

CLASS 510, CLEANING COMPOSITIONS FOR SOLID SURFACES, AUXILIARY COMPOSITIONS THEREFOR, OR PROCESSES OF PREPARING THE COMPOSITIONS

SECTION I - CLASS DEFINITION

This class is an integral part of Class 252, as shown by the position of the box identifying this class in the Class 252 schedule. As such, this class is subject to the Class Definition and Notes of Class 252, except as noted in the box.

(1) STATEMENT OF CLASS SUBJECT MATTER

This class includes the following subject matter, not provided for elsewhere, when a utility set forth below is either (a) claimed or (b) solely disclosed.

(A) CLEANING COMPOSITIONS FOR SOLID SURFACES which are specialized and designed for, or peculiar to, use in cleaning or removing foreign matter from solid surfaces.

(B) AUXILIARY COMPOSITIONS, PER SE, for perfecting the cleaning compositions of this class or for perfecting a cleaning process (e.g. rinse- or dryer-added fabric softener compositions, etc.) for which there is no provision elsewhere.

(C) COMPOSITIONS OF THIS CLASS DEFINED IN TERMS OF SPECIFIC PHYSICAL STRUCTURE (E.G., TABLET, COATED PARTICLE, ETC.) - The lines generally prevailing between the composition classes and the article classes are applicable to Class 510 unless otherwise indicated, with the exception that Class 510 provides for a composition, per se, defined in terms of specific structure, having a utility for Class 510.

(D) PACKAGES of compositions of this class, or other articles which releasably enclose or support such compositions, for which there is no provision elsewhere.

(E) PROCESSES OF PREPARING subject matter of A - D not provided for elsewhere.

(2) CLASSIFICATION GUIDELINES FOR THIS CLASS

(A) In this class, the classification of a composition is based on its primary utility as (a) a cleaning agent or (b) an auxiliary agent for perfecting a cleaning composition or a given stage of a cleaning process.

(1) Within category (a), above, the classification is based on (i) the claimed or solely disclosed utility for cleaning a specific substrate or removing a specific contaminant; or, for all-purpose cleaning compositions, or (ii) the presence of a specified perfecting component; (iii) the physical form of the claimed composition; (iv) the particular process of preparing the composition; and (v) the chemical nature of the components of the composition.

(2) Within category (b) of section A, above, the classification is based on (i) the claimed or solely disclosed utility as a perfecting component for a cleaning composition or as an auxiliary composition for cleaning, with further placement according to criteria (ii), (iii), and (v) of section A, (1), above.

(3) Within category (v) of section A (1), above, the chemical structure of the components of a composition disclosed as having a utility set forth in section A (1), above, is used as the primary basis of classification. Processes of using compositions or compounds, per se, and processes of making the compositions, not provided for elsewhere, are classified in the first appearing subclass providing for the particular component being employed or prepared.

(B) The rule followed in classifying a patent having separate claims to several species of a given ingredient which fall into different subclasses is that the patent is placed as an original in the first appearing subclass providing for the claimed subject matter and cross-referenced to the appropriate lower subclass(es). Where there are one or more indents under the generic subclass and one of the claimed species is not provided for specifically by any of these indents the patent is placed as original in the generic subclass, since this is the first appearing subclass providing for said individually claimed species. In classifying a patent containing Markush type claims (e.g., "group consisting of X and Y") and no species claims, the original patent is placed in the first appearing subclass providing for the species (members) in the Markush group. If, in addition to the Markush group, there are species claims, the first cited rule, governing a patent having separate species claims, is followed. The same rules apply to subject matter within the meaning of categories (i)-(iv) of section A, 1, above, by analogy with the "species" concept.

(C) Patents claiming subject matter coming within the Special Subclasses 101 through 107 have been classified on the basis of the claimed or disclosed function and the chemical structure of the active component (i.e.,

fragrance or aroma enhancer), and include compositions which otherwise would fall within subclasses 108 through 537 as originals.

(D) In determining the utility of a composition recited in broad terms (e.g., “a cleaning composition comprising,” “a fabric softener composition comprising,” etc.), use is made of the specific utility recited in any nominal method-of-use claims to determine placement of the patent within the categories of (a)(i) or (b)(i) of section A, above (e.g., the recitation of “a process of defluxing a printed circuit” or “a process of softening a fabric in the rinse cycle of an automatic washer” would place each patent in subclasses 175+ and 521+, respectively).

(E) Mere presence of a surfactant component is insufficient for placement of a patent in subclasses 108 through 512 of this class, since surface-active agents are used in minor amounts as emulsifying, suspending, dispersing, etc., agents in many other compositions, such as bleaches, fabric softeners, etc. The placement of such a patent is determined by the ultimate utility of the claimed composition.

(F) A patent claiming a cleaning or auxiliary composition without specifying its physical form has been placed as an original in the first subclass providing for the claimed composition as if a structureless powder were recited in the claims, and crossed into appropriate subclasses providing for any other disclosed or exemplified physical forms (e.g., liquid, tablet, etc.).

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

(A) GENERAL CLASS LINES

(1) COMPOUND CLASSES

a. Where a patent claims a Class 510 utility in nominal terminology only (e.g., “A process of producing a biodegradable detergent compound”) and there are no claims to a Class 510 method of use or a true mixture, the original has been placed with the compound claimed.

(b) Where a patent claims a composition wherein, in addition to a compound, (i) another ingredient is recited, however broadly, or (ii) proportions are recited, the original has been placed in Class 510. Some examples of claims using broad terminology and included herewith are: “A cleaning composition comprising a surfactant of

the formula,” “with a detergent builder,” “A cleaning composition comprising 1 to 5% of compound X,” etc.

(2) COMPOSITION CLASSES

The rules for determining Class placement of the Original Reference (OR) for claimed chemical compositions are set forth in the Class Definition of Class 252 in the section LINES WITH OTHER CLASSES AND WITHIN THIS CLASS, subsection COMPOSITION CLASS SUPERIORITY, which includes a hierarchical ORDER OF SUPERIORITY FOR COMPOSITION CLASSES.

(3) PROCESS OF USE CLASSES

The following general lines exist between Class 510 and other classes providing for cleaning processes or containing patents wherein the claims recite a process of cleaning a solid substrate as provided for in that class.

(a) Where a patent claims a cleaning composition and a nominal process of using the composition, the original has been placed with the claimed composition. Some examples of nominal terminology are: “applying the composition and removing it [by rinsing, wiping, etc.],” “immersing the article to be cleaned in a cleaning bath containing the composition,” etc.

(b) Where a cleaning composition, per se, is not claimed or where the claimed cleaning process involves significant process steps in using a claimed composition, the original has been placed with the claimed cleaning process. Examples of significant process steps include the use of a cleaning bath or medium at a specified non-ambient temperature, specified non-standard pretreatment and/or after-treatment step in addition to contact with the cleaning composition, etc.

(B) LINES WITH RELATED CLASSES

CLASS 8

(1) Class 8, Bleaching And Dyeing; Fluid Treatment And Chemical Modification Of Textiles And Fibers, provides for processes of bleaching, dyeing, cleaning, and laundering of textile materials. Class 8 also provides for optical brightener or blueing agent compositions.

(2) Class 510 provides for compositions for cleaning or laundering textile materials, and for any accompanying method of use claims reciting the mere application of claimed composition.

(3) Class 510 provides for cleaning compositions comprising a bleach, optical brightener, or blueing agent as a perfecting component.

CLASS 15

(1) Class 15, Brushing, Scrubbing, And General Cleaning, provides for cleaning implements coated or impregnated with a cleaning composition.

(2) Class 510 provides for cleaning compositions enclosed in or supported on an inactive material which merely serves to dispense a required amount of the cleaning composition.

CLASS 51

(1) Class 51, Abrasive Tool Making Process, Material, Or Composition, provides for abrasive compositions, per se.

(2) Class 510 provides for cleaning compositions which include an abrasive material as a perfecting component.

CLASS 106

(1) Class 106, Compositions: Coating Or Plastic, provides for coating compositions which form a film of polish on the base or prevent the formation of fog, frost, or ice thereon.

(2) Class 510 provides for cleaning compositions which include a component which deposits a film on the cleaned surface to provide a polished appearance or to prevent the formation of fog, frost, or ice on the surface.

CLASS 134

(1) Class 134, Cleaning And Liquid Contact With Solids, provides for processes of cleaning solid surfaces.

(2) Class 510 provides for compositions for cleaning solid surfaces, as well as any accompanying method of use claims reciting the mere application of the claimed composition.

CLASS 206

(1) Class 206, Special Receptacle Or Package, provides for packages or containers wherein the material for the container or content is specified.

(2) Class 510 provides for cleaning compositions or

auxiliary compositions therefor which are enclosed in a defined package or container.

CLASS 252

(1) Class 252, Compositions, provides for compositions which form a permanent finish on textile materials and for compositions which enhance the appearance of consumer textile goods.

Class 510 takes textile cleaning and auxiliary compositions therefor having a fabric softening or antistatic component or a soil release or antisoiling component which is removed by subsequent laundering.

(2) Class 252 provides for dust suppressing compositions for bulk materials and for compositions for coating or impregnating a substrate used for collecting fine solid particles by adherence.

Class 510 takes compositions which bind or suppress dust in the course of a floor sweeping operation.

(3) Class 252 provides for water-softening or water-purifying or scale-inhibiting agents and for optical brightening compositions.

Class 510 takes cleaning compositions for solid surfaces which include a water-softening, scale-inhibiting or optical-brightening component, as well as for auxiliary compositions specifically designed for use with cleaning compositions which include a water-softening or scale-inhibiting component (e.g., detergent builder compositions, etc.) or an optical brightener (e.g., textile softening or antistatic compositions containing an optical brightener, etc.).

(4) Class 252 provides for oxidative or reductive bleachant, oxidant, reductant, and deoxidant compositions.

Class 510 takes cleaning compositions for solid surfaces and auxiliary compositions therefor which include a chemical bleach, oxidant, reductant, or deoxidant component.

(5) Class 252 provides for foam suppressant compositions and for wetting, emulsifying, or colloid dispersing or stabilizing surfactant compositions.

Class 510 takes cleaning compositions comprising a foam suppressing component or a surfactant component, as well as auxiliary surfactant compositions designed for use as a component in a cleaning composition.

(6) Class 252 provides for solvent compositions and mere soap compositions having a general utility.

Class 510 takes solvent containing compositions adapted for cleaning a solid surface as well as a cleaning composition which comprises soap as a component or consists of soap in a physical form suitable for direct use in cleaning (e.g., liquid, flake, bar, etc.).

CLASS 424

(1) Class 424, Drug, Bio-affecting And Body Treating Compositions, provides for biocidal compositions, including disinfectants or antiseptic compositions, per se.

Class 510 takes cleaning compositions and auxiliary compositions therefor protected against biological attack by a Class 424 composition, or containing a biocidal or antiseptic component as a perfecting ingredient.

(2) Class 424 provides for dentifrice compositions for oral use.

Class 510 takes compositions for cleaning removable dentures.

(3) Class 424 provides for shaving preparations, for medicated (e.g., antidandruff, etc.) hair shampoo compositions, and for hair conditioning, antitry, or softening compositions, per se (e.g., creme rinse, etc.).

Class 510 takes nonmedicated hair shampoo compositions, as well as shampoos comprising a conditioner, antistatic agent, or softener as a perfecting component which restores any natural moisture or suppleness lost in the cleaning process.

(4) Class 424 provides for medicated or emollient skin treating compositions, per se (e.g., moisturizing cream, lotion, etc.).

Class 510 takes nonmedicated compositions for cleansing human skin, as well as such cleansing compositions comprising an emollient as a perfecting component which restores any natural moisture and oils lost in the cleansing process.

CLASS 435

(1) Class 435, Chemistry: Molecular Biology And Microbiology, provides for enzymes, per se, which are not more specifically provided for elsewhere, and stabi-

lized, immobilized, granular, or free-flowing enzyme compositions, unless a Class 510 utility is recited in the claim or is the sole utility disclosed. Class 435 also takes processes of cleaning using an enzyme and processes of preparing the above compositions.

(2) Class 510 takes enzyme compositions which are claimed or solely disclosed for use as a perfecting component in a cleaning composition, as well as cleaning compositions containing enzymes.

CLASS 514

Class 514, Drug, Bio-affecting And Body Treating Compositions, is an integral part of Class 424 (after subclass 780) and follows the schedule hierarchy, retaining all pertinent definitions and class lines of Class 424.

CLASS 516

Class 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, appropriate subclasses for subject matter relating to: colloid systems (such as sols*, emulsions, dispersions, foams, aerosols, smokes, gels, or pastes) or wetting agents (such as leveling, penetrating, or spreading); subcombination compositions of colloid systems containing at least an agent specialized and designed for or peculiar to use in making or stabilizing colloid systems; compositions and subcombination compositions specialized and designed for or peculiar to use in breaking (resolving) or inhibiting colloid systems (such as foam suppressants); processes of making the compositions or systems of the class; processes of breaking (resolving) or inhibiting colloid systems; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

Class 510 takes cleaning compositions comprising a foam suppressing component or a surfactant component, as well as auxiliary surfactant compositions designed for use as a component in a cleaning composition.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclasses 137+ for processes of cleaning or laundering textile materials; subclass 648 for optical brightening or blueing compositions for

- textile materials, per se; and subclass 94.16 for hair removing compositions and processes. See the main class definition for the compositions classified therein.
- 15, Brushing, Scrubbing, and General Cleaning, for dust cloths, mops, or other cleaning devices which include detergents.
- 44, Fuel and Related Compositions, subclass 640 for a composition which in the presence of burning solid fuel serves to prevent or remove deposits (e.g., soot, etc.) from the walls of combustion apparatus.
- 51, Abrasive Tool Making Process, Material, or Composition, for a composition for grinding, polishing, or abrading.
- 134, Cleaning and Liquid Contact With Solids, for washing or cleaning processes which include use of detergents or other cleaning compositions included in Class 510.
- 252, Compositions, subclasses 8.61+ for durable finishes for textile materials, including anti-static and textile softening compositions; subclasses 8.81+ for textile processing aid compositions, such as lubricants; subclass 8.91 for consumer-goods appearance enhancing compositions, such as antistatic sprays; subclasses 79.1+ for etching or brightening acidic or alkaline compositions; subclasses 88.1 and 88.2 for dust or particle adherent compositions; subclasses 175+ for water softening or purifying or scale-inhibiting agents which are not specifically adapted for use as detergent builders; subclasses 181.1+ for getter and gas or vapor generating compositions for electric lamps, electric space discharge devices, and other evacuated or gas or vapor filled containers; and subclass 367.1 for mere soap compositions not adapted for direct use as cleaning agents.
- 401, Coating Implements With Material Supply, appropriate subclasses, particularly subclasses 196+, 261+, and 268+, for a coating implement with material supply, used for cleaning.
- 424, Drug, Bio-Affecting and Body Treating Compositions, subclasses 49+ for an oral dentifrice, subclasses 70.1+ for a live hair treating composition other than a shampoo (e.g., a hair conditioner, etc.), subclasses 43+ and 73 for a shaving preparation, and subclass 78.04 for an ophthalmic preparation (e.g., for preserving a contact lens).
- 514, Drug, Bio-Affecting and Body Treating Compositions, for a medicated shampoo composition.

- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, appropriate subclasses for subject matter relating to: colloid systems (such as sols*, emulsions, dispersions, foams, aerosols, smokes, gels, or pastes) or wetting agents (such as leveling, penetrating, or spreading); subcombination compositions of colloid systems containing at least an agent specialized and designed for or peculiar to use in making or stabilizing colloid systems; compositions and subcombination compositions specialized and designed for or peculiar to use in breaking (resolving) or inhibiting colloid systems (such as foam suppressants); processes of making the compositions or systems of the class; processes of breaking (resolving) or inhibiting colloid systems; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

SECTION IV - GLOSSARY

Note. The meaning to be given the various "art" terms appearing in this class, which have not been included in the GLOSSARY below, is the same as that generally accepted or in common usage. However, certain terms employed in this class (510), which are included below, have been assigned definitions tailored to meet the needs of this class and therefore these may be more restricted or less limited or even altogether different from those in common usage. Their use in any particular subclass is to be consistent with the meaning in this Glossary. See the glossary in Class 532 for definitions of other chemical terms used in this Class.

ANIONIC SUBSTITUENT

Denotes that portion of an organic compound which is negatively charged in an aqueous solution at a neutral pH (i.e., pH=7) and is attached to the portion of the molecule of higher molecular weight by covalent bonding. Examples of common anionic substituents include carboxyl, sulfate, or phosphate monoester or sulfonate groups, as well as their salts, including betaines.

CARBOXAMIDO

Denotes a substituent wherein a trivalent nitrogen atom is single bonded to a carbonyl (-C(=O)-) group.

CARBOXYL (CARBOXYLIC ACID)

Denotes the presence of a $-C(=O)OH$ group.

CATIONIC SUBSTITUENT

Denotes that portion of an organic compound which is positively charged in an aqueous solution at a neutral pH (i.e., pH=7) and is attached to the portion of the molecule of higher molecular weight by covalent bonding. Examples of common cationic substituents include primary, secondary, or tertiary amino groups, as well as quaternary ammonium substituents.

CORROSION (SEE METAL CORROSION)

CREAM

Denotes a thick, usually opaque, emulsion having little or no tendency to flow.

GEL

Denotes a colloidal solution of liquid in solid having a thick consistency with little or no tendency to flow.

HETEROCYCLIC

Denotes an organic compound wherein one or more carbon atoms are covalently bonded in a ring system with at least one hetero atom of oxygen, sulfur, nitrogen, selenium, or tellurium and having no other atoms in the ring.

HIGHER FATTY ACID

Denotes a monocarboxylic acid having an acyclic chain of at least seven uninterrupted carbons attached directly to the carboxyl carbon by covalent bonding.

LIGNIN

Denotes a material usually derived during paper pulp manufacture by separation of the cellulose from wood. Lignin is considered to be the binder for cellulose in wood. Lignin includes crude mixtures of lignose, lignone, and lignin. Lignin, per se, is a complex structure having some aromatic rings and phenolic groups.

LIQUID

Denotes a shapeless, fluid composition of high incom-

pressibility. Included herein are pumpable or flowable slurries or suspensions.

MACROSCOPIC

Denotes a shape discernible by the naked eye.

METAL CORROSION

For purposes of this class, the term denotes impairment or deterioration of a metal surface, such as erosion, embrittlement, tarnishing, or discoloration, usually by chemical action.

NONIONIC COMPOUND

Denotes an organic compound devoid of cationic or anionic substituents and thus lacking any ionic charge at a neutral pH (i.e., pH=7).

ORGANIC

Denotes compounds containing carbon which are further characterized by the presence in a molecule thereof of two carbon atoms bonded together, or one atom of carbon bonded to at least one atom of hydrogen or halogen, or one atom of carbon bonded to at least one atom of nitrogen by a single or double bond.

