

CLASS 106, COMPOSITIONS: COATING OR PLASTIC

SECTION I - CLASS DEFINITION

This class is the broad generic class for:

(1) Coating, impregnating or plastic compositions, especially those which set or harden to retain a given shape. Most of the compositions herein found are those which are capable of undergoing a change from a fluent to a nonfluent condition, or from a solid noncoherent form to a solid coherent form, which changes may be effected in any or more of the following ways:

- (a) By setting, e.g., concrete;
- (b) By chemical reaction or conversion, e.g., viscose;
- (c) By removal of solvents or vehicles, e.g., lacquers;
- (d) By solidification from a molten state, e.g., asphalt or sulfur.

This class takes all such compositions unless more specifically provided for in other main classes, for which see the notes below under the heading "Coating or Plastic Compositions Elsewhere Classified".

The term "coating" is used throughout the definitions and notes of this class to include "impregnating".

(2) Materials or ingredients, not in themselves coating, impregnating or plastic compositions which are for use in such compositions and for which there is no provision elsewhere. Fillers or pigments for use in rubber, synthetic resins or paper are also included in this class.

(3) The line followed between sections 1 and 2 is that patents broadly claiming coating or plastic compositions, wherein the only ingredients named do not by themselves form coating or plastic compositions, are classified in the appropriate subclasses under the heading "Materials or Ingredients", unless the coating or plastic composition has a characteristic or property specifically provided for above. Thus "a paint comprising a specific pigment" is classified on the basis of the pigment because paints as such are not provided for; however, "an ink comprising a specific pigment" would be placed under "Inks" since inks are provided for as such.

(4) This class takes processes for preparing or making the compositions, materials, or ingredients classified herein, which processes are classified with the corre-

sponding composition, material or ingredient. It does not, however, include processes which are clearly distinct from the composition, material or ingredient, and which are more specifically provided for elsewhere. See the appropriate notes below for the lines with the pertinent process classes.

(5) This class does not include patents which are limited to apparatus only, for which see the appropriate apparatus classes. Patents containing a claim to a composition and/or process of preparing same within this class and a claim to apparatus employed in the preparation of the composition are classified on the basis of the composition or process and cross-referenced to the appropriate apparatus class.

NOTES

It is the present office policy to classify article patents wherein the claims mention the article by name only and define the same only in terms of the composition or material of which it is composed, in the appropriate composition or material class. The collection of these patents and reclassification thereof into the composition or material classes is under way, and as a corollary thereto, patents claiming a composition or material for an art use heretofore classified in the art classes are also being transferred to the appropriate composition or material class. The subsequent notes indicate the extent of this work as of June 1953 and as the remaining use classes are inspected, the article and use patents will be transferred into the appropriate composition or material class.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

ARTICLES DEFINED BY COMPOSITION.

(A) The line in general between this class and the article classes is as follows: Where there are claims to the composition and claims to articles made therefrom, mentioned by name only with no inclusion of structure and defined only in terms of the composition, such patents are classified as originals in the appropriate composition subclasses of this class (106). Patents wherein all the claims are limited to a named article, mentioned by name only with no inclusion of structure and defined only in terms of the composition, are also classified as originals in this class except as noted in "B" below. Where there is claimed significant structure of the article, the patent is classified in the appropriate class pro-

viding for the same whether or not there is also present a claim to the composition (see Note C, below).

(B) See the References to Other Classes, below, for named articles defined only by compositions. Some of the article classes also provide for the composition, per se, when specialized for the article classified therein and these classes are indicated in the succeeding references to the article class and in the notes under the section "Coating or Plastic Compositions Elsewhere Classified".

(C) See References to Other Classes, below, for named articles wherein there is claimed significant structure of the article whether or not there are claims to the composition of which the article is composed:

COATING OR PLASTIC COMPOSITIONS ELSEWHERE CLASSIFIED.

(A) 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.

(1) Compositions are in general placed in the appropriate composition class whether or not they are claimed broadly or specifically as specialized for a use, property, or function provided for in some other main class, except as noted below under B.

