizing plural mixing operations in preparation of a solid polymer inert ingredient concentrate, e.g., master batch, etc.

...Utilizing multistage coagulation of a solid polymer latex

...Utilizing plural discrete mixing operations in specifically described distinct noninterconnected zones

...Radioactive or Group VIIIA atom containing NRM

...Process of forming a composition containing a nonreactive material (NRM) and a polymer containing more than one 1,2-epoxy group, or a preformed polymer derived from or admixed with a reactant containing more than one 1,2-epoxy group, or with a polymer derived from an epihalohydrin and a polyhydric phenol or polyol; or composition or product thereof

...Contains inorganic water settable material NRM

...Product contains water per se or water of hydration as designated nonreactive material (DNRM)

....Two or more polymers containing more than one 1,2-epoxy group, two or more polymers derived from reactants containing more than one 1,2-epoxy group, or combination thereof, or one of said polymers and a reactant containing at least one 1,2-epoxy group

......With organic nitrogen or organic sulfur reactant

......Solid polymer derived from ethylenic reactants only (includes in situ reactants from plural 1,2-epoxides)

......Polymer derived from ethylenic reactants only is graft, graft-type, block, or block-type copolymer

......Two or more polymers derived from ethylenic reactants only

......Polymer derived from ethylenic reactants only derived from reactant containing chalcogen

......Polymer derived from ethylenic reactant only derived from reactant containing oxygen heterocycle
411 ...Polymer derived from ethylenic reactants only derived from reactant containing nitrogen

412 ...Polymer from ethylenic reactants only derived from reactant-containing carboxylic acid ester

413 ...Polymer derived from ethylenic reactants only derived from plural unsaturated reactant

414 ...Polymer contains more than one 1,2-epoxy group or one derived from reactant containing more than one 1,2-epoxy group is further derived from or reacted with organic nitrogen or sulfur

415 ...Organic nitrogen compound contains isocyanate group

416 ...Organic nitrogen compound is amine-aldehyde condensation product

417 ...Two or more organic nitrogen compounds as reactants

418 ...Organic nitrogen compound contains N-(C)*-(C=O) - group where *= subscript 0,1,2 . . . e.g., protein, etc.

420 ...Organic nitrogen compound contains three or more nitrogen atoms other than as solid polymer, e.g., diethylene triamine, etc.

421 ...Organic nitrogen compound contains element other than C, H, O, or N

422 ...Polymer is graft, graft-type, block, or block-type copolymer

423 ...Polymer is phenol-aldehyde condensation product

424 ...Polymer derived from silicon reactant

425 ...Polymer derived from silicon reactant

426 ...Carboxylic acid, ester, or salt thereof DNRM

427 ...Composition wherein two or more polymers or a polymer and a reactant all contain more than one 1,2-epoxy group, or product thereof

428 ...With reactant nitrogen or sulfur compound

429 ...Organic nitrogen compound contains N-heterocycle

430 ...Designated nonreactive material (DNRM) has numerically specified characteristics, e.g., particle size, density, etc., other than viscosity, m.p., b.p., molec. wt., chemical composition or percentage range

431 ...Heavy or transition metal or compound thereof

432 ...Silicon

433 ...Polymer derived from reactant containing element other than C, H, O, or N or chloride-containing reactant of three or more carbon atoms

434 ...Polymer derived from ethylenic reactants only

435 ...Solid polymer derived from reactant containing element other than C, H, O, or N or chloride-containing reactant of three or more carbon atoms

436 ...Polymer is graft, graft-type, block, or block-type

437 ...Two or more polymers derived from ethylenic reactants only

438 ...Polymer derived from ethylenic reactants only derived from plural unsaturated reactant

439 ...Polymer derived from ethylenic reactants only derived from heterocyclic reactant other than 1,2-epoxy solely

440 ...Designated nonreactive material (DNRM) has numerically specified characteristics, e.g., particle size, density, etc., other than viscosity, m.p., b.p., molec. wt., chemical composition or percentage range

441 ...Heavy or transition metal or compound thereof

442 ...Silicon

443 ...Silicon

444 ...Glass

445 ...Boron DNRM

446 ...Biologically derived cellular material other than cereal, cotton, or diatomaceous earth DNRM

447 ...Carbohydrate or derivative including tannin or derivative DNRM

448 ...Cellulose derivative containing -C(=O)OR or N

449 ...Protein or biologically active polypeptide DNRM

450 ...Coal, asphaltic, or bituminous material DNRM

451 ...Phosphorus DNRM

452 ...Phosphorus directly bonded to nitrogen

453 ...Organic sulfur compound DNRM

454 ...Ketone or aldehyde DNRM
455  ...Carboxylic acid or derivative
    devoid of heavy metal atom
    DNRM
456  ...Organic chalcogen compound
    DNRM
457  ...Elemental metal or metal
    compound other than as
    silicate DNRM
458  .....Transition metal
459  .....Heavy metal
460  .....Group VA metal (As, Sb, Bi)
461  ...Organic nitrogen compound DNRM
462  ...Halogenated hydrocarbon other
    than carbon tetrachloride,
    chloroform, or methylene
    chloride DNRM
463  ...Hydrocarbon other than
    xylene, benzene, or toluene
    DNRM
464  .....Hydrocarbon having ethylenic
    unsaturation
465  .....Hydrocarbon wax
466  ...Inorganic SI-O bond DNRM
467  .....Polymer derived from
    ethylenic reactants only
468  ...Elemental carbon DNRM
500  ..Process of forming a
    composition of an
    ethylenically unsaturated
    reactant or ethylenically
    unsaturated polymer admixed
    with nonreactive material
    (NRM) and a polyester whose
    polymer backbone was derived
    through the direct formation
    of the ester linkage, e.g.,
    polycaprolactone, etc., or
    product thereof
501  ...Product contains water per se
    or water of hydration as DNRM
    or admixed with other
    designated nonreactant
    material
502  .....Composition contains water-
    in-oil or oil-in-water mixture
503  .....Organic nitrogen DNRM
504  .....Organic chalcogen DNRM
505  .....Metal compound other than
    silicate as DNRM
506  .....Phosphorus DNRM
507  .....Organic sulfur DNRM
508  .....Organic compound containing
    nitrogen DNRM
509  ...Carbohydrate or derivative
    including tannin or derivative
    DNRM
510  ...Phenol, phenol ether, or
    phenolate salt DNRM
511  ...Organic chalcogen other than
    metallocarboxylate salt, e.g.,
    diethylene glycol, etc., DNRM
512  ...Elemental metal or elemental
    carbon DNRM
513  ...Designated nonreactive
    material (DNRM) has
    numerically specified
    characteristic, e.g., particle
    size, density, etc., other
    than viscosity, m.p., b.p.,
    molec. wt., chemical
    composition or percentage
    range
514  ...Metal atom other than as
    silicate DNRM
515  .....Transition metal atom
516  .....Heavy metal atom
517  ...Halogenated hydrocarbon other
    than methylene chloride,
    chloroform, or carbon
    tetrachloride DNRM
518  ...Bituminous, coal, or
    hydrocarbon other than
    benzene, toluene, or xylene or
    mixtures thereof DNRM
521  ...Inorganic silicon atom other
    than glass DNRM
522  ...Contains graft, graft-type,
    block, or block-type copolymer
523  ...Contains solid polymer derived
    from ethylenic reactants only,
    one of which contains
    chalcogen; or solid polymer
    reacted with ethylenic
    reactant containing chalcogen
526  ...Contains polymer derived from
    ethylenically unsaturated
    reactant only
527  ...Glass DNRM

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