- (1) Note. Compounds included within this definition, but not considered organic for purposes of this class are hydrocyanic acid, cyanogen, isocyanic acid, cyanamide, dicyanamide, cyanogen halides, isothiocyanic acid, fulminic acid, and metal carbides.

SOAP

Denotes a water-soluble alkali metal (Li, Na, K, Rb, or Cs), ammonium or organic base salt (e.g., phosphonium, substituted ammonium, etc.) of an unsubstituted or hydroxy-substituted, saturated or unsaturated, higher fatty acid, or of rosin (abietic) acid, or of mixtures of any of these acids.

SULFOXY

Denotes a substituent having at least one oxygen atom double bonded to a tetravalent or hexavalent sulfur atom.

SURFACE-ACTIVE AGENT (SURFACTANT)

Denotes an organic compound which alters (usually

reduces) the surface tension of a liquid, thus facilitating cleaning. Surface-active agents are commonly referred to as surfactants, emulsifiers, wetting agents, or simply detergents, as distinct from detergent compositions which include additional components, such as detergent builders or other cleaning auxiliaries. A surfactant molecule contains a hydrophobic (water-repelling) portion which is frequently an alkyl radical having a straight chain of eight or more carbons, and a hydrophilic (water-attracting) portion. For purposes of this class, the broad categories of surfactants are based on the nature of the hydrophilic portion of the molecule.

- (1) Note. An anionic (anion-active) surfactant, referred to in the schedule as "anionically substituted," includes a hydrophilic portion which is most commonly a water-soluble salt of a carboxylic or sulfonic acid, or of a long-chain alcohol ester of sulfuric, phosphoric, or phosphonic acid (e.g., sodium higher alkyl sulfonate, etc.).
- (2) Note. A cationic (cation-active) surfactant includes a hydrophilic portion which is a cation (i.e., positively charged ion), such as an ammonium or quaternary ammonium salt, having a long-chain alkyl substituent (e.g., higher-alkyl quaternary ammonium salts, etc.).
- (3) Note. A nonionic surfactant includes a hydrophilic portion which commonly is a poly(ethylene oxide) moiety (i.e., polyether chain) attached to a hydrophobic portion which may be nonpolar or have a lower degree of polarity than the hydrophilic part, such as poly(propylene oxide), higher alkyl, etc.
- (4) Note. A zwitterionic, amphoteric, or ampholytic surfactant includes both an anionic and a cationic portion connected by a covalent bond, usually indirect (e.g., betaines, amino acids, etc.).
- (5) Note. Semipolar nonionic surfactants include water-soluble amine and phosphine oxides and sulfoxides.
- (6) Note. Soap, for purposes of this class, is an alkali metal, ammonium or organic base salt of an unsubstituted or hydroxy-substituted, saturated or unsaturated higher fatty acid, or of rosin (abietic) acid, or of mix-

tures of any of these acids. These salts are water-soluble and are considered to be anionic surfactants.

SUBCLASSES

100 WITH SAFETY OR INDICATOR FEATURE:

This subclass is indented under the class definition. Compositions which include a feature inherent in the composition, per se, rather than in the packaging, alerting the user to the presence of a hazardous material or to completion of a cleaning process or stage thereof.

- (1) Note. Included among such features are, for example, color or odor change responsive to pH, concentration, presence of toxic materials, completion of the cleaning process, etc.

101 WITH OXYGEN, HALOGEN, SULFUR, OR NITROGEN CONTAINING OR ETHYLENICALLY UNSATURATED COMPONENT WHICH IS A FRAGRANCE OR AROMA ENHANCER (E.G., PERFUME, ORGANOLEPTIC MATERIAL, ETC.):

This subclass is indented under the class definition. Compositions which include a specific component which functions as a fragrance or aroma enhancer and contains oxygen, halogen, sulfur, nitrogen, or ethylenic unsaturation.

- (1) Note. Compositions merely reciting a perfume or odorant component, without specifying any of its chemical constituents, are excluded from this and indented subclasses for placement as originals.
- (2) Note. This subclass is generic to both cleaning and auxiliary compositions for cleaning which contain a specific fragrance or aroma enhancing component.

102 Ring in the component (e.g., benzene, 5-membered ring, etc.):

This subclass is indented under subclass 101. Compositions wherein the specific fragrance or aroma enhancer component includes a ring.

- 103 Heterocyclic ring:**
This subclass is indented under subclass 102. Compositions wherein the ring includes chalcogen or nitrogen atom(s) in addition to carbon.
- (1) Note. The chalcogen atoms completing the heterocyclic ring are selected from O, S, Se, and Te.
- 104 Polycyclo ring system (e.g., camphor, cedar oil, borneol, etc.):**
This subclass is indented under subclass 102. Compositions wherein the specific fragrance or aroma enhancer component includes a system of two or more rings wherein two of the rings share at least two carbon atoms with each other.
- (1) Note. Examples of such systems are bridged, orthofused, etc., polycyclo ring systems.
- 105 Acyclic carbonyl (-C(=O)-) attached directly or indirectly to the system by nonionic bonding:**
This subclass is indented under subclass 104. Compositions wherein the polycyclo ring system includes an acyclic carbonyl containing substituent which is attached to the system by direct or indirect nonionic bonding.
- 106 Six-membered alicyclic ring (e.g., menthol, etc.):**
This subclass is indented under subclass 102. Compositions wherein the ring in the specific component is alicyclic and contains six carbons.
- 107 Carboxylic or thiocarboxylic ester function in the component:**
This subclass is indented under subclass 101. Compositions wherein the specific fragrance or aroma enhancer component carries a carboxylic or thiocarboxylic ester substituent.
- (1) Note. A thiocarboxylic ester function is an analog of a carboxylic ester wherein at least one oxygen of the -C(=O)O- group is replaced by sulfur.
- 108 CLEANING COMPOSITIONS OR PROCESSES OF PREPARING (E.G., SODIUM BISULFATE COMPONENT, ETC.)**
This subclass is indented under the class definition. Compositions specialized and designed for, or peculiar to, use in cleaning or removing foreign matter from solid surfaces, or processes of preparing such compositions.
- (1) Note. This is a generic subclass for all cleaning compositions, whether of all-purpose utility or tailor-made for cleaning a particular substrate or removing a single contaminant, as well as for processes of preparing the compositions.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
513+, for auxiliary compositions for cleaning.
- 109 For cleaning a specific substrate or removing a specific contaminant (e.g., for smoker's pipe, etc.):**
This subclass is indented under subclass 108. Compositions specialized and designed for, or peculiar to, cleaning a specifically identified substrate or removing a specifically identified contaminant.
- (1) Note. Terms such as "hard surface" or "general household" cleaner are not considered to be specific for the purpose of placement of patents in this and indented subclasses.
- (2) Note. For purposes of this and indented subclasses, the specifically identified substituent or contaminant must be either recited in the claims or must be solely disclosed.
- (3) Note. For purposes of this and indented subclasses, the "contaminant" may constitute a material which no longer serves a useful function, such as old paint or photoresist material following exposure, or is deemed undesirable for personal reasons, such as fingernail polish.

110 For removing radioactive or toxic chemical contaminant (e.g., chemical warfare agent, PCB's etc.):

This subclass is indented under subclass 109. Compositions specialized for removing a radioactive or toxic chemical contaminant from a solid surface.

SEE OR SEARCH CLASS:

426, Food or Edible Material: Processes, Compositions, and Products, subclass 286 for processes of removing a toxic chemical from a food product.

111 For food product (e.g., shell egg, etc.):

This subclass is indented under subclass 109. Compositions specialized for cleaning products intended for use as food.

SEE OR SEARCH CLASS:

426, Food or Edible Material: Processes, Compositions, and Products, appropriate subclasses for processes of cleaning a food product.

112 For contact lenses:

This subclass is indented under subclass 109. Compositions specialized for cleaning contact lenses.

SEE OR SEARCH CLASS:

424, Drug, Bio-Affecting and Body Treating Compositions, subclass 78.04 for ophthalmic preparations used for disinfecting, sterilizing, or preserving contact lenses.

113 Solid particulate component:

This subclass is indented under subclass 112. Compositions which include a component which is in the form of solid particles.

SEE OR SEARCH CLASS:

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 31+ for colloid systems of colloid-sized solid or semi-solid phase dispersed in primarily organic continuous liquid phase, subclasses 77+ for colloid systems of colloid-sized solid phase dispersed in aqueous continuous liquid phase (e.g.,

suspensions); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

114 Enzyme component of specific activity or source (e.g., protease; of bacterial origin, etc.):

This subclass is indented under subclass 112. Compositions which include an enzyme component the activity or source of which is explicitly stated.

(1) Note. For placement in this subclass, the activity (e.g., protease, etc.) or source (e.g., of bacterial origin, etc.) of the enzyme component must be recited in the claims.

(2) Note. Compositions merely reciting an "enzyme" are excluded from placement in this subclass.

115 Water-soluble peroxy, silicone resin, or polyvinyl pyrrolidone component:

This subclass is indented under subclass 112. Compositions which include a water-soluble component which is a peroxy compound, a silicone resin, or polyvinyl pyrrolidone.

116 For removable dentures:

This subclass is indented under subclass 109. Compositions specialized for cleaning removable dentures.

SEE OR SEARCH CLASS:

424, Drug, Bio-Affecting and Body Treating Compositions, subclasses 49+ for a dentifrice for oral use.

117 Gas generating (e.g., effervescent):

This subclass is indented under subclass 116. Compositions which generate a gas in the course of cleaning.

(1) Note. The gas may facilitate cleaning merely by agitation of the cleaning solution (e.g., carbon dioxide, etc.), by oxidation or bleaching action (e.g., nascent oxygen, etc.), or both.

SEE OR SEARCH CLASS:

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 10+ for foam colloid systems or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

118 Nail polish remover:

This subclass is indented under subclass 109. Compositions specialized for removing nail polish from human nails.

SEE OR SEARCH CLASS:

252, Compositions, subclass 364 for compositions usable as general, multipurpose solvents.

119 For human scalp hair, scalp, or wig (e.g., shampoo, etc.):

This subclass is indented under subclass 109. Compositions specialized for cleaning live human scalp hair, scalp, or natural or synthetic wigs.

- (1) Note. This subclass and its indents includes shampoos which contain a non-medicated hair conditioning, antistatic, softening, etc., component but have cleaning as their primary function.
- (2) Note. Included herein are shampoo compositions designed to remove dandruff flakes but devoid of any biocidal component for treating the underlying cause.

SEE OR SEARCH CLASS:

424, Drug, Bio-Affecting and Body Treating Compositions, subclasses 70.1+ for hair conditioning or rinse compositions devoid of any cleaning function and subclasses 43+ and 73 for all shaving preparations regardless of any soap or detergent content.

514, Drug, Bio-Affecting and Body Treating Compositions, for medicated shampoo compositions.

120 Package, solid, or gas-propelled composition (e.g., powder, aerosol container, etc.):

This subclass is indented under subclass 119. Compositions in the form of a package or of a solid, or which are dispensed by the release of pressurized gas.

SEE OR SEARCH CLASS:

206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

121 Steroid or carbohydrate gum component (e.g., lanolin, guar gum, etc.):

This subclass is indented under subclass 119. Compositions which include a steroid or carbohydrate gum as a component.

122 Silicon, boron, or phosphorus containing organic component:

This subclass is indented under subclass 119. Compositions which include an organic component which contains silicon, boron, or phosphorus.

123 Amine oxide, quaternary, or zwitterion nitrogen component (e.g., betaine, sultaine, etc.):

This subclass is indented under subclass 119. Compositions which include an amine oxide, quaternary or zwitterion nitrogen component.

124 With diverse amine oxide, quaternary, or zwitterion nitrogen component:

This subclass is indented under subclass 123. Compositions which include an amine oxide, quaternary, or zwitterion nitrogen component which is different from the component of subclass 123.

- 125 With organic sulfoxy containing component (e.g., sulfate, sulfonate, etc.):**
This subclass is indented under subclass 123. Compositions which additionally include an organic component containing a covalently bonded sulfoxy substituent.
- 126 Carboxamido containing component having an alkanol, carboxyl, or alkylamino substituent, or salt thereof:**
This subclass is indented under subclass 119. Compositions which include a component having both a (-C(=O)N=) substituent and an alkanol, carboxyl (-C(=O)OH), or alkylamino substituent in a single compound, or salt of the component.
- 127 Organic sulfoxy containing component (e.g., sulfate, sulfonate, etc.):**
This subclass is indented under subclass 119. Compositions which include an organic component containing a covalently bonded sulfoxy substituent.
- 128 With a urea or with poly(oxyalkylene) containing component devoid of covalently bonded anionic substituents:**
This subclass is indented under subclass 127. Compositions which additionally include a component which is urea (HHNC(=O)NHH, wherein substitution can be made for hydrogen only), or a component which has a polyoxyalkylene radical and is devoid of any covalently bonded anionic substituents.
- 129 Soap component:**
This subclass is indented under subclass 119. Compositions which include soap as a component.
- 130 For human skin:**
This subclass is indented under subclass 109. Compositions specialized for cleaning human skin.
- SEE OR SEARCH CLASS:
424, Drug, Bio-Affecting and Body Treating Compositions, subclasses 43+ and 73 for all shaving preparations, regardless of any soap or detergent content.
- 131 With halogen, nitrogen, oxygen, or phosphorus containing antiseptic, biocidal, or deodorizing component:**
This subclass is indented under subclass 130. Compositions which include an antiseptic, biocidal, or deodorizing component which contains halogen, nitrogen, oxygen, or phosphorus.
- 132 Surgical scrub:**
This subclass is indented under subclass 131. Compositions which are specialized for use as surgical scrub (e.g., cleaning and disinfecting hands, arms, etc., prior to or subsequent to performing surgery, etc.).
- 133 Solid, shaped article (e.g., bar, etc.):**
This subclass is indented under subclass 131. Compositions which are solid and possess particular macroscopic physical shape other than mere granules.
- 134 For removing adhesively attached material (e.g., bandage, etc.):**
This subclass is indented under subclass 130. Compositions specialized for facilitating the removal of a material that is attached to the skin by means of an adhesive.
- 135 High-foaming bath composition (e.g., bubble bath, etc.):**
This subclass is indented under subclass 130. Compositions which produce copious lather in the bath water.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 10+ for foam colloid systems or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 136 Makeup remover:**
This subclass is indented under subclass 130. Compositions specialized for removing makeup from human skin (e.g. removing mascara, pancake makeup, etc.).

137 For a specific area of the body (e.g., face, ears, etc.):

This subclass is indented under subclass 130. Compositions specialized for use on a particular area of the human body.

- (1) Note. Terms such as “personal cleaning composition” are not considered to be specific for the purpose of placement of patents in this and indented subclasses, since they also read on shampoos, etc.

SEE OR SEARCH CLASS:

- 424, Drug, Bio-Affecting and Body Treating Compositions, subclasses 43+ and 73 for all shaving preparations, regardless of any soap or detergent content.

138 For hands:

This subclass is indented under subclass 137. Compositions specialized for cleaning hands.

139 With particulate scrubbing or abrasive component (e.g., powdered pumice, etc.):

This subclass is indented under subclass 130. Compositions which include a specific particulate component having a scrubbing or abrasive function.

SEE OR SEARCH CLASS:

- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 31+ for colloid systems of colloid-sized solid or semi-solid phase dispersed in primarily organic continuous liquid phase, subclasses 77+ for colloid systems of colloid-sized solid phase dispersed in aqueous continuous liquid phase (e.g., suspensions); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

140 With removable package, casing, receptacle, or in aerosol dispenser (e.g., cake wrapper,**casing gradually removable throughout use, etc.):**

This subclass is indented under subclass 130. Compositions which are enclosed in a package, casing, or receptacle which is removed prior to or in the process of cleaning, or which are packaged in an aerosol dispenser.

SEE OR SEARCH CLASS:

- 206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

141 Solid, shaped article (e.g., bar, leaf, tablet, etc.):

This subclass is indented under subclass 130. Compositions which are solid and possess particular macroscopic physical shape other than mere granules.

142 With non-removable casing or coating integrally attached to the article exterior (e.g., ornamental design, encapsulating layer, etc.):

This subclass is indented under subclass 141. Articles to the exterior of which is integrally attached a casing or coating which is not removed prior to or during use of the article.

143 With solid integral noncleanser core or insert (e.g., layer, matrix, etc.):

This subclass is indented under subclass 141. Articles which have a solid core or insert of noncleanser material integrally embedded in the article.

- 144 Hollow or buoyant core or insert (e.g., air-holding sponge, etc.):**
This subclass is indented under subclass 143. Articles wherein the core or insert is hollow or buoyant (e.g., floating soap, etc.)
- 145 Floating, elastic, or malleable:**
This subclass is indented under subclass 141. Articles which float on water or are capable of returning to their initial form after deformation or are capable of being shaped by manual pressure.
- 146 Composite (e.g., having segments of different color, solubility, composition, etc.):**
This subclass is indented under subclass 141. Articles which have distinct sections or segments differing in physical or chemical properties.
- 147 Transparent or translucent:**
This subclass is indented under subclass 141. Articles which transmit all or part of incident visible-spectrum radiation.
- 148 Having discrete indentation or protuberance (e.g., embossed, etc.):**
This subclass is indented under subclass 141. Articles the surface of which has one or more discrete indentations or protuberances.
- (1) Note. The purpose of the irregular (e.g., concave or convex) surface is to form an ornamental design, facilitate handling of the article, hold the residue of a used detergent bar, etc.
- 149 For comminuting soap dispenser:**
This subclass is indented under subclass 148. Articles which are adapted to fit a dispenser which produces small particles of the composition, such as flakes or shavings, by mechanical action.
- 150 Boron or phosphorus containing component:**
This subclass is indented under subclass 141. Articles which include a component containing boron or phosphorus.
- 151 Carbohydrate component (e.g., cellulose, guar gum, etc.):**
This subclass is indented under subclass 141. Articles which include a component which is a carbohydrate.
- 152 Soap component:**
This subclass is indented under subclass 141. Articles which include soap as a component.
- 153 With free higher fatty acid component:**
This subclass is indented under subclass 152. Articles which also include a free higher (i.e., water-insoluble) fatty acid as a component.
- (1) Note. Examples of such articles include superfatted soaps.
- 154 With lime-soap dispersant:**
This subclass is indented under subclass 152. Articles which also include a specific component which disperses water-insoluble salts formed from soap in water which has a high content of minerals, such as calcium or magnesium salts.
- (1) Note. The presence of a lime-soap dispersant prevents the formation of scum (e.g., bathtub ring) in the washing equipment, facilitates lathering, and prevents waste of the soap component.
- 155 Plural surfactant components (e.g., organic sulfate and sulfonate, sulfonate and amine oxide, etc.):**
This subclass is indented under subclass 141. Articles which include two or more different surface-active agents as components.
- 156 Organic sulfoxy containing component (e.g., sulfate, sulfonate, etc.):**
This subclass is indented under subclass 141. Compositions which include an organic component containing a covalently bonded sulfoxy substituent.
- 157 For waterless cleaning:**
This subclass is indented under subclass 130. Compositions specialized for cleaning without the use of water.