(2) Compositions which are disclosed as having a plurality of uses, properties or functions provided for in different main classes and only a single use, property or function is claimed, are placed in the composition providing for such claimed use, property or function and cross-referenced to other classes for disclosed uses, properties or functions when desirable.

(3) A list of superiority of composition classes appears in the main class definition of Class 252, Compositions, Lines With Other Classes. This note in Class 252 explains classification of a generic composition with several disclosed uses.

The superiority list below is not intended as a complete list and will be expanded or added to as the relationship between other classes containing compositions and the above listed classes is determined.

504, Plant Protecting and Regulating Compositions.

424, Drug, Bio-Affecting and Body Treating Compositions.

71, Chemistry: Fertilizers.

149, Explosive and Thermic Compositions or Charges.

44, Fuel and Related Compositions.

148, Metal Treatment.

508, Solid Anti-Friction Devices, Materials Therefor, Lubricant or Separant Compositions for Moving Solid Surfaces, and Miscellaneous Mineral Oil Compositions.

252, Compositions (special uses or functions).

106, Compositions: Coating or Plastic.

51, Abrasive Tool Making Process, Material, or Composition.

520, Synthetic Resins or Natural Rubbers.

260, Chemistry of Carbon Compounds.

252, Compositions (nonspecial uses or functions).

426, Food or Edible Material: Processes, Compositions, and Products.

451, Abrading.

(B) For compositions elsewhere classified, see References to Other Classes, below.

MATERIAL OR INGREDIENTS.

See References to Other Classes, below, identified as material or ingredients classes.

PROCESSES OF PREPARING COMPOSITIONS.

(A) The character of compositions included within Class 106 is such that they are generally capable of being prepared in molds or on surfaces. Where the locus of the preparation is merely incidental to the making of the composition, and no significant molding or coating step is claimed, such processes are classified with the composition in this class (106).

(B) See References to Other Classes identified as for

processes which include the preparation of coating or plastic compositions.

DEFINITIONS OF ORGANIC CHEMICAL TERMS

For terms such as "heterocyclic", "oxo", "oxy", etc., see the Glossary of Class 260, Chemistry of Carbon Compounds.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, appropriate subclasses for compositions specialized for use as dyestuffs, and for compositions which (a) react with hide skin, feathers or animal tissues or (b) are specialized for use in the treatment of hides, skins, feathers and animal tissues and do not form a coating thereon. (For coating or plastic compositions elsewhere classified.)</p> <p>30, Cutlery, subclasses 345 and 350 for cutting elements. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)</p> <p>44, Fuel and Related Compositions, appropriate subclasses for fuel compositions not specifically provided for in Classes 48, Gas: Heating and Illuminating and 196, Mineral Oils, and binders specialized for use in briquetting comminuted fuel. (For coating or plastic compositions elsewhere classified.)</p> <p>47, Plant Husbandry, subclass 1 for seed containing compositions and compositions for preserving cut plants. (For coating or plastic compositions elsewhere classified.)</p> <p>51, Abrasive Tool Making Process, Material, or Composition, appropriate subclasses for a composition specialized for use as an abrasive. Patents containing claims to the abrasive function as well as claims to a function or use specifically provided for in Class 106 (e.g., refractory) are placed in this class (106) as originals and cross-referenced to Class 51. (For coating or plastic compositions elsewhere classified.)</p> <p>55, Gas Separation, appropriate subclasses for filtering media. (Class for named articles with claimed significant structure of the article</p> | <p>whether or not there are claims to article's composition.)</p> <p>65, Glass Manufacturing, appropriate subclasses for glass working or treating; for the line between these classes, see the line note under the class definition of Class 65. (Processes including preparation of coating or plastic compositions.)</p> <p>71, Chemistry: Fertilizers, appropriate subclasses for compositions of matter specialized for use as fertilizers. (For coating or plastic compositions elsewhere classified.)</p> <p>101, Printing, subclasses 127+ for stencils, subclasses 453+ for lithographic printing plates, and subclass 473 for copying elements, per se. (For named articles defined only by compositions.)</p> <p>101, Printing, subclasses 368 and 398 for printing members or type. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)</p> <p>101, Printing, subclass 424 for antismut cleaners, utilizing detergent compositions. (For coating or plastic compositions elsewhere classified.)</p> <p>117, Single-Crystal, Oriented-Crystal, and Epitaxy Growth Processes; Non-Coating Apparatus Therefor, appropriate subclasses for processes and noncoating apparatus for growing therein-defined single-crystal of all types of materials, including inorganic or organic, and including those in the form of a coating. Coating apparatus is generally located in Class 118. (Processes including preparation of coating or plastic compositions.)</p> <p>127, Sugar, Starch, and Carbohydrates, subclasses 29 through 33 for mixtures of sugars, starches and carbohydrates resulting from operations encompassed by said class. (For coating or plastic compositions elsewhere classified.)</p> <p>131, Tobacco, subclasses 208, 219, 220, and 230 for compositions for smoking devices; subclasses 300+ for compositions employed in the treatment of tobacco; and subclasses 352+ for tobacco compositions. (For compositions elsewhere classified.)</p> <p>131, Tobacco, subclass 359 for tobacco products and compositions, subclasses 219, 220 and 230 for smoking devices and compositions therefor and subclasses 331+ for composition of smoke separators or treaters, per se, disclosed for use with a tobacco user's appliance or article. (Named articles defined only by compositions.)</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- 132, Toilet, subclass 93 for toothpicks. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 138, Pipes and Tubular Conduits, (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 138, Pipes and Tubular Conduits, appropriate subclasses for tubular conduits when there is no claim to the composition, per se. (Named articles defined only by compositions.)
- 148, Metal Treatment, appropriate subclasses for compositions specialized for use in the treatment of metal, particularly subclasses 22+ and 240+. The line between Class 106 and subclasses 240+ of Class 148 in regard to coating compositions is as follows: If the coating composition reacts with the metal base whereupon the base supplies any ingredient of the coating formed thereon, such a composition is in Class 148, otherwise in this class (106). (For coating or plastic compositions elsewhere classified.)
- 149, Explosive and Thermic Compositions or Charges, appropriate subclasses for compositions of matter specialized for uses or functions embraced within the scope of this class (149). (For coating or plastic compositions elsewhere classified.)
- 162, Paper Making and Fiber Liberation, subclasses 100+ for fiber containing compositions which are formed or intended to be formed by deposition from a liquid suspension. (For coating or plastic compositions elsewhere classified.)
- 162, Paper Making and Fiber Liberation, subclasses 100+ for processes involving deposition of a fiber containing material from a liquid suspension. (Processes including preparation of coating or plastic compositions.)
- 181, Acoustics, subclass 294 for materials characterized by the particular sound absorbing material used to form the product. (Named articles defined only by compositions.)
- 188, Brakes, subclasses 250+ for brake elements. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 192, Clutches and Power-Stop Control, subclass 107 for clutches. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 196, Mineral Oils: Apparatus, appropriate subclasses for mineral oils, such as petroleum fractions, asphalt and all mixtures of any mineral oil with another mineral oil within the definition of Class 196, as well as processes of preparing, extracting, or purifying the same. (For materials or ingredients.)
- 200, Electricity: Circuit Makers and Breakers, subclass 166 for electrical contacts. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 204, Chemistry: Electrical and Wave Energy, subclasses 291+ for electrode compositions and subclasses 295+ for diaphragm compositions limited to use in electrolytic apparatus. (Named articles defined only by compositions.)
- 204, Chemistry: Electrical and Wave Energy, appropriate subclasses for compositions prepared by electrical or wave energy only, subclasses 291+ for electrode compositions limited to use in electrolytic apparatus, and subclasses 295+ for diaphragm compositions limited to use in electrolytic apparatus. (For coating or plastic compositions elsewhere classified.)
- 205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, appropriate subclasses for compositions directed to use in electrolytic processes (e.g., electrolytic plating bath compositions are found in subclasses 80+, etc.). (Named articles defined only by compositions.)
- 205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, appropriate subclasses for compositions directed to use in electrolytic processes (e.g., electrolytic plating bath compositions are found in subclasses 80+, etc.). (For coating or plastic compositions elsewhere classified.)
- 206, Special Receptacle or Package, subclass 524.1 for containers with specified material therein, particularly subclass 524.5 for a container with caustic material content. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 208, Mineral Oils: Processes and Products, subclasses 4+ and 14+ for coating or plastic compositions containing as ingredients only mineral oils. (For coating or plastic compositions elsewhere classified.)