- 158 Cream, paste, or gel:**
This subclass is indented under subclass 130. Compositions which are in the form of a cream, paste, or gel (i.e., semiliquid).
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions), subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 159 Liquid composition:**
This subclass is indented under subclass 130. Compositions which are liquids.
- 160 For live animal (nonhuman):**
This subclass is indented under subclass 109. Compositions specialized for cleaning nonhuman animals.
- (1) Note. Examples of such compositions include pet shampoos, ear-cleaning compositions, etc.
- 161 For medical or dental instruments or equipment (e.g., electronic hematological analyzer, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning instruments or equipment used in the practice of medicine or dentistry, and in their supporting professions, such as analytical laboratories.
- 162 For semipermeable membrane or ion-exchange resin or equipment:**
This subclass is indented under subclass 109. Compositions specialized for cleaning semipermeable membranes, ion-exchange resins, or equipment used in conjunction therewith.
- 163 For optical mirror, lens, or mold therefor (e.g., eyeglasses, camera lens, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning optical mirrors, optical lenses, or molds used for casting the mirrors or lenses.
- 164 For synthetic resin lens or mold therefor:**
This subclass is indented under subclass 163. Compositions wherein the lens is made of synthetic resin.
- 165 For computer memory disk:**
This subclass is indented under subclass 109. Compositions specialized for cleaning computer memory disks.
- 166 For electrophotos:graphic equipment or parts thereof (e.g., xerographic plate, hot roll fuser, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning equipment used in electrophotography, such as xerography, or various parts of the equipment.
- 167 For magnetic tape or disk, recorder/playback head, or drive assembly therefor:**
This subclass is indented under subclass 109. Compositions specialized for cleaning magnetic tapes or disks, magnetic recorder or playback heads, or drive assemblies therefor.
- 168 For sound record (e.g., recording for phonograph, CD player, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning sound records.
- 169 For photos:graphic film or processing equipment:**
This subclass is indented under subclass 109. Compositions specialized for cleaning photos:graphic film or equipment used in processing the film to produce finished photographs.
- 170 For ink recording or printing equipment, or mold therefor (e.g., ink jet recorder, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning equipment used in ink recording or ink printing, or molds used for producing such equipment.

- 171 For lithos:graphic printing plate:**
This subclass is indented under subclass 170. Compositions specialized for cleaning plates used in producing lithos:graphic prints.
- 172 For silk printing screen:**
This subclass is indented under subclass 170. Compositions specialized for cleaning screens used in silk printing.
- 173 For typewriter:**
This subclass is indented under subclass 170. Compositions specialized for cleaning ink typewriters.
- 174 For removing ink, pencil, or writing fluid markings (e.g., ball pen fluid, printer's or magnetic ink, etc.):**
This subclass is indented under subclass 109. Compositions specialized for removing ink, pencil, or writing fluid markings from solid substrates.
- SEE OR SEARCH CLASS:
523, Synthetic Resins or Natural Rubbers - Part of the Class 520 Series, subclass 161 for correction fluids used to cover up such markings.
- 175 For printed or integrated electrical circuit, or semiconductor device:**
This subclass is indented under subclass 109. Compositions specialized for cleaning printed or integrated electrical circuits or semiconductor devices, such as computer chips.
- 176 For stripping photoresist material:**
This subclass is indented under subclass 175. Compositions specialized for stripping photoresist material.
- (1) Note. This subclass is intended to encompass compositions used to remove photoresist material used in manufacturing printed circuits, once the resist material has fulfilled its function.
- 177 Azeotropic or azeotrope-like composition (e.g., for defluxing, etc.):**
This subclass is indented under subclass 175. Liquid compositions which are substantially constant boiling and which approximate or duplicate the behavior of a single-substance solvent at a given temperature.
- (1) Note. The distillates of azeotropes have the same composition as the original mixture.
- 178 Nitrogen-containing component:**
This subclass is indented under subclass 177. Compositions which include a component containing nitrogen.
- 179 For laboratory or pharmaceutical glassware:**
This subclass is indented under subclass 109. Compositions specialized for cleaning glass equipment used in various laboratories or in pharmacies or the pharmaceutical industry.
- 180 For plate glass (e.g., window, mirror, windshield, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning rolled and polished glass.
- SEE OR SEARCH CLASS:
106, Compositions: Coating or Plastic, subclass 13 for fog, frost, or ice preventive compositions, per se.
- 181 Aqueous liquid composition:**
This subclass is indented under subclass 180. Compositions which are liquid and contain water as a component.
- 182 With aliphatic alcohol, ether, or ketone component:**
This subclass is indented under subclass 181. Compositions which include an aliphatic alcohol, ether, or ketone component.
- 183 For hydraulic power transmission system (e.g., automobile brake system, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning hydraulic power transmission systems.
- 184 For engine cooling system:**
This subclass is indented under subclass 109. Compositions specialized for cleaning the cooling systems of engines.

- 185 For interior of engine or parts thereof (e.g., crankcase, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning the interior of engines or their parts.
- 186 Inorganic component (other than water):**
This subclass is indented under subclass 185. Compositions which include an inorganic component which is not water.
- (1) Note. Water may be present in the composition but does not constitute an inorganic component.
- 187 Phenol, cyclic carbonate, or soap component:**
This subclass is indented under subclass 185. Compositions which include a component which is a phenol, cyclic carbonate, or soap.
- 188 For hydrocarbon or synthetic resin processing or conveying equipment (e.g., for oil or gas pipe line, fractionating equipment, curable resin fabrication tools, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning equipment used in processing or conveying gaseous or liquid hydrocarbon materials or synthetic resins.
- 189 For vehicle wheel, bumper, or tire:**
This subclass is indented under subclass 109. Compositions specialized for cleaning the wheels, bumpers, or tires of vehicles.
- 190 For firearm bore:**
This subclass is indented under subclass 109. Compositions specialized for cleaning the bores of firearms.
- 191 For toilet bowl or urinal:**
This subclass is indented under subclass 109. Compositions specialized for cleaning toilet bowls or urinals.
- 192 Flush dispensed:**
This subclass is indented under subclass 191. Compositions which are dispensed into the toilet bowl or urinal by flush water.
- 193 Synthetic resin or carbohydrate gum component (e.g., polyvinyl alcohol, poly (ethylene oxide) resin, guar gum, etc.):**
This subclass is indented under subclass 192. Compositions which include a component which is a synthetic resin or a carbohydrate gum.
- (1) Note. This component is used to bind the active ingredients in the form of a solid block or other shape and to prevent their rapid dissolution.
- 194 For mechanical garbage disposal unit or dishwasher interior:**
This subclass is indented under subclass 109. Compositions specialized for cleaning the interior of a mechanical garbage disposal unit or of an automatic dishwasher.
- 195 For household drain or sewer pipe:**
This subclass is indented under subclass 109. Compositions specialized for cleaning household drains or sewer pipes.
- 196 Exothermic (e.g., containing free metal, such as Al, etc.):**
This subclass is indented under subclass 195. Compositions which generate heat on contact with water.
- 197 For removing heat-degraded food residue from solid surface (e.g., oven interior, grill, cooking pot exterior, etc.):**
This subclass is indented under subclass 109. Compositions specialized for removing food residues, which have been degraded (e.g., charred, carbonized, etc.) by heat, from solid surfaces which are usually inorganic.
- 198 Gas-propelled composition or package:**
This subclass is indented under subclass 197. Compositions which are dispensed by the release of pressurized gas, or packages enclosing such compositions (e.g., aerosol containers).
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.

- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 199 For removing fungal or algal growth from a substrate (e.g., removing mold, mildew, algae, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning a substrate of fungal or algal growth.
- 200 For removing adhesively attached material or adhesive agent from a substrate (e.g., wallpaper, gummed label, etc.):**
This subclass is indented under subclass 109. Compositions specialized for producing a clean surface by the removal of an adhesive agent, or of adhesively attached material, from a substrate.
- 201 For removing integral organic coating, sealant, or finish from a substrate (e.g., stripping paint, varnish, etc.):**
This subclass is indented under subclass 109. Compositions specialized for accomplishing or facilitating the removal of an organic protective or ornamental coating, sealant, or finish from a substrate to which it is integrally attached.
- (1) Note. Many of these compositions function by loosening the coating, thus facilitating its removal by peeling, rinsing, etc.
- 202 From metallic substrate:**
This subclass is indented under subclass 201. Compositions specialized to operate on metallic substrate.
- 203 Water-compatible concentrate or aqueous mixture thereof:**
This subclass is indented under subclass 201. Compositions in the form of a concentrated composition which is compatible with water with which it is mixed prior to use or aqueous mixtures of such compositions in the form of solutions, dispersions, etc.
- (1) Note. Prior to mixing with water, the composition may be in the form of a solid or a liquid concentrate.
- 204 Halogenated hydrocarbon component:**
This subclass is indented under subclass 201. Compositions which include a component which is a halogenated hydrocarbon.
- 205 With wax component:**
This subclass is indented under subclass 204. Compositions which additionally include a natural or synthetic hydrocarbon or ester wax component, such as paraffin, carnauba wax, etc.
- 206 Aqueous component:**
This subclass is indented under subclass 201. Compositions which include water as a component.
- 207 With metal hydroxide or wax component:**
This subclass is indented under subclass 206. Compositions which additionally include a metal hydroxide component or a wax component which is a natural or synthetic hydrocarbon or ester wax.
- 208 Wax component:**
This subclass is indented under subclass 201. Compositions which include a natural or synthetic hydrocarbon or ester wax component.
- 209 With inorganic component:**
This subclass is indented under subclass 208. Compositions which additionally include an inorganic component.
- 210 With carboxylic acid or phenolic component, or salt thereof (e.g., carbolic acid, metal phenolate, etc.):**
This subclass is indented under subclass 208. Compositions which additionally include a component which is a carboxylic acid, a phenol, or a salt of any of these components.

- the USPC for the specifically claimed art.
- 211 With carboxylic acid ester component (e.g., polymerized vegetable oil, etc.):**
This subclass is indented under subclass 208. Compositions which additionally include a component which is an ester of a carboxylic acid.
- 212 Amine, carboxamide, or metal hydroxide or alkoxide component (e.g., pyrrolidone, pyridine, etc.):**
This subclass is indented under subclass 201. Compositions which include a component which is an amine or carboxamide or is a hydroxide or alkoxide of a metal.
- 213 Liquid hydrocarbon component:**
This subclass is indented under subclass 201. Compositions which include a liquid hydrocarbon component.
- 214 For uncarpeted floor:**
This subclass is indented under subclass 109. Compositions specialized for cleaning floors which are devoid of carpeting.
- 215 For absorbing liquid or greasy matter (e.g., for removing oil, aqueous fluid, etc.):**
This subclass is indented under subclass 214. Compositions specialized for absorbing a liquid or greasy contaminant from an uncarpeted floor.
- (1) Note. Such compositions may include sawdust, kitty litter, or other absorbent.
- 216 Sweeping compound (i.e., for binding or suppressing dust during sweeping):**
This subclass is indented under subclass 214. Compositions specialized for facilitating sweeping of uncarpeted floors by reducing the amount of dust that becomes airborne.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 113+ for compositions for or subcombination compositions for or breaking of or inhibiting of colloid systems (e.g., smoke or dust suppressing), when generically claimed or when there is no hierarchically superior provision in
- 217 For no-wax floor covering:**
This subclass is indented under subclass 214. Compositions specialized for cleaning a floor covering which does not require waxing.
- 218 For equipment used in processing, handling, storing, or serving edible product (e.g., dairy or brewery equipment, household utensils, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning equipment used in processing, handling, storing, or serving food and beverages.
- 219 For glass or synthetic resin equipment or container (e.g., bottle, jar, pipeline, etc., made of polycarbonate, etc.):**
This subclass is indented under subclass 218. Compositions specialized exclusively for cleaning equipment or containers made of glass or synthetic resin.
- 220 For use in automatic dishwasher:**
This subclass is indented under subclass 218. Compositions specialized for use in an automatic dishwasher.
- 221 Liquid, paste, or gel (e.g., slurry, etc.):**
This subclass is indented under subclass 220. Compositions which are in the form of a liquid, paste, or gel.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions), subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

- 222 Wax or phosphorus or silicon containing organic component:**
This subclass is indented under subclass 221. Compositions which include an organic component which has a phosphorus or silicon containing substituent, or which is a natural or synthetic hydrocarbon or ester wax.
- 223 Polycarboxylic acid component, or salt thereof:**
This subclass is indented under subclass 221. Compositions which include a component having plural carboxyl substituents attached to one another by direct or indirect nonionic bonding, or a salt of such a component.
- 224 Solid, shaped article (e.g., tablet, briquette, pellet, etc.):**
This subclass is indented under subclass 220. Compositions which are solid and possess particular macroscopic physical shape other than mere granules.
- 225 Alkali metal hydroxide component:**
This subclass is indented under subclass 224. Compositions which include a component which is a hydroxide of an alkali metal (Li, Na, K, Rb, or Cs).
- 226 Enzyme component of specific activity or source (e.g., protease, ethanol oxidase, of bacterial origin, etc.):**
This subclass is indented under subclass 220. Compositions which include an enzyme component the activity or source of which is explicitly stated.
- (1) Note. For purposes of this subclass, the activity (e.g., protease, etc.) or source (e.g., of bacterial origin, etc.) of the enzyme component must be recited in the claims.
- (2) Note. Compositions merely reciting an "enzyme" are excluded from placement in this subclass as originals.
- 227 With overglaze or glassware protection component (except alkali metal silicate):**
This subclass is indented under subclass 220. Compositions which additionally include a component, other than an alkali metal silicate, which serves to protect the glaze on such articles as china, or prevents damage, such as etching, to glassware.
- 228 Phosphorus, silicon, or sulfoxy containing organic component (e.g., sulfate, sulfonate, etc.):**
This subclass is indented under subclass 220. Compositions which include an organic component having a phosphorus, silicon, or covalently bonded sulfoxy containing substituent.
- 229 Polycarboxylic acid component, or salt thereof:**
This subclass is indented under subclass 220. Compositions which include a component having plural carboxyl substituents attached to one another by direct or indirect nonionic bonding, or a salt of such a component.
- 230 The component is a polymer (e.g., polyacrylic acid salt, etc.):**
This subclass is indented under subclass 229. Compositions wherein the carboxyl substituted component is polymeric.
- 231 Halogen-free inorganic phosphorus containing component:**
This subclass is indented under subclass 220. Compositions which include an inorganic component which contains phosphorus and is free from halogen.
- 232 With inorganic silicon containing component:**
This subclass is indented under subclass 231. Compositions which additionally include an inorganic component which contains silicon.
- 233 With alkali metal hydroxide, carbonate, bicarbonate, or sesquicarbonate component:**
This subclass is indented under subclass 232. Compositions which include a component which is a hydroxide, carbonate, bicarbonate, or sesquicarbonate of an alkali metal (Li, Na, K, Rb, or Cs).
- 234 For in-place cleaning of stationary apparatus:**
This subclass is indented under subclass 218. Compositions specialized for cleaning stationary apparatus without moving or disassembling the same.

- (1) Note. Such stationary apparatus includes dairy or brewery pipelines, tanks, etc. The cleaning composition is pumped through the system.
- 235 For manual dishwashing:**
This subclass is indented under subclass 218. Compositions specialized for washing household utensils by hand.
- 236 Abrasive, protein, or organic phosphorus containing component:**
This subclass is indented under subclass 235. Compositions which contain a component which is an abrasive, a protein, or is an organic compound having a phosphorus containing substituent.
- 237 Carboxamide, amine oxide, heterocyclic, quaternary, or zwitterion nitrogen-containing component:**
This subclass is indented under subclass 235. Compositions which include a component which contains nitrogen and is a carboxamide, amine oxide, a heterocyclic compound, quaternary ammonium salt, or a zwitterion, such as betaine or sultaine.
- 238 For grouted tile, bathtub, or porcelain or ceramic surface (e.g., ceramic bathroom tile, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning grouted tile, bathtubs, porcelain, or ceramic surfaces.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
199, for compositions for removing mold, mildew, or algal growth from a substrate.
- 239 For enameled surface or acoustic material:**
This subclass is indented under subclass 109. Compositions specialized for cleaning a substrate carrying a baked-on vitreous coating on its surface, or for cleaning acoustic materials, such as porous tile, fabric, etc.
- 240 For stonework, brickwork, or cementitious material (e.g., marble, granite, concrete, alabaster, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning stonework, brickwork, or cementitious surfaces.
- 241 For removing foreign matter from surface carrying a protective or ornamental coating, finish, or adhesively attached covering (e.g., from painted or papered wall, automobile body, etc.):**
This subclass is indented under subclass 109. Compositions specialized for removing dirt from a surface which carries a protective or ornamental coating or finish or has a covering which is attached to it by an adhesive.
- 242 Liquid composition (e.g., emulsion, etc.):**
This subclass is indented under subclass 241. Compositions which are in the form of a liquid.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions), subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 243 For clear or translucent plastic surface (e.g., Plexiglas® acrylic, Lexan® polycarbonate, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning a plastic surface which is clear or translucent.
- 244 For nontextile synthetic resin, rubber, or fiberglass substrate (e.g., vinyl, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning a substrate made of synthetic resin, rubber, or fiberglass which is other than a textile.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
276+, for compositions designed for cleaning textile materials.
- 245 For bare metal surface (e.g., degreasing composition, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning a metal surface which does not carry a permanent finish or coating.
- 246 For glassware mold:**
This subclass is indented under subclass 245. Compositions specialized for cleaning molds used in making glassware.
- 247 For descaling the inner surface of equipment which is in continuous contact with water (e.g., boiler scale removal; for water storage tank, conduit, etc.):**
This subclass is indented under subclass 245. Compositions specialized for removing scale which forms on the inner surface of equipment which in use remains in contact with water.
- 248 Free element component (e.g., metal, carbon, sulfur, etc.):**
This subclass is indented under subclass 247. Compositions which include a component which is in free elemental form.
- 249 Tannin, whole animal or plant material component, or crude extract thereof:**
This subclass is indented under subclass 247. Compositions which include a component which is tannin, whole animal or plant material, or a crude extract of such material.
- 250 With sugar, molasses, or starch component:**
This subclass is indented under subclass 249. Compositions which additionally include a component which is sugar, molasses, or starch.
- 251 With vegetable oil, hydrocarbon, fat, or phenolic component (e.g., mineral oil, etc.):**
This subclass is indented under subclass 249. Compositions which additionally include a component which is a vegetable oil, a hydrocarbon, a fat, or substituted or unsubstituted phenol.
- 252 With alkali metal hydroxide, carbonate, or bicarbonate component:**
This subclass is indented under subclass 249. Compositions which additionally include a component which is a hydroxide, carbonate, or bicarbonate of an alkali metal (Li, Na, K, Rb, or Cs).
- 253 Free organic or inorganic acid component:**
This subclass is indented under subclass 247. Compositions which include a component which is a free organic or inorganic acid.
- 254 For use on nonferrous surface (e.g., aluminum, copper, tin plate, etc.):**
This subclass is indented under subclass 245. Compositions specialized for cleaning the surface of a metal or alloy which is other than iron or iron alloy.
- 255 With corrosion inhibiting or solvent stabilizing component:**
This subclass is indented under subclass 254. Compositions which include a component which inhibits corrosion of the surface being cleaned or stabilizes a solvent.
- (1) Note. The stabilized solvent is usually a halogenated hydrocarbon which is stabilized against metal-catalyzed decomposition.
- 256 With halogenated hydrocarbon, abrasive, coating, or polishing component:**
This subclass is indented under subclass 254. Compositions which include a component which is a halogenated hydrocarbon, an abrasive, or is a coating agent or nonabrasive polishing agent, such as chalk.
- 257 With inorganic fluorine containing component (e.g., HF, etc.):**
This subclass is indented under subclass 254. Compositions which include an inorganic component which contains fluorine.
- 258 With corrosion or embrittlement inhibiting or solvent stabilizing component (e.g., pickling bath, etc.):**
This subclass is indented under subclass 245. Compositions which include a component which inhibits corrosion or embrittlement of

- the surface being cleaned, or stabilizes a solvent.
- (1) Note. The stabilized solvent is usually a halogenated hydrocarbon which is stabilized against metal-catalyzed decomposition.
- 259 Quaternary ammonium or heavy metal in the component (e.g., Zn, Sn, etc.):**
This subclass is indented under subclass 258. Compositions wherein the corrosion or embrittlement inhibiting component is a quaternary ammonium salt or contains a heavy metal compound (i.e., metal having a specific gravity of at least 4).
- 260 Organic sulfonium group in the component:**
This subclass is indented under subclass 258. Compositions wherein the corrosion or embrittlement inhibiting component is an organic compound containing a sulfonium substituent.
- 261 Organic divalent sulfur containing substituent in the component (e.g., sulfide, mercaptan, etc.):**
This subclass is indented under subclass 258. Compositions wherein the corrosion or embrittlement inhibiting component is an organic compound containing divalent sulfur.
- 262 Heterocyclic ring in the component:**
This subclass is indented under subclass 261. Compositions wherein the component containing divalent sulfur includes a heterocyclic moiety.
- 263 Nitrogen containing substituent in the component (e.g., thiourea, etc.):**
This subclass is indented under subclass 261. Compositions wherein the component containing divalent sulfur also contains nitrogen.
- 264 Organic nitrogen containing substituent in the component:**
This subclass is indented under subclass 258. Compositions wherein the corrosion or embrittlement inhibiting component is an organic compound which contains nitrogen.
- 265 Heterocyclic nitrogen in the component:**
This subclass is indented under subclass 264. Compositions wherein the nitrogen is part of a heterocyclic ring.
- 266 Plural inhibitor or stabilizer components:**
This subclass is indented under subclass 264. Compositions which include at least one additional corrosion or embrittlement inhibiting or solvent stabilizing component.
- 267 Ethylenically or acetylenically unsaturated substituent in the component (e.g., propargyl alcohol, ester, etc.):**
This subclass is indented under subclass 258. Compositions wherein the corrosion or embrittlement inhibiting component contains an ethylenically or acetylenically unsaturated substituent.
- 268 Abrasive or polishing component:**
This subclass is indented under subclass 245. Compositions which include a component which is an abrasive or is a nonabrasive polishing agent, such as chalk.
- 269 Inorganic acid component (e.g., sodium bisulfate, etc.):**
This subclass is indented under subclass 245. Compositions which include a component which is an inorganic acid.
- 270 With heavy metal containing component:**
This subclass is indented under subclass 269. Compositions which additionally include a component containing a heavy metal (i.e., metal having a specific gravity of at least 4).
- 271 With hydrocarbon or halogen or oxygen containing organic solvent (e.g., alcohol, ester, etc.):**
This subclass is indented under subclass 269. Compositions which additionally include an organic solvent component which is a hydrocarbon or includes a halogen or oxygen containing substituent.
- 272 Alkali metal hydroxide component:**
This subclass is indented under subclass 245. Compositions which include a component which is a hydroxide of an alkali metal (Li, Na, K, Rb, or Cs).
- 273 Halogenated hydrocarbon component (e.g., degreasing composition, etc.):**
This subclass is indented under subclass 245. Compositions which include a component which is a halogenated hydrocarbon.

- 274 Organic sulfoxy containing component:**
This subclass is indented under subclass 245. Compositions which include an organic component containing a covalently bonded sulfoxy substituent.
- 275 For leather, hair, feathers, fur, or straw (e.g., Panama hat, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning leather, hair, feathers, fur, or straw.
- 276 For textile material (e.g., laundry detergent, etc.):**
This subclass is indented under subclass 109. Compositions specialized for cleaning a textile material which is either in the form of a fabric, finished article, such as a garment, or in the form of textile fiber, such as wool, or intermediate product, such as yarn.
- SEE OR SEARCH CLASS:
8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclasses 137+ for processes of cleaning or laundering textile materials.
- 277 Multifunctional assembly (e.g., package with detergent and prespotter in separate containers, etc.):**
This subclass is indented under subclass 276. Compositions wherein two or more different cleaning compositions or different components thereof, or an auxiliary composition for cleaning and a cleaning composition, each of which is individually packaged or enclosed, are present in a single container or package for convenience in use.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 278 For pile fabric or upholstery (e.g., carpet, rug, etc.):**
This subclass is indented under subclass 276. Compositions specialized for cleaning a pile fabric or upholstery material, such as installed carpeting or upholstered furniture.
- 279 Gas-propelled composition (e.g., aerosol, etc.):**
This subclass is indented under subclass 278. Compositions which are dispensed by the release of pressurized gas.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 280 Gel or liquid composition:**
This subclass is indented under subclass 278. Compositions in the form of a gel or a liquid which may be a single-phase solution, an emulsion, etc.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions), subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 281 For removing stains (other than merely in the course of laundering or dry-cleaning operation):**
This subclass is indented under subclass 276. Compositions specialized for removing localized stains other than merely in the course of a laundering or dry-cleaning operation.

- 282 Prior to dry cleaning:**
This subclass is indented under subclass 281. Compositions the use of which for localized stain removal precedes dry cleaning of the entire textile article.
- 283 Prior to laundering (e.g., spotting stick, pre-spot, etc.):**
This subclass is indented under subclass 281. Compositions the use of which for the removal of localized stains precedes laundering of the entire textile article.
- 284 Aqueous component:**
This subclass is indented under subclass 283. Compositions which include water as a component.
- 285 Dry cleaning (e.g., using non-aqueous fluid, etc.):**
This subclass is indented under subclass 276. Compositions specialized for overall cleaning of textile materials by use of liquid compositions which are totally or nearly totally free of water.
- SEE OR SEARCH CLASS:
8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclass 142 for processes of dry cleaning textile materials.
- 286 With halogen, oxygen, or nitrogen containing bleach, oxidant, antiseptic, or biocidal component:**
This subclass is indented under subclass 285. Compositions which additionally contain a chemical bleach or oxidant, or an antiseptic or biocidal component which contains halogen, oxygen, or nitrogen in its molecule.
- 287 With metal corrosion inhibiting or textile treating component (other than mere cleaning) (e.g., antistatic or fabric softening, wrinkle reducing, optical brightener, lusterizing, etc., component):**
This subclass is indented under subclass 285. Compositions which additionally include a component which inhibits corrosion of metal which comes in contact with the composition or which is a textile treating agent.
- 288 Organic phosphorus containing component:**
This subclass is indented under subclass 285. Compositions which include an organic component which contains phosphorus.
- 289 Polyoxyalkylene containing surfactant devoid of covalently bonded anionic substituents:**
This subclass is indented under subclass 285. Compositions which include a surfactant which is free of any covalently bonded anionic substituent and contains a polyoxyalkylene group.
- (1) Note. See class definitions for further information on surfactants.
- (2) Note. Included herein are, for example, polyethoxylated lauryl alcohol or lauryl amine.
- 290 Sulfur-containing anionically substituted surfactant:**
This subclass is indented under subclass 285. Compositions which include a sulfur-containing surfactant with a covalently bonded anionic substituent.
- (1) Note. Included herein are, for example, sodium dodecyl benzene sulfonate or dodecyl sulfate.
- 291 Aqueous component:**
This subclass is indented under subclass 285. Compositions which include water as a component, which is usually present in minor amounts.
- 292 For delicate material (e.g., wool, silk, fine fabrics, etc.):**
This subclass is indented under subclass 276. Compositions specialized for cleaning delicate textile materials or goods.
- 293 Multiple-dose article (e.g., detergent-containing plastic bottle, etc.):**
This subclass is indented under subclass 276. Compositions in the form of an article which holds or comprises an amount of the composition sufficient for more than one cleaning operation.

- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 294 Solid, shaped article (e.g., bar, etc.):**
This subclass is indented under subclass 293. Compositions which are solid and possess particular macroscopic physical shape.
- 295 Dosing unit (e.g., detergent-impregnated water-insoluble substrate of fabric, tissue, etc.):**
This subclass is indented under subclass 276. Compositions in the form of a premeasured unit dose sufficient for a single cleaning operation.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 296 All or part of the unit enclosure is made of water-sensitive material (e.g., water-soluble or dispersible envelope enclosing powdered detergent, etc.):**
This subclass is indented under subclass 295. Compositions wherein the premeasured dose is contained in an enclosure at least part of which comprises a material which loses its physical integrity upon immersion in water (e.g., polyvinyl alcohol, etc.).
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclass 524.7 for packages or containers, per se, made of water-soluble material.
- 297 Pouchlike water-insoluble unit enclosure:**
This subclass is indented under subclass 295. Compositions wherein the premeasured dose is contained in a pouchlike enclosure made of water-insoluble material, which may, however, be water-permeable so that the cleaning composition can be dispersed or dissolved in water.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 298 Solid, shaped article (e.g., tablet, briquette, etc.):**
This subclass is indented under subclass 295. Compositions wherein the premeasured dose is in the form of a unitary solid article possessing particular macroscopic shape.
- 299 With soil release or antisoiling component:**
This subclass is indented under subclass 276. Compositions which additionally include a component which either retards resoiling of an article laundered therewith or facilitates the removal of newly accumulated soil in a subsequent laundering operation.
- 300 Enzyme component of specific activity or source (e.g., protease, of bacterial origin, etc.):**
This subclass is indented under subclass 299. Compositions which additionally include an enzyme component the activity or source of which is explicitly stated.
- (1) Note. For purposes of this subclass, the activity (e.g., protease, etc.) or source (e.g., of bacterial origin, etc.) of the enzyme component must be recited in the claims.
- (2) Note. Compositions merely reciting an "enzyme" are excluded from this subclass.
- 301 With photoactivator component or photobleaching function (e.g., porphine component, requiring use of visible or UV light, etc.):**
This subclass is indented under subclass 276. Compositions which additionally include a specific component which is a photoactivator or possesses a photobleaching function (i.e., requiring the presence of light).
- (1) Note. Such compositions are primarily designed for operations wherein the

laundered articles are line-dried, preferably outdoors.

302 With oxygen or halogen containing chemical bleach or oxidant component:

This subclass is indented under subclass 276. Compositions which additionally include a chemical bleach or oxidant component which contains oxygen or halogen.

- (1) Note. A chemical bleach may be an oxidizing agent (e.g., chlorine, inorganic peroxide, etc.) or a reducing agent, such as sodium hydrogen sulfite, sulfur dioxide, etc.

303 Liquid composition:

This subclass is indented under subclass 302. Compositions which are in the form of a liquid.

304 Nonaqueous liquid:

This subclass is indented under subclass 303. Compositions which are substantially free of water.

305 Enzyme component of specific activity or source (e.g., lipase, of bacterial origin, etc.):

This subclass is indented under subclass 302. Compositions which additionally include an enzyme component the activity or source of which is explicitly stated.

- (1) Note. For purpose of this and indented subclasses, the activity (e.g., protease, etc.) or source (e.g., of bacterial origin, etc.) of the enzyme component must be recited in the claims.
- (2) Note. Compositions merely reciting an "enzyme" are excluded from this and indented subclasses.

306 Proteolytic enzyme:

This subclass is indented under subclass 305. Compositions wherein the component is a proteolytic enzyme (i.e., an enzyme which decomposes protein-containing contaminants, thus facilitating their removal).

307 With oxygen, nitrogen, or sulfur containing optical brightener:

This subclass is indented under subclass 302. Compositions which additionally include a component containing oxygen, nitrogen, or sul-

fur which fluoresces and imparts a brighter, less dingy (e.g., white or bluish) hue to the laundered article.

- (1) Note. Optical brighteners are also referred to as optical bleaches, which are distinct from chemical bleaches.

308 With oxygen, nitrogen, or sulfur containing textile softening or antistatic component:

This subclass is indented under subclass 302. Compositions which additionally include a component which contains oxygen, nitrogen, or sulfur, and which reduces the amount of static in, or imparts a softer feel or hand to, articles laundered therewith.

309 Peroxy component:

This subclass is indented under subclass 302. Compositions wherein the chemical bleach or oxidant component contains a peroxy substituent (i.e., -O-O-).

310 Percarboxylic acid component or salt thereof:

This subclass is indented under subclass 309. Compositions wherein the peroxy component contains a percarboxylic acid substituent (-C(=O)-O-OH) or a salt of such an acid.

311 With heavy metal containing catalyst or activator (e.g., containing Mn, Cu, Fe, etc.):

This subclass is indented under subclass 309. Compositions which additionally include a heavy metal containing component (i.e., metal having a specific gravity of at least 4) which accelerates or facilitates the bleaching action, especially when washing at lower temperatures.

312 With nitrogen or oxygen containing bleach precursor or activator (e.g., ester, acid anhydride, etc.):

This subclass is indented under subclass 309. Compositions which additionally include a nitrogen or oxygen containing component which acts as a precursor or activator for the peroxy bleach component by increasing its bleaching capacity, especially at lower washing temperatures.

- (1) Note. The activator component may act as a percarboxylic acid or salt bleach

- precursor, such acid or salt being formed in the presence of an inorganic peroxide.
- 313 Carbonyl single bonded to nitrogen in the activator or precursor (e.g., amide, imide, etc.):**
This subclass is indented under subclass 312. Compositions wherein a carbonyl group is single bonded directly to the nitrogen atom of the activator or precursor component.
- 314 Nitrogen multiple bonded to carbon in the activator or precursor (e.g., cyano, imido, trizino, etc., substituent):**
This subclass is indented under subclass 312. Compositions wherein the activator or precursor component contains nitrogen which is bonded to carbon by a double or triple bond.
- 315 With aluminosilicate component (e.g., synthetic zeolite, etc.):**
This subclass is indented under subclass 309. Compositions which additionally include a component which is a salt of an aluminosilicate.
- 316 With soap component:**
This subclass is indented under subclass 309. Compositions which include a component which is soap.
- 317 With suds regulating or inorganic alkaline earth metal salt component:**
This subclass is indented under subclass 309. Compositions which additionally include a component having a suds regulating function or which is the salt of an alkaline earth metal (Be, Mg, Ca, Sr, or Ba) with an inorganic acid.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 113+ for compositions for or subcombination compositions for or breaking of or inhibiting of colloid systems (e.g., foam breaking or inhibiting), when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 318 With polycarboxylic acid component, or salt or anhydride thereof (e.g., carboxylic acid copolymer, etc.):**
This subclass is indented under subclass 309. Compositions which additionally include a component having plural carboxyl substituents attached to one another by direct or indirect nonionic bonding, or a salt or acid anhydride of such a component.
- 319 With halogen, nitrogen, oxygen, or phosphorus containing antiseptic or biocidal component:**
This subclass is indented under subclass 276. Compositions which additionally include an antiseptic or biocidal component which contains halogen, nitrogen, oxygen, or phosphorus.
- 320 Enzyme component of specific activity or source (e.g., protease, of bacterial origin, etc.):**
This subclass is indented under subclass 276. Compositions which additionally include an enzyme component the activity or source of which is explicitly stated.
- (1) Note. For purposes of this and indented subclasses, the activity (e.g., protease, etc.) or source (e.g., of bacterial origin, etc.) of the enzyme component must be recited in the claims.
- (2) Note. Compositions merely reciting an "enzyme" are excluded from placement in this and indented subclasses as originals.
- 321 Liquid composition (e.g., slurry, etc.):**
This subclass is indented under subclass 320. Compositions which are in the form of a liquid.
- 322 With nitrogen, oxygen, or sulfur containing textile softening or antistatic component:**
This subclass is indented under subclass 320. Compositions which additionally include a component which contains oxygen, nitrogen or sulfur and which eliminates or reduces static electrical charge on, or imparts a softer feel or hand to, articles treated therewith in the course of laundering.

- 323 With aluminosilicate component (e.g., ion-exchange zeolite, etc.):**
This subclass is indented under subclass 320. Compositions which include an aluminosilicate component, such as an alkali metal salt of an inorganic aluminosilicate.
- 324 With nitrogen, oxygen, or sulfur containing optical brightener:**
This subclass is indented under subclass 276. Compositions which additionally include a component containing oxygen, nitrogen, or sulfur which fluoresces and imparts a brighter, less dingy (e.g., white or bluish) hue to the laundered article.
- (1) Note. Optical brighteners are also referred to as optical bleaches, which are distinct from chemical bleaches.
- 325 Liquid composition (e.g., slurry, etc.):**
This subclass is indented under subclass 324. Compositions which are in the form of a liquid.
- 326 Process of preparing (other than mere combining of components):**
This subclass is indented under subclass 324. Processes which involve specific process steps other than mere combining of components in any order.
- 327 With nitrogen, oxygen, or sulfur containing textile softening or antistatic component:**
This subclass is indented under subclass 276. Compositions which additionally include a component which contains oxygen, nitrogen, or sulfur and which eliminates or reduces static electrical charge on, or imparts a softer feel or hand to, articles treated therewith in the course of laundering.
- 328 Liquid composition (e.g., slurry, etc.):**
This subclass is indented under subclass 327. Compositions which are in the form of a liquid.
- 329 Quaternary nitrogen or phosphorus, or heterocyclic nitrogen containing fabric softener or antistatic component:**
This subclass is indented under subclass 328. Compositions which include a fabric softener or antistatic component which contains a quaternary nitrogen or phosphorus or a heterocyclic nitrogen substituent.
- 330 Quaternary nitrogen or phosphorus, or heterocyclic nitrogen containing fabric softener or antistatic component:**
This subclass is indented under subclass 327. Compositions which include a fabric softener or antistatic component which contains a quaternary nitrogen or phosphorus or a heterocyclic nitrogen substituent.
- 331 Nonionic oxygen containing surfactant or polyacrylamide component:**
This subclass is indented under subclass 330. Compositions which include a component which is a nonionic surfactant that contains oxygen, or which is polyacrylamide.
- (1) Note. A nonionic surfactant is devoid of any anionic or cationic substituents.
- (2) Note. See class definitions for further details on surfactants.
- 332 Nitrogen single bonded to plural carbons in the component, or salt thereof (e.g., secondary or tertiary amine, etc.):**
This subclass is indented under subclass 327. Compositions wherein the textile softener or antistatic component contains nitrogen which is single bonded to more than one carbon.
- 333 The component is a carboxamide or an amine oxide:**
This subclass is indented under subclass 332. Compositions wherein the nitrogen containing component is a carboxamide or an amine oxide.
- 334 Layered or swelling inorganic silicate containing component (e.g., smectite clay, bentonite, etc.):**
This subclass is indented under subclass 327. Compositions which include a component which is a layered or swelling inorganic silicate.
- (1) Note. Such components usually impart a softer feel to the treated textile articles without imparting any antistatic properties.