- 209, Classifying, Separating, and Assorting Solids, appropriate subclasses for processes of classifying solid materials, even though for the purpose of making plastic compositions, which are distinct from the composition. (Processes including preparation of coating or plastic compositions.)
- 210, Liquid Purification or Separation, subclasses 500.1+ for filters for use in liquid purification. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 210, Liquid Purification of Separation, subclasses 500.1+ for filters for use in liquid purification and compositions therefor. (Named articles defined only by compositions.)
- 215, Bottles and Jars, subclasses 200+ for closures. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 217, Wooden Receptacles, subclass 3 for linings claimed in combination with wood receptacles. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 219, Electric Heating, subclasses 145.1+ and 146.1+ for welding electrodes for arc or for gas welding. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 238, Railways: Surface Track, subclasses 84+ for railway ties and subclass 150 for rails. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 241, Solid Material Comminution or Disintegration, subclasses 291+ for comminuting elements. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 241, Solid Material Comminution or Disintegration, subclasses 1 through 30 for comminuting processes and see section 2 of the class definition of that class for the line. (Processes including preparation of coating or plastic compositions.)
- 242, Winding, Tensioning, or Guiding, subclasses 157.1+ and 615+ for guides for directing indefinite length running material. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 249, Static Molds, subclasses 134+ for a static mold comprising significant structure and composition thereof. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 252, Compositions, subclasses 62.51+ of Class 252 provides for magnets defined only by their composition and for compositions specialized and designed for use as magnetic materials. Subclasses 181.1+ and the classes specified in the Notes thereto, provide for compositions and materials for use as getters (e.g., a material designed to eliminate unwanted gases from a sealed envelope) and for materials designed to generate a gas or vapor within the envelope of an electric lamp or electronic tube. Subclasses 625+ provides for radio active materials. Subclasses 301.16 - 301.6 provide for luminescent materials. Subclass 478 provides for materials specialized for use as shields against X-ray and other similar radiations. Subclass 500 provides for compositions specialized for use as electrical conductors and emitters and such devices defined solely by their composition. Such compositions and devices include electron emissive compositions, electrodes, filaments, and shields for electric lamp and electric space discharge devices, resistances, brushes, contacts, switches and welding electrodes. Subclasses 570+ provide for a normally fluent dielectric composition. Solid dielectric compositions, including a mass of fluent solids are classified herein, when appropriate, or in the 520 Classes, Synthetic Resins, except in the case of a web or sheet impregnated with a defined fluent dielectric, which is classified in Class 252, subclass 567. (Named articles defined only by compositions.)
- 252, Compositions, the generic class for compositions of matter. (a) Where a use, property or function provided for in Class 252 is claimed, the composition belongs in Class 252. See the notes to the main class definition of Class 252 for references to other classes having nonplastic or noncoating compositions. (b) See the reference to Class 252 in (1) Note, Part B, for the coating and plastic compositions included in Class 252. Patent discloses species, all of which belong in Class 523, subclasses 1+ and claims broadly a composition which is not limited to the subject matter of said classes, the patent is placed in Class 520 in the subclasses first appearing therein provided for the disclosed species. Patents containing composition claims differing in scope only, some of which

- standing alone, belong in Class 106, and some in Class 520 are placed as originals and cross-referenced to Class 106 when desirable. (For coating or plastic compositions elsewhere classified.)
- 260, Chemistry of Carbon Compounds, its daughter Classes 530-570 and Class 585, Chemistry, Hydrocarbons for single carbon compounds, including mixtures of carbon compounds resulting from a reaction or synthesis provided for in said class, which are new, even though they have a claimed utility, property or function provided for in this class (106), and processes of preparing carbon compounds. Class 260, etc., includes compositions which contain definite chemical compounds of dyestuff or pigment compounds with metals. Carbons coloring compounds which are produced in the presence of a preformed substratum, wherein novelty is alleged to reside in the combination or in the amount, form or nature of the substratum, are in this class (106); however, where the substratum is synthesized simultaneously with the carbon compound, the product belongs in Class 260, Classes 530-570 or Class 585. (For materials or ingredients.)
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 219+ for processes within the class definition, including the step of making the mold (including mold making, per se); and subclasses 337+ pertaining to the use of particular mold materials. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, appropriate subclasses for processes of molding or shaping compositions of matter which include significant molding or shaping operation. The line between this class (106) and Class 264 is as follows: Class 106 takes processes of making compositions within the class definition even though including the step of molding, when such step is claimed broadly. Broad references to extruding, spinning into a setting medium (without naming the medium) or sheeting in a claim to the preparation of a composition of matter are considered broad molding steps. Also, the statement that heat and pressure are used during the molding, whether or not specific temperatures or specific pressures are recited, is not considered sufficient of itself to take a patent claiming a process of preparing a composition out of this class (106). For a more detailed discussion of the line between Class 264 and the composition classes, see the definition of Class 264. (Processes including preparation of coating or plastic compositions.)
- 266, Metallurgical Apparatus, subclass 280 for linings especially designed for use in metallurgical furnaces. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 266, Metallurgical Apparatus, subclasses 280+ for linings specially designed for use in metallurgical furnaces. (Named articles defined only by compositions.)
- 307, Electrical Transmission or Interconnection Systems, subclass 400 for a composition of this class having a permanent electric charge, that is, an electret. (Named articles defined only by compositions.)
- 310, Electrical Generator or Motor Structure, subclasses 252+ for electrical brushes. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 337, Electricity: Electrothermally or Thermally Actuated Switches, subclasses 109, 137, 180, 329, 373, 399, and 413 for electrical contacts for use in electrothermal and thermal switches. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 338, Electrical Resistors, subclasses 244, 245, 248, 250, 257, 262+, 269, and 275 for electrical resistors with a coated casing or a casing formed on and hardened on the resistors; and subclasses 308+ for resistors whose element is coated on a base. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 349, Liquid Crystal Cells, Elements and Systems, subclasses 182+ for a liquid crystal optical element with a specified composition. (For coating or plastic compositions elsewhere classified.)
- 359, Optical: Systems and Elements, subclasses 321+ for an optical modulator with significant composition, subclasses 487.01-487.06 for polarizing by dichroic medium, and subclasses 489.01-489.19 for polarization by birefringent element of particular material. (For coating or plastic compositions elsewhere classified.)

- 359, Optical: Systems and Elements, subclasses 885+ for optical absorption filters. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 360, Dynamic Magnetic Information Storage or Retrieval, subclasses 131+ for magnetic records. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 361, Electricity: Electrical Systems and Devices, subclasses 271+ for condensers. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 361, Electricity: Electrical Systems and Devices, subclasses 271+ for condensers including a dielectric composition, even though the dielectric composition is claimed, per se. (Named articles defined only by compositions.)
- 366, Agitating, subclasses 2+ for physical processes of mixing mortars and asphaltic and hydraulic cement concrete which are clearly distinct from the composition. (Processes including preparation of coating or plastic compositions.)
- 369, Dynamic Information Storage or Retrieval, subclasses 272.1 through 291.1 for sound records with detail of information bearing structure. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 373, Industrial Electric Heating Furnaces, subclasses 18+ and 74 for arc furnace electrodes; and subclasses 137, 155, and 164 for electrode furnace linings. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 384, Bearings, subclasses 276+ for sleeves or liners. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 404, Road Structure, Process, or Apparatus, appropriate subclasses for the combination of a Class 106 composition (or process) with structure (or steps) peculiar to road building. See note to Class 106, under the class definition of Class 404. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 404, Road Structure, Process, or Apparatus, appropriate subclasses for the combination of a Class 106 composition (or process) with structure (or steps) peculiar to road building. See note to Class 106, under the class definition of Class 404. (Processes including preparation of coating or plastic compositions.)
- 420, Alloys or Metallic Compositions, appropriate subclasses for molds claimed solely in terms of the metal or alloy of which they are composed. (Named articles defined only by compositions.)
- 420, Alloys or Metallic Compositions, appropriate subclasses for compositions which contain a continuous phase of metal. (For coating or plastic compositions elsewhere classified.)
- 423, Chemistry of Inorganic Compounds, appropriate subclasses for materials or ingredients which are a single inorganic compound and processes for their manufacture involving a chemical reaction. For the general line between Class 423 and the composition classes, see the notes under subclass 265 of that class (423). (For materials or ingredients.)
- 424, Drug, Bio-Affecting and Body Treating Compositions, appropriate subclasses for a composition specialized as a medicine or poison and especially subclasses 59 through 74 for a composition to be applied to a living body (e.g., sun tanning cream, lipstick, hair waving lotion, etc.). (For coating or plastic compositions elsewhere classified.)
- 426, Food or Edible Material: Processes, Compositions, and Products, appropriate subclasses, especially subclasses 70+ for edible compositions including those intended for use in coating, impregnating or treating foods. (For coating or plastic compositions elsewhere classified.)
- 427, Coating Processes, the line between Classes 106 and 427 is as follows: If a patent claims a coating composition and also claims a process of coating, the patent is classified in Class 427 if the process is "significant" and in Class 106 if the process is not "significant". For a definition of "significant" process, see the class definition of Class 427. (Processes including preparation of coating or plastic compositions.)
- 428, Stock Material or Miscellaneous Articles, except for subject matter classifiable in Class 428, subclasses 544+, the line between this class (106) and Class 428 is as follows: A patent containing a claim to a product classifiable in Class 428, but with no significant structural limitation recited, and a claim to a coating material of the Class 106 type, which material is included as at least part of the claimed prod-