- 335 **With component inhibiting corrosion of metal or vitreous enamel laundering equipment (other than inorganic silicate):**
This subclass is indented under subclass 276. Compositions which additionally include a component which prevents the corrosion, such as tarnishing or discoloration, of metal or vitreous enamel laundering equipment which comes into contact with the cleaning agent, said component being other than an inorganic silicate salt.
- 336 **Gel, cream, or paste:**
This subclass is indented under subclass 276. Compositions which are in the form of a gel, a cream, or a paste.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions), subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 337 **Liquid composition (e.g., slurry, etc.):**
This subclass is indented under subclass 276. Compositions which are in the form of a liquid.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 31+ for colloid systems of colloid-sized solid or semi-solid phase dispersed in primarily organic continuous liquid phase, subclasses 77+ for colloid systems of colloid-sized solid phase dispersed in aqueous continuous liquid phase (e.g., slurry, suspension); or agents for such systems or making or stabilizing such systems or agents; in each instance,
- when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 338 **Nonaqueous liquid:**
This subclass is indented under subclass 337. Compositions which are substantially devoid of water.
- 339 **Alkali metal hydroxide or borate or whole plant or animal material component, or crude extract thereof (e.g., borax, sodium metaborate, flour, etc.):**
This subclass is indented under subclass 337. Compositions which include a component which is a hydroxide or borate of an alkali metal (Li, Na, K, Rb, or Cs), or which is whole animal or plant material, or a crude extract of such material.
- 340 **Plural nonsoap organic surfactants (e.g., nonionic and anionically substituted, diverse nonionic surfactants, etc.):**
This subclass is indented under subclass 337. Compositions which include more than one organic surfactant other than soap.
- (1) Note. See class definitions for further details on surfactants.
- 341 **Nitrogen containing organic surfactant devoid of covalently bonded anionic substituents (e.g., cationic, nonionic, etc., surfactant):**
This subclass is indented under subclass 340. Compositions wherein at least one organic surfactant is devoid of any covalently bonded anionic substituents and contains nitrogen.
- 342 **Liquid alcohol or hydrocarbon component:**
This subclass is indented under subclass 337. Compositions which include a liquid component which is an alcohol or a hydrocarbon.
- 343 **Colorant, soap, or organic silicon containing component:**
This subclass is indented under subclass 337. Compositions which include a component which is a color-imparting substance, a soap or a silicon containing organic compound.

- 344 Whole plant or animal material component or crude extract thereof (e.g., glue, flour, etc.):**
This subclass is indented under subclass 276. Compositions which include a component which is whole animal or plant material, or a crude extract of such material.
- 345 Alkali metal borate component (e.g., borax, sodium metaborate, etc.):**
This subclass is indented under subclass 276. Compositions which include a component which is an alkali metal salt of an oxygen containing inorganic acid of boron, generically known as borates.
- 346 Sulfonium, phosphonium, or non-anionic sulfoxy containing organic component (e.g., sulfoxide, sulfonamide, etc.):**
This subclass is indented under subclass 276. Compositions which include an organic component which contains a sulfonium or phosphonium substituent or contains a covalently bonded sulfoxy substituent which does not form an anion in an aqueous solution at a neutral pH.
- 347 Phosphate ester, wax, or organic silicon containing component (e.g., defoamer, etc.):**
This subclass is indented under subclass 276. Compositions which include an organic component which has a silicon containing substituent, or which is a phosphate ester or a natural or synthetic hydrocarbon or ester wax.
- 348 Titanium dioxide or inorganic alkaline earth metal salt component (e.g., calcium or magnesium carbonate, etc.):**
This subclass is indented under subclass 276. Compositions which include a component which is titanium dioxide or is an inorganic salt of an alkaline earth metal (Be, Mg, Ca, Sr, or Ba).
- 349 Coated, encapsulated, or impregnated particle component in a physically heterogeneous composition (e.g., coated or encapsulated particles mixed with powder, granules, etc.):**
This subclass is indented under subclass 276. Compositions which are physically heterogeneous and include as one of the components a particle which is coated, encapsulated, or impregnated with a diverse material.
- 350 Nitrogen containing surfactant devoid of covalently bonded anionic substituents which is admixed with a diverse nonsoap surfactant:**
This subclass is indented under subclass 276. Compositions which include a mixture of a surfactant other than soap with a diverse surfactant which is devoid of any covalently bonded anionic substituents and contains nitrogen.
- (1) Note. Included herein, for example, are mixtures of higher fatty acid amides, such as di(hydroxyethyl) lauramide, with sodium sulfonates, such as dodecyl benzene sulfonate.
- 351 Sulfur containing anionically substituted surfactant which is admixed with a diverse nonsoap surfactant:**
This subclass is indented under subclass 276. Compositions which include a mixture of a surfactant other than soap with a diverse surfactant which includes at least one covalently bonded anionic substituent and contains sulfur.
- (1) Note. Included herein, for example, are mixtures of sodium sulfonates, such as dodecyl benzene sulfonate, with polyethoxylated alcohols, such as lauryl alcohol.
- 352 Plural sulfur-containing anionically substituted surfactants:**
This subclass is indented under subclass 351. Compositions which include more than one surfactant each of which contains sulfur and at least one anionic substituent.
- 353 Higher fatty acid component, or salt or glyceride ester thereof (e.g., soap, vegetable oil, magnesium stearate, etc.):**
This subclass is indented under subclass 276. Compositions which include a component which is a higher fatty acid or its salt or a higher fatty acid ester of glycerine.
- 354 With lime-soap dispersant:**
This subclass is indented under subclass 353. Compositions which additionally include a component which disperses water-insoluble salts which are formed from soap in water having a high content of minerals, such as calcium or magnesium salts.

- (1) Note. See (1) Note under subclass 154 for effects produced by the dispersant.
- 355 With non-soap surfactant component:**
This subclass is indented under subclass 353. Compositions which additionally include a surfactant component which is other than soap.
- (1) Note. See class definition for the definition of soap.
- 356 Oxygen containing surfactant devoid of covalently bonded anionic substituents (e.g., polyethoxylated alcohol, amine oxide etc.):**
This subclass is indented under subclass 276. Compositions which include a surfactant which is free of covalently bonded anionic substituents and contains oxygen.
- 357 Sulfur-containing, anionically substituted surfactant:**
This subclass is indented under subclass 276. Compositions which include a surfactant which has at least one anionic substituent and contains sulfur.
- 358 With higher fatty alcohol component:**
This subclass is indented under subclass 357. Compositions which additionally include a component which is a fatty alcohol containing a straight chain of at least eight carbons.
- 359 With inorganic phosphorus containing component:**
This subclass is indented under subclass 357. Compositions which additionally include an inorganic component which contains phosphorus (e.g., builder salt, etc.).
- 360 Poly(oxyalkylene) or plural carboxamido groups containing component (e.g., polyvinyl pyrrolidone, etc.):**
This subclass is indented under subclass 276. Compositions which include a component which contains a poly(oxyalkylene) substituent or more than one carboxamido substituent.
- 361 Polycarboxylic acid component, or acid anhydride or salt thereof (e.g., sodium citrate, maleic anhydride polymer, polyacrylic acid, etc.):**
This subclass is indented under subclass 276. Compositions which include a component which contains more than one carboxyl group attached to one another by direct or indirect nonionic bonding, or an acid anhydride or salt of the component.
- 362 For removing soap scum or curd or combustion residues (e.g., carbon deposits, etc.):**
This subclass is indented under subclass 109. Compositions specialized for removing deposits of water-insoluble salts of higher fatty acids or for removing combustion residues, such as carbon, from a solid surface.
- (1) Note. The scum or curd residues are formed primarily by alkaline earth metal salts of fatty acids, and are also referred to as lime soaps.
- 363 For removing stains caused by iron, aluminum, or protein containing material (e.g., rust, aluminum marks, blood, food, etc.):**
This subclass is indented under subclass 109. Compositions specialized for removing from a solid surface stains or marks caused by an iron, aluminum, or protein containing substance.
- 364 For displacing organic liquid film from a solid surface:**
This subclass is indented under subclass 109. Compositions specialized for removing an organic liquid film from a solid surface via displacement.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 198+ for wetting agents (e.g., spreading, penetrating, leveling) or methods of making such agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 365 For removing greasy or oily contaminant from a substrate:**
This subclass is indented under subclass 109. Compositions specialized for removing from a substrate a greasy or oily contaminant.

SEE OR SEARCH CLASS:

134, Cleaning and Liquid Contact With Solids, subclass 31 and 40 for processes of removing an oily or greasy contaminant.

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 198+ for wetting agents (e.g., spreading, penetrating, leveling) or methods of making such agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

366 For removing asphalt, tar, or hardened cementitious material (e.g., concrete, etc.):

This subclass is indented under subclass 109. Compositions specialized for removing asphalt, tar, or hardened cementitious material from a substrate.

(1) Note. A hardened cementitious material is produced by drying a composition which includes an inorganic settable ingredient.

SEE OR SEARCH CLASS:

134, Cleaning and Liquid Contact With Solids, subclass 40 for processes of removing tar.

367 With oxygen or halogen containing chemical bleach or oxidant component:

This subclass is indented under subclass 108. Compositions which additionally include a chemical bleach or oxidant component which contains oxygen or halogen.

(1) Note. A chemical bleach may be an oxidizing agent (e.g., chlorine, inorganic peroxide, etc.) or a reducing agent, such as sodium hydrogen sulfite, sulfur dioxide, etc.

368 With scrubbing or scouring component (e.g., containing an abrasive, etc.):

This subclass is indented under subclass 367. Compositions which additionally include a component which facilitates cleaning by exerting a scrubbing or scouring action.

SEE OR SEARCH CLASS:

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 31+ for colloid systems of colloid-sized solid or semi-solid phase dispersed in primarily organic continuous liquid phase, subclasses 77+ for colloid systems of colloid-sized solid phase dispersed in aqueous continuous liquid phase (e.g., slurry, suspension); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

369 Liquid composition (e.g., slurry, etc.):

This subclass is indented under subclass 368. Compositions which are in the form of a liquid.

SEE OR SEARCH CLASS:

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 31+ for colloid systems of colloid-sized solid or semi-solid phase dispersed in primarily organic continuous liquid phase, subclasses 77+ for colloid systems of colloid-sized solid phase dispersed in aqueous continuous liquid phase (e.g., slurry, suspension); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

370 Liquid, paste, foam, or gel (e.g., slurry, aerosol composition or package, etc.):

This subclass is indented under subclass 367. Compositions which are in the form of a liquid, a paste, foam, or a gel.

SEE OR SEARCH CLASS:

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes

of Making, Stabilizing, Breaking, or Inhibiting, appropriate subclasses for subject matter relating to: colloid systems (such as sols*, emulsions, dispersions, foams, aerosols, smokes, gels, or pastes) or wetting agents (such as leveling, penetrating, or spreading); subcombination compositions of colloid systems containing at least an agent specialized and designed for or peculiar to use in making or stabilizing colloid systems; compositions and subcombination compositions specialized and designed for or peculiar to use in breaking (resolving) or inhibiting colloid systems; processes of making the compositions or systems of the class; processes of breaking (resolving) or inhibiting colloid systems; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

371 Nonaqueous liquid:

This subclass is indented under subclass 370. Compositions wherein the liquid composition is substantially devoid of water.

372 The bleach or oxidant component contains peroxy:

This subclass is indented under subclass 370. Compositions wherein the chemical bleach or oxidant component contains a peroxy group (-O-O-).

373 Colorant, amine or phosphine oxide, or nonanionic sulfoxy containing organic component:

This subclass is indented under subclass 370. Compositions including a component which is a color-imparting substance, an amine or phosphine oxide, or contains a sulfoxy substituent which does not form an anion in an aqueous solution at a neutral pH.

374 With enzyme component of specific activity or source (e.g., protease, of bacterial origin, etc.):

This subclass is indented under subclass 367. Compositions which additionally include an enzyme component the activity or source of which is explicitly stated.

(1) Note. For purpose of this subclass, the activity (e.g., protease, etc.) or source (e.g., of bacterial origin, etc.) of the enzyme component must be recited in the claims.

(2) Note. Compositions merely reciting an "enzyme" are excluded from this subclass.

375 The bleach or oxidant component contains peroxy:

This subclass is indented under subclass 367. Compositions wherein the chemical bleach or oxidant component contains a peroxy group (-O-O-).

376 With heavy metal, nitrogen, or oxygen containing activator, catalyst, or precursor:

This subclass is indented under subclass 375. Compositions which additionally contain a component which contains a heavy metal, nitrogen, or oxygen and functions as an activator, catalyst, or precursor for the peroxy component.

(1) Note. See the definition for subclass 311 for details on the heavy metal containing catalyst or activator.

(2) Note. See the definition for subclass 312 for details on the bleach activator component.

377 Aluminosilicate or soap component:

This subclass is indented under subclass 375. Compositions which include an aluminosilicate component, such as an alkali metal salt of an inorganic aluminosilicate, or which is soap.

(1) Note. An example of the aluminosilicate salt is a natural or synthetic zeolite.

378 Perborate salt component:

This subclass is indented under subclass 375. Compositions wherein the peroxy component is a salt of perboric acid.

379 Chlorine-containing bleach or oxidant component:

This subclass is indented under subclass 367. Compositions wherein the chemical bleach or oxidant component contains chlorine.

- 380 The component is a hypochlorite salt:**
This subclass is indented under subclass 379. Compositions wherein the chlorine-containing component is a salt of hypochlorous acid.
- 381 The component is organic (e.g., chloro(iso)cyanurate derivative, etc.):**
This subclass is indented under subclass 379. Compositions wherein the chlorine-containing component is an organic compound.
- 382 With halogen, nitrogen, oxygen, or phosphorus containing antiseptic or biocidal component:**
This subclass is indented under subclass 108. Compositions which include an antiseptic or biocidal component which contains halogen, nitrogen, oxygen, or phosphorus.
- 383 Liquid, paste, or gel:**
This subclass is indented under subclass 382. Compositions which are in the form of a liquid, a paste, or a gel.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, appropriate subclasses for subject matter relating to: colloid systems (such as sols*, emulsions, dispersions, foams, aerosols, smokes, gels, or pastes) or wetting agents (such as leveling, penetrating, or spreading); subcombination compositions of colloid systems containing at least an agent specialized and designed for or peculiar to use in making or stabilizing colloid systems; compositions and subcombination compositions specialized and designed for or peculiar to use in breaking (resolving) or inhibiting colloid systems; processes of making the compositions or systems of the class; processes of breaking (resolving) or inhibiting colloid systems; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 384 Quaternary ammonium containing antiseptic or biocidal component:**
This subclass is indented under subclass 383. Compositions wherein the antiseptic or biocidal component is a quaternary ammonium compound.
- 385 Elemental iodine antiseptic or biocidal component:**
This subclass is indented under subclass 383. Compositions wherein the antiseptic or biocidal component is elemental iodine.
- 386 Hydroxyphenyl or halophenyl moiety in the antiseptic or biocidal component (e.g., phenol, etc.):**
This subclass is indented under subclass 383. Compositions wherein the antiseptic or biocidal component contains a hydroxyphenyl or halophenyl moiety.
- 387 Halophenyl moiety in the antiseptic or biocidal component:**
This subclass is indented under subclass 382. Compositions wherein the antiseptic or biocidal component contains a halophenyl moiety.
- 388 Halogenated hydroxyphenyl moiety in the antiseptic or biocidal component:**
This subclass is indented under subclass 387. Compositions wherein the antiseptic or biocidal component includes a halogen-containing phenol moiety.
- 389 Soap component:**
This subclass is indented under subclass 382. Compositions which include soap as a component.
- 390 Heavy metal, heterocyclic nitrogen, or organic phosphorus containing antiseptic or biocidal component:**
This subclass is indented under subclass 389. Compositions wherein the antiseptic or biocidal component is a compound which contains a heavy metal (i.e., having a specific gravity of at least 4), a nitrogen-containing heterocyclic ring, or an organic phosphorus-containing substituent.

- 391 Quaternary ammonium or sulfonium or iodine containing antiseptic or biocidal component (e.g., elemental iodine, etc.):**
This subclass is indented under subclass 382. Compositions wherein the antiseptic or biocidal component contains iodine or a quaternary ammonium or sulfonium substituent.
- 392 Enzyme component of specific activity or source (e.g., protease; of bacterial origin; etc.):**
This subclass is indented under subclass 108. Compositions which include an enzyme component the activity or source of which is explicitly stated.
- (1) Note. For purposes of this and indented subclasses, the activity (e.g., protease, etc.) or source (e.g., of bacterial origin, etc.) of the enzyme component must be recited in the claims.
- (2) Note. Compositions merely reciting an “enzyme” are excluded from placement in this and the indented subclass as originals.
- 393 Liquid composition (e.g., slurry, etc.):**
This subclass is indented under subclass 392. Compositions which are in the form of a liquid.
- 394 With nitrogen, oxygen, or sulfur containing optical brightener, ultraviolet absorber, antistatic or fiber softening component:**
This subclass is indented under subclass 108. Compositions which additionally include a component containing oxygen, nitrogen, or sulfur which absorbs ultraviolet radiation, or which fluoresces and imparts a brighter, less dingy (e.g., white or bluish) hue to a substrate, or which eliminates or reduces static electrical charge on the cleaned substrate, or imparts a softer feel to fibrous articles treated therewith in the course of cleaning.
- (1) Note. Optical brighteners are also referred to as optical bleaches, which are distinct from chemical bleaches.
- (2) Note. The optical brightener may be present to improve the appearance of the cleaning composition, per se, rather than brightening the substrate cleaned therewith.
- (3) Note. The fibrous articles which are softened herein are generic in nature and include non-textile fibers, such as hair, etc.
- 395 With scrubbing or scouring component (e.g., containing an abrasive, etc.):**
This subclass is indented under subclass 108. Compositions which additionally include a component which facilitates cleaning by exerting a scrubbing or scouring action.
- 396 Cream; paste; gel; solid, shaped article; or gas-propelled composition (e.g., bar, aerosol, etc.):**
This subclass is indented under subclass 395. Compositions which are in the form of a cream, paste, gel, solid article possessing particular macroscopic physical shape, other than mere granules, or are in the form of a composition which is dispensed by the release of pressurized gas.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, appropriate subclasses for subject matter relating to: colloid systems (such as sols*, emulsions, dispersions, foams, aerosols, smokes, gels, or pastes) or wetting agents (such as leveling, penetrating, or spreading); subcombination compositions of colloid systems containing at least an agent specialized and designed for or peculiar to use in making or stabilizing colloid systems; compositions and subcombination compositions specialized and designed for or peculiar to use in breaking (resolving) or inhibiting colloid systems; processes of making the compositions or systems of the class; processes of breaking (resolving) or inhibiting colloid systems; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

- 397 Liquid composition (e.g., slurry, etc.):**
This subclass is indented under subclass 395. Compositions which are in the form of a liquid.