- uct, it is classified in Class 106 on the basis of the coating material. If the patent also has a claim to a process of coating including a significant method step, the patent is classified in Class 428. Lines With Other Classes and Within This Class for the general relationship between Class 428 and the composition classes. (Processes including preparation of coating or plastic compositions.)
- 428, Stock Material or Miscellaneous Articles, appropriate subclasses for a stock material product in the form of a single or plural layer web or sheet and particularly subclasses 98+ for a structurally defined web or sheet; subclass 221 for a web or sheet having a structurally defined element or component; subclasses 357+ for a coated or structurally defined element (e.g., strand, fiber, flake, or filament), or a mass thereof; and subclasses 411+ for a composite web or sheet in which the composition of at least one layer is specified. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 429, Chemistry: Electrical Current Producing Apparatus, Product, and Process, appropriate subclasses for compositions of matter limited to use in electrochemical batteries, especially subclasses 188+ for electrolytic compositions and subclasses 247+ for separator compositions. (For coating or plastic compositions elsewhere classified.)
- 429, Chemistry: Electrical Current Producing Apparatus, Product, and Process, subclasses 247+ for battery separator which may be mentioned by name only. (Named articles defined only by compositions.)
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclasses for radiation sensitive and post imagery compositions. (Named articles defined only by compositions.)
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclass for articles provided for by the class. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 430, Radiation Imagery Chemistry: Process, Composition, or Product Thereof, appropriate subclass for compositions of matter which are specialized for use as a radiation image sensitizing agent and post imaging treating agent. (For coating or plastic compositions elsewhere classified.)
- 432, Heating, subclasses 1+ for a residual process of heating or calcining an object or material which is clearly distinct from the composition. (Processes including preparation of coating or plastic compositions.)
- 433, Dentistry, subclasses 167+ for an artificial tooth or denture and subclasses 215+ for a method of restoring a natural tooth by using a specific coating or plastic composition. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 452, Butchering, subclass 72 for composition for use in removing feathers and hair from fowls and animals in the preparation of the carcasses for food. (For coating or plastic compositions elsewhere classified.)
- 492, Roll or Roller, subclasses 53+ and 57+ for the disclosure of specific compositions of a roll, per se, not elsewhere provided for. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 492, Roll or Roller, subclasses 53+ and 57+ for the disclosure of specific compositions of a roll, per se, not elsewhere provided for. (Named articles defined only by composition.)
- 501, Compositions: Ceramic, appropriate subclasses for articles defined solely by composition, which composition is a ceramic material. (For named articles defined only by compositions.)
- 504, Plant Protecting and Regulating Compositions, appropriate subclasses for compositions of matter specialized for use as plant catalysts or stimulants. (For coating or plastic compositions elsewhere classified.)
- 508, Solid Anti-Friction Devices, Materials Therefor, Lubricant or Separant Compositions for Moving Solid Surfaces, and Miscellaneous Mineral Oil Compositions, the generic class for lubricants. As between Class 106 and Class 508, the following line is followed: Where the composition is disclosed as a lubricant, whether or not other uses are disclosed, the composition belongs in Class 508 if claimed only broadly or if claimed as a lubricant. (For coating or plastic compositions elsewhere classified.)
- 508, Solid Anti-Friction Devices, Materials Therefor, Lubricant or Separant Compositions for