SEE OR SEARCH CLASS:

- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 31+ for colloid systems of colloid-sized solid or semi-solid phase dispersed in primarily organic continuous liquid phase, subclasses 77+ for colloid systems of colloid-sized solid phase dispersed in aqueous continuous liquid phase (e.g., slurry, suspension); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 398 Polycarboxylic acid component, or acid anhydride, salt, or ester thereof (e.g., maleic anhydride polymer, polyacrylic acid, etc.):**
This subclass is indented under subclass 397. Compositions which include a component which contains plural carboxyl groups attached to one another by direct or indirect nonionic bonding, or an acid anhydride, salt, or ester of the component.
- 399 Soap component:**
This subclass is indented under subclass 395. Compositions which include a component which is soap.
- 400 With soil-release, anti-soiling, coating or nonabrasive polishing component (e.g., with polysiloxane, chalk, etc.):**
This subclass is indented under subclass 108. Compositions which additionally include a component which (a) retards resoiling of a surface cleaned therewith or (b) facilitates the removal of newly accumulated soil in a subsequent cleaning operation or (c) forms a coating on a surface cleaned therewith or (d) is a non-abrasive polishing agent.
- 401 With metal-corrosion inhibiting component (i.e., preventing corrosion, such as tarnishing, discoloration, etc., of metal equipment**

which is in contact with the cleaning composition):

This subclass is indented under subclass 108. Compositions which additionally include a component which inhibits the corrosion of metal which comes into contact with the cleaning composition.

- 402 Sulfur or nitrogen containing organic substituent in the component:**

This subclass is indented under subclass 401. Compositions wherein the metal-corrosion inhibiting component is an organic compound which includes a sulfur or nitrogen containing substituent.

- 403 Gel or malleable composition (e.g., plastic-like, etc.):**

This subclass is indented under subclass 108. Compositions which are in the form of a gel or are capable of being shaped by manual pressure.

SEE OR SEARCH CLASS:

- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 404 Cream or paste:**
This subclass is indented under subclass 108. Compositions which are in the form of a cream or a paste.
- SEE OR SEARCH CLASS:
- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or

- when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 405 Liquid composition:**
This subclass is indented under subclass 108. Compositions which are in the form of a liquid.
- 406 Packaged or gas-propelled composition:**
This subclass is indented under subclass 405. Compositions which are enclosed in a package or container or are dispensed by the release of pressurized gas.
- SEE OR SEARCH CLASS:
- 206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 1+ for continuous gas or vapor phase colloid system (e.g., smoke, fog, aerosol, cloud, mist) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 407 Nonaqueous liquid:**
This subclass is indented under subclass 405. Compositions which are substantially devoid of water.
- 408 Azeotropic or azeotrope-like composition:**
This subclass is indented under subclass 407. Compositions which are substantially constant boiling, and which approximate or duplicate the behavior of a single-substance solvent at a given temperature.
- (1) Note. The distillates of azeotropes have the same composition as the original mixture.
- 409 Nitrogen containing component:**
This subclass is indented under subclass 408. Compositions which include a component which contains nitrogen.
- 410 Ternary composition:**
This subclass is indented under subclass 408. Compositions which consist of three distinct components.
- 411 Oxygen containing component:**
This subclass is indented under subclass 408. Compositions which include a component which contains oxygen.
- 412 Halogenated hydrocarbon component:**
This subclass is indented under subclass 407. Compositions which include a component which is a halogen-containing hydrocarbon.
- 413 Polyoxyalkylene containing surfactant devoid of covalently bonded anionic substituents:**
This subclass is indented under subclass 407. Compositions which include a surfactant which is free of any covalently bonded anionic substituents and contains a polyoxyalkylene group.
- 414 Sulfur containing anionically substituted surfactant:**
This subclass is indented under subclass 407. Compositions which include a surfactant which contains sulfur and includes an anionic substituent.
- (1) Note. The distillates of azeotropes have the same composition as the original mixture.
- 415 Azeotropic or azeotrope-like composition:**
This subclass is indented under subclass 405. Compositions which are substantially constant boiling and which approximate or duplicate the behavior of a single-substance solvent at a given temperature.
- 416 Opaque or pearlescent composition:**
This subclass is indented under subclass 405. Compositions which are impervious to light or which have a pearly shine or gloss.
- 417 Plural immiscible liquid phases (e.g., emulsion, oily and aqueous layers, etc.):**
This subclass is indented under subclass 405. Compositions which have at least two liquid phases which are physically incompatible.

- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 418 Liquid and solid phases (e.g., suspension, slurry, etc.):**
This subclass is indented under subclass 405. Compositions which include at least one solid component which is insoluble in the liquid phase.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 31+ for colloid systems of colloid-sized solid or semi-solid phase dispersed in primarily organic continuous liquid phase, subclasses 77+ for colloid systems of colloid-sized solid phase dispersed in aqueous continuous liquid phase (e.g., slurry, suspension); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 419 With colorant component:**
This subclass is indented under subclass 405. Compositions which include a component which is a color-imparting substance.
- 420 Alkali metal or ammonium borate, or crude plant or animal material extract component (e.g., borax, sour milk, soap bark extract, etc.):**
This subclass is indented under subclass 405. Compositions which include a component which is an alkali metal or ammonium salt of a boron and oxygen containing inorganic acid, or
- is a crude extract of whole plant or animal material.
- 421 Polyoxyalkylene containing surfactant devoid of covalently bonded anionic substituents:**
This subclass is indented under subclass 405. Compositions which include a surfactant which is free of any covalently bonded anionic substituents and contains a polyoxyalkylene moiety.
- 422 With diverse nonsoap surfactant:**
This subclass is indented under subclass 421. Compositions which additionally include a diverse surfactant other than soap.
- (1) Note. See the class definition for details on what constitutes soap.
- 423 Nitrogen or phosphorus in surfactant devoid of covalently bonded anionic substituents:**
This subclass is indented under subclass 422. Compositions wherein at least one organic surfactant contains nitrogen or phosphorus and is free of covalently bonded anionic substituents.
- 424 Sulfur containing anionically substituted surfactant:**
This subclass is indented under subclass 422. Compositions which include a surfactant which contains sulfur and a covalently bonded anionic substituent.
- 425 With soap or diverse sulfur containing surfactant component:**
This subclass is indented under subclass 424. Compositions which additionally include a component which is soap or a different surfactant which contains sulfur.
- (1) Note. See class definitions for details on what constitutes soap.
- 426 Sulfur containing anionically substituted surfactant:**
This subclass is indented under subclass 405. Compositions which include a surfactant which contains sulfur and a covalently bonded anionic substituent.

- 427 With diverse nonsoap surfactant:**
This subclass is indented under subclass 426. Compositions which additionally include a diverse surfactant other than soap.
- (1) Note. See the class definition for details on what constitutes a soap surfactant.
- 428 Plural anionically substituted sulfur containing surfactants:**
This subclass is indented under subclass 427. Compositions which include at least two distinct surfactants each of which contains sulfur and a covalently bonded anionic substituent.
- 429 Sulfonate surfactant with sulfate monoester surfactant:**
This subclass is indented under subclass 428. Compositions wherein the anionically substituted surfactants include a sulfonate and a sulfate monoester.
- 430 With soap component:**
This subclass is indented under subclass 426. Compositions which additionally include a component which is soap.
- 431 Organic phosphorus containing component:**
This subclass is indented under subclass 426. Compositions which include an organic component which contains phosphorus.
- 432 Organic solvent component:**
This subclass is indented under subclass 426. Compositions which include a component which is an organic solvent.
- 433 Nitrogen in organic surfactant devoid of covalently bonded anionic substituents:**
This subclass is indented under subclass 405. Compositions which include an organic surfactant which contains nitrogen and is free of any covalently bonded anionic substituents.
- 434 Polycarboxylic acid component, or acid anhydride or salt thereof (e.g., acrylic acid polymer, maleic anhydride, sodium citrate, etc.):**
This subclass is indented under subclass 405. Compositions which include a component which contains plural carboxyl groups attached to one another by direct or indirect nonionic bonding, or an acid anhydride or salt of the component.
- 435 Ammonia or alkali metal hydroxide or carbonate component:**
This subclass is indented under subclass 405. Compositions which include a component which is ammonia or is a hydroxide or carbonate of an alkali metal (Li, Na, K, Rb, or Cs).
- 436 Organic phosphorus containing component:**
This subclass is indented under subclass 405. Compositions which include an organic component which contains phosphorus.
- 437 Higher fatty acid component or salt or ester thereof (e.g., soap, vegetable oil, etc.):**
This subclass is indented under subclass 405. Compositions which include a component which is a higher fatty acid or a salt or ester of such acid.
- 438 Heterogeneous arrangement (e.g., mixture of macroscopic particles differing in physical or chemical composition, etc.; liquid component encapsulated in or sorbed on solid material, etc.):**
This subclass is indented under subclass 108. Compositions in the form of a particulate heterogeneous arrangement of two or more components which differ from each other chemically or physically.
- 439 Package or dosing unit (e.g., sachet, wrapped cake soap, etc.):**
This subclass is indented under subclass 438. Arrangements which are in the form of a package or of a premeasured unit dose sufficient for a single cleaning operation.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 440 Bar or cake (e.g., having segments of different color, solubility, etc.):**
This subclass is indented under subclass 438. Arrangements which are in the form of a bar or cake.

- 441 **Coated or encapsulated solid material, or process of preparing:**
This subclass is indented under subclass 438. Arrangements which include a solid component which is coated with or encapsulated in a solid material of diverse chemical composition, or processes of preparing the arrangements.
- 442 **Aqueous coating agent:**
This subclass is indented under subclass 441. Arrangements wherein the coating agent is applied from an aqueous medium, or processes of preparing the arrangements.
- 443 **Spray-dried component, or process of preparing (e.g., postdosed composition, etc.):**
This subclass is indented under subclass 438. Arrangements which include a spray-dried component which is admixed with one or more diverse components, or processes of preparing the arrangements.
- (1) Note. See the definition for subclass 452 for details on spray drying.
- 444 **Agglomerated product or component, or process of preparing:**
This subclass is indented under subclass 438. Products which are granular or particulate in form and are made by binding together very fine particles, such as powder, by means of a liquid or liquefiable binder, such as aqueous sodium silicate, in an agitated environment, such as a fluidized bed; processes of preparing the products; or heterogeneous arrangements comprising an agglomerated component.
- SEE OR SEARCH CLASS:
23, Chemistry: Physical Processes, subclasses 313+ for processes of forming a nondetergent agglomerated product, per se.
264, Plastic or Nonmetallic Article Shaping or Treating: Processes, subclasses 109+ for processes of forming nondetergent agglomerates, per se.
- 445 **Solid, shaped macroscopic article or structure (e.g., pellet, film, etc.):**
This subclass is indented under subclass 108. Compositions in the form of articles or structures which are solid, visible to the naked eye, and possess particular physical shape or structure.
- 446 **Of compacted powdery or granular material (e.g., tablet, briquette, etc):**
This subclass is indented under subclass 445. Articles which are prepared by compacting or compressing powdery or granular material.
- 447 **Bar or cake:**
This subclass is indented under subclass 445. Articles which are in the form of a bar or cake.
- 448 **With lime-soap dispersant:**
This subclass is indented under subclass 447. Articles which include a component which disperses water-insoluble salts formed from soap in water having a high content of minerals, such as calcium or magnesium salts.
- 449 **Having discrete indentation or protuberance:**
This subclass is indented under subclass 447. Articles the surfaces of which have one or more discrete indentations or protuberances.
- 450 **With anionically substituted non-soap surfactant and soap component:**
This subclass is indented under subclass 447. Articles which include a surfactant that is other than soap and carries a covalently bonded anionic substituent, and a soap component.
- 451 **Extruded product, or process of preparing (e.g., noodles, etc.):**
This subclass is indented under subclass 445. Structures which are shaped by extruding a semifluid material through an aperture having a particular shape, or processes of preparing the products.
- 452 **Spray-dried product, or process of preparing:**
This subclass is indented under subclass 445. Structures in the form of a particulate product made by spraying a solution, melt, or slurry of cleaning composition ingredients into a heated atmosphere, or processes of preparing the products.
- (1) Note. The heated atmosphere facilitates the removal of the liquid medium and formation of the solid particles, which are usually spherelike and hollow.

- 453 Inorganic phosphorus containing component:**
This subclass is indented under subclass 452. Structures which include an inorganic component which contains phosphorus.
- 454 Soap component:**
This subclass is indented under subclass 452. Structures which include soap as a component.
- 455 Gas-filled void containing (e.g., foamed particle, hollow pellet, etc.):**
This subclass is indented under subclass 445. Structures which are macroscopic, solid, and contain gas-filled voids which may be open or closed.
- 456 Spray cooling process, or product thereof:**
This subclass is indented under subclass 108. Processes wherein a particulate solid product is produced by spraying a hot melt, solution, or slurry of the cleaning composition components into a cool atmosphere, or products of such processes.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
452+, for spray-dried products and processes.
- 457 Heat drying process, or product thereof:**
This subclass is indented under subclass 108. Processes wherein a particulate solid product is produced by drying a solution or slurry of the cleaning composition components on an evaporative surface, such as a rotating drum or roll, or on a stationary hot plate, or products of such processes.
- (1) Note. The dried composition is usually separated from the hot surface in the form of a sheet, or the like, and subsequently subdivided (e.g., by grinding) into particulate form.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
452+, for spray-dried products and processes.
- 458 Process of making a soap containing composition by saponification of an ester, or product thereof:**
This subclass is indented under subclass 108. Processes wherein a composition containing soap is produced by converting an ester of a higher fatty or rosin acid, usually a glyceride, such as animal fat or vegetable oil, into a salt of the acid and into the corresponding alcohol, usually by means of an alkaline material, such as sodium hydroxide; or products of such processes.
- (1) Note. See the class definition for a definition of soap.
- 459 With subsequent processing, or product thereof (e.g., postdosing of other components, etc.):**
This subclass is indented under subclass 458. Processes wherein the saponification step is followed by an additional processing step or steps to obtain the finished product, or products of such processes.
- 460 With boron or silicon containing inorganic component or cellular animal or plant material component (e.g., potato pulp, flour, etc.):**
This subclass is indented under subclass 458. Processes which include a component which is inorganic and contains boron or silicon, or which is of animal or plant origin and retains its original cellular structure; or products of such processes.
- 461 Specific organic component (e.g., triazines, etc.):**
This subclass is indented under subclass 108. Compositions which are in solid form and include an organic component in which at least one of the constituent atoms, in addition to carbon, is known or can be deduced with certainty.
- (1) Note. For purposes of this and indented subclasses, the term "organic material" is considered too broad, as are materials recited in terms of mere function, such as "perfume," "anionic surfactant," etc.
- (2) Note. See the class definition, paragraph IV, F, concerning placement of patents wherein the physical form of the compo-

- sition is not explicitly recited in the claims.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 403, for compositions which are in the form of a gel and which are of general utility.
- 404, for compositions which are in the form of a cream or paste and which are of general utility.
- 405+, for liquid compositions which are of general utility.
- 462 Cellular animal or plant material (e.g., tree bark, leather, flour, cellulose fiber, etc.):**
This subclass is indented under subclass 461. Compositions wherein the organic component is of animal or plant origin and retains its original cellular structure.
- 463 Crude animal or plant material extract (e.g., pine oil, etc.):**
This subclass is indented under subclass 461. Compositions wherein the organic component is a crude, unrefined extract of animal or plant material.
- 464 Lignin:**
This subclass is indented under subclass 461. Compositions wherein the organic component is lignin.
- 465 Boron in the component:**
This subclass is indented under subclass 461. Compositions wherein the organic component contains boron.
- 466 Silicon in the component:**
This subclass is indented under subclass 461. Compositions wherein the organic component contains silicon.
- 467 Phosphorus in the component:**
This subclass is indented under subclass 461. Compositions wherein the organic component contains phosphorus.
- 468 Phospholipid (e.g., lecithin, etc.):**
This subclass is indented under subclass 467. Compositions wherein the component is a phosphoric acid glycerol ester containing a higher fatty acid moiety.
- 469 Carbon bonded directly to the phosphorus (e.g., phosphonic acid or salt or ester thereof, etc.):**
This subclass is indented under subclass 467. Compositions wherein the phosphorus is bonded directly to a carbon atom.
- 470 Carbohydrate:**
This subclass is indented under subclass 461. Compositions wherein the organic component is a carbohydrate.
- 471 Containing carboxyl group or salt thereof (e.g., carboxymethyl cellulose, etc.):**
This subclass is indented under subclass 470. Compositions wherein the carbohydrate contains a carboxyl substituent, or a salt of the substituent.
- 472 With organic sulfoxy containing component:**
This subclass is indented under subclass 471. Compositions which additionally contain an organic component containing a sulfoxy substituent.
- 473 Cellulose:**
This subclass is indented under subclass 470. Compositions wherein the carbohydrate is cellulose.
- 474 Starch:**
This subclass is indented under subclass 470. Compositions wherein the carbohydrate is starch.
- 475 Synthetic polymer or natural rubber (other than polyether, such as polyethylene glycol, alkylene oxide condensation products, etc.):**
This subclass is indented under subclass 461. Compositions wherein the organic component is a synthetic polymer, other than a polyether, or is natural rubber.
- 476 Carboxylic acid anhydride, free carboxyl group, or salt thereof in the polymer:**
This subclass is indented under subclass 475. Compositions wherein the polymer contains a carboxylic acid anhydride or a free carboxyl substituent, or is a salt of the carboxyl substituent.

- 477 Polycarboxylic acid component, or salt thereof:**
This subclass is indented under subclass 461. Compositions wherein the organic component contains plural carboxyl substituents attached to one another by direct or indirect nonionic bonding, or is a salt of such substituents.
- 478 With alkali metal carbonate or bicarbonate component:**
This subclass is indented under subclass 477. Compositions which additionally contain a component which is a carbonate or bicarbonate salt of an alkali metal (Li, Na, K, Rb, or Cs).
- 479 Ether group in the polycarboxylic component:**
This subclass is indented under subclass 477. Compositions wherein the polycarboxylic component contains an ether substituent.
- 480 Nitrogen attached to the polycarboxylic component by nonionic bonding (e.g., nitrilotriacetate salt, etc.):**
This subclass is indented under subclass 477. Compositions wherein the polycarboxylic component contains a nitrogen substituent which is attached to the component by nonionic bonding which may be direct or indirect.
- 481 Soap:**
This subclass is indented under subclass 461. Compositions wherein the organic component is soap.
- 482 With lime-soap dispersant:**
This subclass is indented under subclass 481. Compositions which include a component which disperses water-insoluble salts formed from soap in water having a high content of minerals, such as calcium or magnesium salts.
- 483 Transparent or translucent composition, or process of preparing:**
This subclass is indented under subclass 481. Compositions which transmit substantially all incident radiation in the visible spectrum range, or processes of preparing the compositions.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
147, for transparent or translucent solid, shaped articles intended for use on human skin.
- 484 With hydrocarbon or organic sulfoxy containing component:**
This subclass is indented under subclass 481. Compositions which additionally contain a component which is a hydrocarbon or is an organic compound containing a sulfoxy substituent.
- 485 With clay, aluminum, or heavy metal containing component:**
This subclass is indented under subclass 481. Compositions which additionally include a component which is clay or contains aluminum or heavy metal.
- 486 With boron, silicon, or phosphorus containing inorganic component:**
This subclass is indented under subclass 481. Compositions which additionally include an inorganic component which contains boron, silicon, or phosphorus.
- 487 Natural resin (e.g., rosin, shellac, tall oil, etc.):**
This subclass is indented under subclass 461. Compositions wherein the organic component is a natural resin.

(1) Note. Tall oil is included in this subclass because it comprises a mixture of higher fatty acids with rosin acids.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
481+, for compositions which contain soaps of rosin acids.
- 488 Carboxylic acid, or salt thereof:**
This subclass is indented under subclass 461. Compositions wherein the organic component is a carboxylic acid or its salt.

- 489 Sulfur attached indirectly to the carboxyl group by nonionic bonding, or salt thereof:**
This subclass is indented under subclass 488. Compositions wherein the carboxyl or carboxylic salt group is attached indirectly to sulfur by nonionic bonding.
- 490 Nitrogen attached indirectly to the carboxyl group by nonionic bonding, or salt thereof:**
This subclass is indented under subclass 488. Compositions wherein the carboxyl or carboxylic salt group is attached indirectly to nitrogen by nonionic bonding.
- 491 Higher fatty acid or salt thereof:**
This subclass is indented under subclass 488. Compositions wherein the organic component is an optionally substituted higher fatty acid or its salt.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
481+, for cleaning compositions containing soap.
- 492 Sulfur in the component:**
This subclass is indented under subclass 461. Compositions wherein the organic component contains sulfur.
- 493 Sulfoxy (e.g., dimethyl sulfoxide, sulfone, etc.):**
This subclass is indented under subclass 492. Compositions wherein at least one oxygen is double bonded to the sulfur.
- 494 Nitrogen attached directly or indirectly to the sulfoxy group by nonionic bonding:**
This subclass is indented under subclass 493. Compositions wherein the sulfoxy group is attached directly or indirectly to nitrogen by nonionic bonding.
- 495 Sulfonic acid or sulfate monoester substituent in the component, or salt thereof:**
This subclass is indented under subclass 493. Compositions wherein the organic component contains a sulfonic acid or sulfate monoester substituent or is a salt of the substituent.
- 496 With nitrogen containing organic component devoid of covalently bonded anionic substituents:**
This subclass is indented under subclass 495. Compositions which additionally include an organic component which is devoid of any covalently bonded anionic substituents and contains nitrogen.
- 497 With nonionic hydroxy containing organic component (e.g., alcohol, etc.):**
This subclass is indented under subclass 495. Compositions which additionally include an organic component which contains a hydroxy substituent and is nonionic.
- 498 With diverse sulfonic acid or sulfate monoester component, or salt thereof (e.g., sulfate and sulfonate, etc.):**
This subclass is indented under subclass 495. Compositions which include at least two distinct organic components, each carrying a sulfonic acid or sulfate monoester substituent, or a salt of the substituent.
- 499 Nitrogen in the component (except triazines) (e.g., amine, etc.):**
This subclass is indented under subclass 461. Compositions wherein the organic component includes nitrogen, and is other than a triazine.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
461, for compositions which contain triazines.
- 500 Heterocyclic nitrogen (except triazines):**
This subclass is indented under subclass 499. Compositions wherein nitrogen forms part of a heterocyclic ring.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
461, for compositions which contain triazines.
- 501 Amido nitrogen (e.g., urea, etc.):**
This subclass is indented under subclass 499. Compositions wherein the organic component contains an amido substituent (i.e., a carbonyl group, -C(=O)-, is bonded directly to the nitrogen).

- 502 Hydroxy in the component:**
This subclass is indented under subclass 501. Compositions wherein the amido-containing component also contains a hydroxy substituent.
- 503 Amine oxide:**
This subclass is indented under subclass 499. Compositions wherein the nitrogen containing component is an amine oxide.
- 504 Quaternary ammonium:**
This subclass is indented under subclass 499. Compositions wherein the organic component contains a quaternary ammonium substituent.
- 505 Oxygen in the component (except substituted triazines):**
This subclass is indented under subclass 461. Compositions wherein the organic component contains oxygen, other than as a triazine substituent.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
461, for compositions which contain a substituted triazine.
- 506 Ether:**
This subclass is indented under subclass 505. Compositions wherein the oxygen is present in the form of an ether substituent.
- 507 Clay or inorganic aluminosilicate salt component (e.g., bentonite, zeolite, etc.):**
This subclass is indented under subclass 108. Compositions which are solid and include an inorganic component which is clay or the salt of an aluminosilicate.
- 508 Heavy metal or aluminum containing inorganic component:**
This subclass is indented under subclass 108. Compositions which are solid and include an inorganic component which contains aluminum or a heavy metal (i.e., metal having a specific gravity of at least 4).
- 509 Alkali metal carbonate, bicarbonate, or sesquicarbonate component:**
This subclass is indented under subclass 108. Compositions which are solid and include a component which is a carbonate, bicarbonate, or sesquicarbonate of an alkali metal (Li, Na, K, Rb, or Cs).
- 510 With inorganic phosphorus containing component:**
This subclass is indented under subclass 509. Compositions which additionally include an inorganic component which contains phosphorus.
- 511 Inorganic silicon containing component:**
This subclass is indented under subclass 108. Compositions which are solid and include an inorganic component which contains silicon.
- 512 With inorganic phosphorus containing component:**
This subclass is indented under subclass 511. Compositions which additionally include an inorganic component which contains phosphorus.
- 513 AUXILIARY COMPOSITIONS FOR CLEANING, OR PROCESSES OF PREPARING (E.G., LAUNDERING AIDS, SUCH AS WRINKLE-REDUCING COMPOSITIONS, ETC.):**
This subclass is indented under the class definition. Compositions which: (a) constitute an intermediate composition of two or more components used in the manufacture of cleaning compositions, such as detergent builder compositions, or surfactant compositions specialized for use in cleaning agents; or (b) when used in the cleaning process or in a finishing step, improve the appearance or feel of the cleaned articles, such as dishwasher rinse or textile softening compositions; or (c) when used together with surfactants and other customary components of cleaning compositions, facilitate the removal of soil in the course of a current or subsequent cleaning operation, such as laundry sour, enzyme, or soil-release compositions.
- (1) Note. Included in this and indented subclasses are compositions such as dishwasher rinses, textile softening or antistatic agents, soil-release or antisoiling agents, laundry sour, enzymes, detergent builders and surfactants, consonant with categories (a) through (c) of the subclass definition and specialized and designed for such utility, as well as

any compositions within the purview of such criteria which are not provided for elsewhere.

SEE OR SEARCH CLASS:

- 252, Compositions, subclasses 175+ for water-softening or purifying or scale-inhibiting agents which are not specifically designed for use as detergent builders, subclass 321 for defoaming compositions, and subclasses 186.1+ for oxidative bleach or oxidant compositions, per se.
- 516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, appropriate subclasses for subject matter relating to: colloid systems (such as sols*, emulsions, dispersions, foams, aerosols, smokes, gels, or pastes) or wetting agents (such as leveling, penetrating, or spreading); subcombination compositions of colloid systems containing at least an agent specialized and designed for or peculiar to use in making or stabilizing colloid systems; compositions and subcombination compositions specialized and designed for or peculiar to use in breaking (resolving) or inhibiting colloid systems; processes of making the compositions or systems of the class; processes of breaking (resolving) or inhibiting colloid systems; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art; such as surfactants which are not specifically designed for use in cleaning compositions.
- 514 Dishwasher rinse composition:**
This subclass is indented under subclass 513. Compositions specialized for use in the rinse cycle of an automatic dishwasher.
- (1) Note. Such compositions promote even drainage of rinse water and prevent spotting of the cleaned articles upon drying.
- SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 198+ for wetting agents (e.g., spreading, penetrating, leveling) or methods of making such agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.
- 515 Textile softening or antistatic composition (e.g., for use in the wash cycle, etc.):**
This subclass is indented under subclass 513. Compositions designed to eliminate or reduce static electrical charge, or to impart a softer feel or hand to textile articles treated therewith in the course of, or subsequent to, a laundering or dry cleaning operation.
- 516 With diverse textile treating component (e.g., laundry sour, optical brightener, etc.):**
This subclass is indented under subclass 515. Compositions which additionally include a component which performs a different textile treating function.
- 517 Soil-release or antisoiling component:**
This subclass is indented under subclass 516. Compositions wherein the diverse component either retards resoiling of an article treated therewith or facilitates the removal of newly accumulated soil in a subsequent cleaning operation.
- 518 Halogen, nitrogen, oxygen, or phosphorus containing chemical bleach or oxidant or antiseptic, biocidal, or deodorant component:**
This subclass is indented under subclass 516. Compositions wherein the diverse component is a chemical bleach or oxidant, or is an antiseptic, biocidal, or deodorant agent, and contains halogen, nitrogen, oxygen, or phosphorus.
- 519 Dryer-activated composition or article (e.g., rupturable capsule, reusable dispenser, etc.):**
This subclass is indented under subclass 515. Compositions which are activated by heat of a clothes dryer and may be enclosed in a package or combined with a substrate.

- (1) Note. Certain of these compositions may be enclosed in a package or dispenser which is added to the load to be laundered at the beginning of the wash cycle but the active composition is only released in the dryer. These are the so-called "through-the-wash" compositions and packages.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 520 Water-insoluble, single-use solid substrate or enclosure, or composition combinable therewith (e.g., dryer sheet, etc.):**
This subclass is indented under subclass 519. Compositions which are dispensed in the dryer from a water-insoluble single-use enclosure or substrate, or compositions to be combined with the substrate or enclosure.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 521 Rinse-added composition:**
This subclass is indented under subclass 515. Compositions which are added to the rinse water either in manual laundering or in an automatic washer.
- (1) Note. Many of these compositions are incompatible with detergents and hence cannot be used in the wash cycle.
- 522 Liquid composition:**
This subclass is indented under subclass 521. Compositions which are in the form of a liquid.
- 523 Package or encapsulated component:**
This subclass is indented under subclass 522. Compositions which are enclosed in a package or dispenser or which include an encapsulated component.
- SEE OR SEARCH CLASS:
206, Special Receptacle or Package, subclasses 524.1+ for packages or containers, per se, wherein the material for the container or content is specified.
- 524 Nonionic polyoxyalkylene containing component (e.g., polyethylene glycol, etc.):**
This subclass is indented under subclass 522. Compositions which include a component which contains a polyoxyalkylene substituent and is nonionic.
- 525 Water-miscible organic solvent component (e.g., lower alkanol, ethylene glycol, etc.):**
This subclass is indented under subclass 522. Compositions which include an organic solvent component which is miscible with water.
- 526 Acyclic hydrocarbon or nitrogen-free higher fatty acid component or ester or alcohol derived therefrom:**
This subclass is indented under subclass 522. Compositions which include a component which is an acyclic hydrocarbon, or is a higher fatty acid devoid of nitrogen, or is an ester or an alcohol derived from such fatty acid.
- 527 Liquid composition:**
This subclass is indented under subclass 515. Compositions which are in the form of a liquid.
- 528 Soil-release or antisoiling composition:**
This subclass is indented under subclass 513. Compositions which, when used together with a cleaning or auxiliary agent, either retard the resoiling of an article treated therewith, or facilitate the removal of newly accumulated soil in a subsequent cleaning operation.
- 529 Laundry sour composition:**
This subclass is indented under subclass 513. Compositions which serve to neutralize excess alkalinity remaining from a cleaning agent.
- (1) Note. Laundry sour compositions are used primarily in the rinse cycle in commercial laundries, where highly alkaline detergents are utilized in the main wash.

530 Enzyme composition:

This subclass is indented under subclass 513. Compositions which include an enzyme component and are specialized and designed for incorporation with other components of a cleaning composition; the enzymes usually facilitate cleaning by degrading specific types of soil, such as protein, oil, or grease.

SEE OR SEARCH CLASS:

435, Chemistry: Molecular Biology and Microbiology, subclasses 174 through 182 for carrier-bound or immobilized enzymes, and preparation thereof; subclass 187 for processes of preparing granular or free-flowing enzyme compositions; subclass 188 for processes of stabilizing an enzyme; and subclass 264 for processes of cleaning using an enzyme.

531 Detergent builder composition:

This subclass is indented under subclass 513. Compositions specialized for use in conjunction with surfactants or other cleaning agents, such as alkaline substances, and which enhance the detergency of the surfactant or cleaning agent (e.g., by providing a water-softening effect by removing polyvalent metal ions, such as calcium).

(1) Note. See search notes under subclass 513 for other water-softening compositions.

532 Aluminum or boron containing metal silicate component (e.g., aluminosilicate, zeolite, etc.):

This subclass is indented under subclass 531. Compositions which include a component which is a metal salt of a silicate which is combined with aluminum or boron.

(1) Note. The action of such components is usually via the ion-exchange mechanism, which immobilizes polyvalent metal ions.

533 Polycarboxylic acid component, or salt thereof (e.g., nitrilotriacetic acid, polyacrylic acid, etc.):

This subclass is indented under subclass 531. Compositions which include a component which contains plural carboxyl substituents attached to one another by direct or indirect nonionic bonding, or is a salt of such substituents.

534 Inorganic phosphorus containing component:

This subclass is indented under subclass 531. Compositions which include an inorganic component containing phosphorus.

(1) Note. Water-soluble salts of various phosphoric acids remove polyvalent metal ions by precipitation.

535 Surfactant composition for cleaning agents (other than raw soap):

This subclass is indented under subclass 513. Surface active compositions which are not raw soap and which are specialized for use in cleaning compositions together with other auxiliary components, such as builders, fillers, etc.

(1) Note. See class definitions for further details on surfactants.

SEE OR SEARCH CLASS:

252, Compositions, subclass 367.1 for raw soaps and processes of making them.

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 198+ for wetting agents (e.g., spreading, penetrating, leveling) or methods of making such agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

536 Sulfoxy containing anionically substituted surfactant component:

This subclass is indented under subclass 535. Compositions which include an organic surfactant component which includes a sulfoxy-containing anionic substituent.

- (1) Note. The anionic substituent may be, for example, a sulfonate salt or sulfate monoester moiety.

537 Liquid or paste composition:

This subclass is indented under subclass 536. Compositions which are in the form of a liquid or a paste.

SEE OR SEARCH CLASS:

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions), subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates); or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

FOREIGN ART COLLECTIONS

The definitions for FOR 100-FOR 243 below correspond to the definitions for only the following abolished subclasses under Class 252 from which these collections were formed: 80-87, 89.1, 90-174, 174.11-174.25, 523-559. See the Foreign Art Collection schedule for specific correspondences. [**Note:** The titles and definitions for *indented* art collections include all the details of the one(s) that are hierarchically superior.] Note: Foreign art collections related to textile treating and sweeping or dust or particle adherents are located in Class 252, Compositions. These foreign art collections may be pertinent to subclasses in this class (510).

FOR 100 DESCALING AGENT CONTAINING:

Foreign Art Collections including compositions which contain substances which are specialized and designed for, or peculiar to, use in removing or loosening scale or incrustation from the inner surfaces of steam boilers, water heaters or other water containers, or processes of making such compositions.

FOR 101 Deoxidant or free-metal containing:

Foreign Art Collections including compositions which contain deoxidants or free metals.

FOR 102 Plant or organic material containing:

Foreign Art Collections including compositions which contain plants, plant parts or extracts, or organic compounds.

FOR 103 Tannin, bark, or bark extract containing:

Foreign Art Collections including compositions which contain tannin, bark or bark extracts.

FOR 104 With inorganic compound or element (except water):

Foreign Art Collections including compositions which contain inorganic compounds or elements, other than water.

FOR 105 Inorganic matter other than alkali-metal hydroxides and carbonates and water:

Foreign Art Collections including compositions contain inorganic compounds or elements other than alkali metal hydroxides, alkali metal carbonates and water.

FOR 106 With inorganic compound or element (except water):

Foreign Art Collections including compositions which contain inorganic compounds or elements other than water.

FOR 107 Inorganic matter other than alkali-metal hydroxides and carbonates and water:

Foreign Art Collections including compositions which contain inorganic compounds or elements other than alkali metal hydroxides, alkali metal carbonates and water.

FOR 108 DETERGENTS (FOR USE ON SOLID MATERIALS):

Foreign Art Collections including compositions specialized and designed for, or peculiar to, use in cleaning or removing foreign matter from solid surfaces.

FOR 109 Packages or heterogenous arrangements:

Foreign Art Collections including compositions in the form of packages or which contain, in each case, a particular heterogeneous arrangement of two or more components, other than mixed or coated granules, which

differ from each other chemically or physically.

FOR 110 Impregnated or coated with detergents:

Foreign Art Collections including compositions when there are present sheets or other bodies of nondetergent materials impregnated or coated with thin layers of soaps or detergents, per se.

FOR 111 Separate soap containing and non-soap zones:

Foreign Art Collections including compositions which in each case, include a zone which contains a water-soluble soap and a separate zone of material which does not contain a water-soluble soap.

FOR 112 Wrapped or encased soaps:

Foreign Art Collections including compositions when the soap is closely surrounded by a coating, wrapper or casing.

FOR 113 With chemical bleachant, oxidant, or reductant:

Foreign Art Collections including compositions which contain compounds which are adapted to bleach, oxidize, or reduce by chemical reactions.

FOR 114 Oxidant containing:

Foreign Art Collections including compositions which contain compounds which are adapted to oxidize by chemical reactions.

FOR 115 Soap (water-soluble fatty acid or rosin) containing:

Foreign Art Collections including compositions which contain water-soluble soaps of fatty acids or rosin.

FOR 116 Water-soluble inorganic B, Si, or P compound containing:

Foreign Art Collections including compositions which contain water-soluble inorganic compounds of boron, phosphorus or silicon.

FOR 117 Ammonia, amine, or nitrogen base compound containing (except proteins):

Foreign Art Collections including compositions which contain ammonia, amines or nitrogen bases, or compounds thereof, other than proteins.

FOR 118 Water-soluble inorganic B, Si, or P compound containing:

Foreign Art Collections including compositions which contain water-soluble inorganic compounds of boron, phosphorus or silicon.

FOR 119 Acidic:

Foreign Art Collections including compositions which have acid reactions.

FOR 120 Nitric acid or aqua regia containing:

Foreign Art Collections including compositions which contain nitric acid or aqua regia.

FOR 121 Ammonia, amine, or nitrogen base compound containing (except proteins):

Foreign Art Collections including compositions which contain ammonia, amines, or nitrogen bases, or compounds thereof, other than proteins.

FOR 122 Alkaline:

Foreign Art Collections including compositions which have alkaline reactions.

FOR 123 Solvent (physical or chemical) containing:

Foreign Art Collections including compositions which contain solvents other than water.

FOR 124 Reductant containing:

Foreign Art Collections including compositions which contain compounds which are adapted to reduce by chemical reactions.

FOR 125 Antiseptic, insecticide, or biocide containing:

Foreign Art Collections including compositions which contain antiseptics, insecticides or other substances which are adapted to destroy plant or animal life, for the purpose of more than merely preserving the compositions.

FOR 126 Soap (water soluble fatty acid or rosin) containing:

Foreign Art Collections including compositions which contain water-soluble soaps of fatty acids or rosin.

FOR 127 Soap (water-soluble fatty acid or rosin) containing:

- Foreign Art Collections including compositions which contain water-soluble soaps of fatty acids or rosin.
- FOR 128 Water-soluble inorganic B, Si, or P compound:**
Foreign Art Collections including compositions which contain water-soluble inorganic compounds of boron, phosphorus or silicon.
- FOR 129 Ammonia, amine, or nitrogen base compound containing (except proteins):**
Foreign Art Collections including compositions which contain ammonia, amines or nitrogen bases, or compounds thereof, other than proteins.
- FOR 130 Physical non-water solvent containing:**
Foreign Art Collections including compositions which contain nonchemically-acting solvents other than water.
- FOR 131 Water soluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abradants, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 132 Water-insoluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abradants, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 133 Physical non-water solvent containing:**
Foreign Art Collections including compositions which contain nonchemically-acting solvents other than water.
- FOR 134 Water-soluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abradants, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 135 Water-soluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abradants, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 136 Ammonia, amine, or nitrogen base compound containing (except proteins):**
Foreign Art Collections including compositions which contain ammonia, amines or nitrogen bases, or compounds thereof, other than proteins.
- FOR 137 Physical non-water solvent containing:**
Foreign Art Collections including compositions which contain nonchemically-acting solvents other than water.
- FOR 138 Water-soluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abradants, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 139 Water-insoluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abradants, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 140 Organic sulpho-compound containing:**
Foreign Art Collections including compositions which contain organic compounds which contain a sulfo or sulfate radical.
- FOR 141 Physical non-water solvent containing:**
Foreign Art Collections including compositions which contain nonchemically-acting solvents other than water.
- FOR 142 Water-insoluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abradants, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 143 Organic and inorganic type:**
Foreign Art Collections including compositions which contain, both an organic and an inorganic water-insoluble abradant, nonsaponifiable wax, gum, solid thickener or solid filler.
- FOR 144 Organic type:**
Foreign Art Collections including compositions which contain organic water-insoluble

- abradents, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 145 Hydrocarbon or halohydrocarbon containing:**
Foreign Art Collections including compositions which contain hydrocarbons or halohydrocarbons.
- FOR 146 Nonhydrocarbon non-soap organic compound containing:**
Foreign Art Collections including compositions which contain organic compounds which are not hydrocarbons or water-soluble soaps of fatty acids or rosin.
- FOR 147 Water-insoluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abradents, nonsaponifiable waxes, gums, solid thickeners, or solid fillers.
- FOR 148 Organic and inorganic type:**
Foreign Art Collections including compositions which contain, both an organic and an inorganic water-insoluble abradant, wax, gum, solid thickener or solid filler.
- FOR 149 Organic type:**
Foreign Art Collections including compositions which contain inorganic water-insoluble abradents, waxes, gums, solid thickeners or solid fillers.
- FOR 150 Inorganic type:**
Foreign Art Collections including compositions which contain inorganic water-insoluble abradents, solid thickeners, or solid fillers.
- FOR 151 With other organic, plant, or animal matter or compound:**
Foreign Art Collections including compositions which contain organic plant or animal extracts or matter or compounds other than the water-soluble soaps of fatty acids or rosin.
- FOR 152 With inorganic compound or element (except alkali-metal hydroxides and carbonates and water):**
Foreign Art Collections including compositions which contain inorganic compounds or
- elements other than water, alkali-metal hydroxides, and alkali-metal carbonates.
- FOR 153 Shapes or structures:**
Foreign Art Collections including compositions which possess particular physical shapes or structures other than granules or mere soap.
- FOR 154 Water-soluble inorganic B, Si, or P compound containing:**
Foreign Art Collections including compositions which contain water-soluble inorganic compounds of boron, phosphorus or silicon.
- FOR 155 Acidic:**
Foreign Art Collections including compositions which have acid reactions.
- FOR 156 Nitrogen base containing (except protein):**
Foreign Art Collections including composition containing ammonia or hydrazine, or a derivative of either, in which at least one hydrogen is replaced by a singly or doubly bonded carbon or by an acyl group or a salt of ammonia, hydrazine or such derivative, except protein.
- FOR 157 Heterocyclic:**
Foreign Art Collections including composition in which the nitrogen of the amine is part of a heterocyclic ring, e.g., imidazoline.
- FOR 158 Amine or amide:**
Foreign Art Collections including composition in which the nitrogen is directly bonded to a carbon atom.
- FOR 159 Sulfur or phosphorus containing:**
Foreign Art Collections including composition in which the amine compound includes a sulfur or a phosphorus atom.
- FOR 160 Soluble carboxylic acid or salt:**
Foreign Art Collections including composition in which the amine compound includes a carboxy group having a water soluble cation, e.g., sodium nitrilotriacetate.
- FOR 161 Quaternary or amine oxide:**
Foreign Art Collections including composition wherein the amine is pentavalent and

- the additional valences are satisfied by carbon or oxygen.
- FOR 162 Hydroxy:**
Foreign Art Collections including composition wherein the amine compound includes a hydroxy moiety.
- FOR 163 Organic sulfoxo:**
Foreign Art Collections including composition in which an organic compound contains a S=O group.
- FOR 164 Organic sulfate:**
Foreign Art Collections including composition including a compound having the SO₄ group attached to an organic radical.
- FOR 165 Oxy:**
Foreign Art Collections including composition in which the sulfate compound includes an ether or hydroxy group.
- FOR 166 With acyclic sulfonate:**
Foreign Art Collections including composition which includes an additional acyclic compound which contains a SO₃ radical.
- FOR 167 With aromatic sulfonate:**
Foreign Art Collections including composition which includes an additional compound containing a benzene ring and a SO₃ radical.
- FOR 168 Aliphatic sulfonate:**
Foreign Art Collections including composition which includes a compound containing the SO₃ group free of benzene ring structure.
- FOR 169 Unsaturated:**
Foreign Art Collections including composition in which the sulfonic compound includes a double or triple bond.
- FOR 170 With aromatic sulfonate:**
Foreign Art Collections including composition which includes an additional ingredient which contains a SO₃ group and a benzene ring.
- FOR 171 Non-oxo carboxylic:**
Foreign Art Collections including composition in which the sulfonic compound
- includes the COOX group, in which X forms the acid, a salt or an ester.
- FOR 172 Aromatic sulfonate:**
Foreign Art Collections including composition which includes a compound which contains a benzene ring and a SO₃ radical.
- FOR 173 With non-ionic wetting agent or fatty alcohol:**
Foreign Art Collections including composition which includes an additional surfactant which does not ionize, e.g., ester, polyether, polyol, or fatty alcohol.
- FOR 174 Physical non-water solvent containing:**
Foreign Art Collections including compositions which contain nonchemically acting solvents other than water.
- FOR 175 Water-insoluble abrasant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abrasants, nonsaponifiable waxes, gums, solid thickeners or solid fillers.
- FOR 176 Water-insoluble cyanides or cyanates containing:**
Foreign Art Collections including compositions which contain water-soluble cyanides, cyanates or thiocyanates, other than mere double cyanides (e.g., potassium ferr- or ferri-cyanides).
- FOR 177 Acidic:**
Foreign Art Collections including compositions which have acid reactions.
- FOR 178 Physical non-water solvent containing:**
Foreign Art Collections including compositions which contain nonchemically-acting solvents other than water.
- FOR 179 Water-insoluble abrasant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abrasants, waxes, gums, solid thickeners or solid fillers.
- FOR 180 Water-insoluble abrasant, wax, or filler containing:**

Foreign Art Collections including compositions which contain water-insoluble abrasives, waxes, gums, solid thickeners or solid fillers.

FOR 181 With corrosion inhibitors:

Foreign Art Collections including compositions which, in each case, contain a substance for inhibiting corrosion or attack of the solid surfaces to be cleaned, by any other substance in the compositions.

FOR 182 Compounds of elements other than C, H, O, N, S, Cl, Na, and K containing:

Foreign Art Collections including compositions which contain elements other than C, H, O, N, S, Cl, Na and K and compounds of such elements.

FOR 183 Organic nitrogen compound containing:

Foreign Art Collections including compositions which contain organic compounds which contain nitrogen.

FOR 184 Thio organic compound containing:

Foreign Art Collections including compositions which contain organic compounds which contain sulfur which is joined directly to carbon but not joined directly to oxygen.

FOR 185 Thiazole nucleus containing:

Foreign Art Collections including compositions which contain compounds which contain a thiazole nucleus.

FOR 186 Organic sulphur compound containing:

Foreign Art Collections including compositions which contain organic compounds which contain sulfur.

FOR 187 Nitrogen base containing (except protein):

Foreign Art Collections including composition containing ammonia, or hydrazine, or a derivative thereof in which at least one hydrogen is replaced by a singly or doubly bonded carbon or by an acyl group or a salt of ammonia, hydrazine or such derivative, except protein.

FOR 188 Heterocyclic:

Foreign Art Collections including composition in which the nitrogen of the amine is part of a heterocyclic ring, e.g., imidazoline.

FOR 189 Optical bleach:

Foreign Art Collections including composition in which the heterocyclic amine functions as an optical brightener or a fluorescent whitener.

FOR 190 Amine or amide:

Foreign Art Collections including composition in which the nitrogen is directly bonded to a carbon atom.

FOR 191 Sulfur or phosphorus containing:

Foreign Art Collections including composition in which the amine compound includes a sulfur or a phosphorus atom.

FOR 192 Soluble carboxylic acid or salt:

Foreign Art Collections including composition in which the amine compound includes a carboxy group having a water soluble cation, e.g., sodium nitrilotriacetate.

FOR 193 Quaternary or amine oxide:

Foreign Art Collections including composition wherein the amine is pentavalent and the additional valences are satisfied by carbon or oxygen.

FOR 194 Hydroxy:

Foreign Art Collections including composition wherein the amine compound includes a hydroxy moiety.

FOR 195 Physical non-water solvent containing:

Foreign Art Collections including compositions which contain nonchemically-acting solvents other than water.

FOR 196 Water-insoluble abradant, wax, or filler containing:

Foreign Art Collections including compositions which contain water-insoluble abrasives, nonsaponifiable waxes, gums, solid thickeners or solid fillers.

FOR 197 Water-insoluble abradant, wax, or filler containing:

Foreign Art Collections including compositions which contain water-insoluble abrasives, nonsaponifiable waxes, gums, solid thickeners or solid fillers.

FOR 198 Alkaline:

- Foreign Art Collections including compositions which have alkaline reactions.
- FOR 199 Gas-generative:**
Foreign Art Collections including compositions which are adapted to generate or liberate gas when brought in contact with water.
- FOR 200 Physical non-water solvent containing:**
Foreign Art Collections including compositions which contain nonchemically-acting solvent other than water.
- FOR 201 Water-insoluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abrasives, nonsaponifiable waxes, gums, solid thickeners or solid fillers.
- FOR 202 Water-insoluble abradant, wax, or filler containing:**
Foreign Art Collections including compositions which contain water-insoluble abrasives, nonsaponifiable waxes, gums, solid thickeners or solid fillers.
- FOR 203 Organic sulfoxo:**
Foreign Art Collections including composition in which an organic compound contains a S=O group.
- FOR 204 Organic sulfate:**
Foreign Art Collections including composition including a compound having the SO₄ group attached to an organic radical.
- FOR 205 Oxy:**
Foreign Art Collections including composition in which the sulfate compound includes an ether or hydroxy group.
- FOR 206 With acyclic sulfonate:**
Foreign Art Collections including composition which includes an additional acyclic compound which contains a SO₃ radical.
- FOR 207 With aromatic sulfonate:**
Foreign Art Collections including composition which includes an additional compound containing a benzene ring and a SO₃ radical.
- FOR 208 Aliphatic sulfonate:**
Foreign Art Collections including composition which includes a compound containing the SO₃ group free of benzene ring structure.
- FOR 209 Unsaturated:**
Foreign Art Collections including composition in which the sulfonic compound includes a double or triple bond.
- FOR 210 With aromatic sulfonate:**
Foreign Art Collections including composition which includes an additional ingredient which contains a SO₃ group and a benzene ring.
- FOR 211 Non-oxo carboxylic:**
Foreign Art Collections including composition in which the sulfonic compound includes the COOX group, in which X forms the acid, a salt or an ester.
- FOR 212 Aromatic sulfonate:**
Foreign Art Collections including composition which includes a compound which contains a benzene ring and SO₃ radical.
- FOR 213 With non-ionic wetting agent or fatty alcohol:**
Foreign Art Collections including composition which includes an additional surfactant which does not ionize, e.g., ester, polyether or polyol.
- FOR 214 Physical or chemical non-water solvent containing:**
Foreign Art Collections including compositions which contain solvents other than water.
- FOR 215 Abradant, wax, cellulose ester, inorganic solid, or filler containing:**
Foreign Art Collections including compositions which contain abrasives, waxes, gums, cellulose esters, inorganic solids, thickeners or fillers.
- FOR 216 With oxygen organic compounds**
Foreign Art Collections including compositions which contain organic compounds which contain oxygen, other than the substances recited in this hierarchy.

- FOR 217 With organic compounds of other than C, H, and O**
Foreign Art Collections including compositions which contain organic compounds which contain elements, other than carbon, hydrogen and oxygen, other than the substances recited in this hierarchy.
- FOR 218 With hydrocarbon solvents**
Foreign Art Collections including compositions which contain hydrocarbon solvents.
- FOR 219 With hydrocarbon solvents**
Foreign Art Collections including compositions which contain hydrocarbon solvents.
- FOR 220 Wax or cellulose-ester and abradant, inorganic solid, or other filling containing:**
Foreign Art Collections including compositions which, in each case, contain a wax or cellulose ester and also an abradant, inorganic solid, thickener or filler other than a wax or cellulose ester.
- FOR 221 Wax or cellulose-ester containing:**
Foreign Art Collections including compositions which contain waxes or cellulose esters.
- FOR 222 Oxygen organic compound containing:**
Foreign Art Collections including compositions which contain organic compounds which contain oxygen.
- FOR 223 Organic compounds of other than C, H, and O containing:**
Foreign Art Collections including compositions which contain organic compounds which contain elements other than carbon, hydrogen and oxygen.
- FOR 224 Nonhydrocarbon substances containing:**
Foreign Art Collections including compositions which contain substances which are not hydrocarbons.
- FOR 225 Aqueous:**
Foreign Art Collections including compositions which contain a significant amount of water in the form of colloids or otherwise.
- FOR 226 Shapes or structures:**
Foreign Art Collections including compositions which possess particular physical shapes or structures.
- FOR 227 Perfume containing:**
Foreign Art Collections including compositions which contain a perfume.
- FOR 228 Enzyme containing:**
Foreign Art Collections including compositions which contain an enzyme.
- FOR 229 Coated or encapsulated particle or liquid containing (other than spray dried detergents):**
Foreign Art Collections including compositions in which all or part of the composition consists of particles having a material coated thereon or impregnated therein or consists of solid or liquid material having an encapsulation coating, but excluding mere detergent composition powders formed by spray drying.
- FOR 230 Alkali metal inorganic carbonate containing:**
Foreign Art Collections including compositions which contain an inorganic alkali metal carbonate, e.g., potassium carbonate, sodium bicarbonate, etc.
- FOR 231 Organo-silicon compound containing:**
Foreign Art Collections including compositions which contain an organic silicon compound.
- FOR 232 Organo-phosphorus compound containing:**
Foreign Art Collections including compositions which contain an organic phosphorus compound.
- FOR 233 Carbohydrate moiety containing:**
Foreign Art Collections including compositions which contain a compound having a carbohydrate moiety.
- FOR 234 Carboxyl group containing:**
Foreign Art Collections including compositions wherein the carbohydrate moiety containing compound also contains a carboxyl group, either in free or in salt or esterified form.

FOR 235 Nonpolymeric compound having at least two free carboxyl groups containing:

Foreign Art Collections including compositions which contain a nonpolymeric compound having at least two free carboxyl groups or carboxylate salts or is an anhydride.

FOR 236 Polyoxyalkylene compound containing:

Foreign Art Collections including compositions which contain a compound having polyoxyalkylene groups.

FOR 237 Two or more polyoxyalkylene compounds containing:

Foreign Art Collections including compositions which contain at least two polyoxyalkylene compounds.

FOR 238 Polymer containing:

Foreign Art Collections including compositions which contain a polymer.

- (1) Note. This subclass includes proteins, unless present in the form of enzyme or in naturally occurring materials known to also include carbohydrate moieties.
- (2) Note. This subclass includes, e.g., gelatin and polyvinyl alcohol.

FOR 239 Carboxylic acid anhydride, free carboxyl group, or salt thereof containing:

Foreign Art Collections including compositions wherein the polymer contains a carboxylic acid anhydride or free carboxyl group or salt thereof.

FOR 240 Water-insoluble inorganic compound containing:

Foreign Art Collections including compositions which contain a water-insoluble inorganic compound.

END