- Moving Solid Surfaces, and Miscellaneous Mineral Oil Compositions, appropriate subclasses for lubricant packs and compositions therefor, particularly subclasses 100+ for bearings or guides mentioned by name only and defined solely by the composition of which they are composed. (For named articles defined only by compositions.)
- 520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclasses 130+ for a composition having utility in consolidating a formation in a well or in cementing a well or to processes of preparing said composition and Class 524, subclasses 2+ for a water settable inorganic composition containing a synthetic resin or natural rubber. (For named articles defined only by compositions.)
- 588, Hazardous or Toxic Waste Destruction or Containment, subclass 257 for methods of containing hazardous or toxic waste in a Class 106 composition. (Processes including preparation of coating or plastic compositions.)
- 602, Surgery: Splint, Brace, or Bandage, subclasses 5+ for splints. (Class for named articles with claimed significant structure of the article whether or not there are claims to article's composition.)
- 720, Dynamic Optical Information Storage or Retrieval, subclasses 718 through 746 for optical storage medium structure.

SUBCLASSES

1.05 Metal-depositing composition or substrate-sensitizing compositions for metal-depositing compositions:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions from which metal is deposited as a coating, usually by chemical precipitation.

- (1) Note. Included in this subclass are metal-coating compositions (metalization) for coating of metallic and nonmetallic substrates by processes such as electroless metal-deposition process, hot dipping (tinplate, galvanizing), metal spraying, electrophoresis, vacuum or vapor deposition, oxide reduction, cementation, etc.

- (2) Note. Each of the subclasses 1.05, 1.11-1.19, and 1.21-1.29 provide for metal-coating compositions other than subclass 1.11, which is directed to compositions for activating or sensitizing substrates (metal or nonmetal), for subsequent metal coating with metal-containing compositions of subclasses 1.05, 1.12-1.19 and 1.21-1.29. Activating or sensitizing compositions are generally coupled to the electroless metal-deposition process and compositions therefrom.

SEE OR SEARCH CLASS:

- 148, Metal Treatment, appropriate subclasses for metal treating of base metals to alter their physical or chemical properties.
- 204, Chemistry: Electrical and Wave Energy, subclasses 291+ for electrode compositions and subclasses 295+ for diaphragm compositions limited to use in electrolytic apparatus.
- 205, Electrolysis: Processes, Compositions Used Therein, and Methods of Preparing the Compositions, subclasses 80+ for an electrolytic coating process or a composition used therefor.
- 252, Compositions, subclasses 181.1+ for compositions and materials for use as getters for electric lamps, electric space-discharge devices and similar evacuation of gas-filled containers or for generating a gas or vapor within the containers of an electric lamp, and electric space-discharge device or similar containers. The getter material or gas or vapor generated is sometimes a metal and is intended to be deposited as a coating upon the walls or other parts of the lamp or discharge device.
- 427, Coating Processes, including electroless processes of metal consisting of metal or nonmetal substrates.

1.11 Sensitizing composition:

This subclass is indented under subclass 1.05. Subject matter which is directed to compositions for activating or sensitizing substrates (metal or nonmetal) which are to be subse-

- quently subjected to metal-coating compositions generally using the electroless metal-deposition process.
- 1.12 Metal-depositing composition contains mixtures of elemental metal and a metal compound other than solely as a Group IA metal compound:**
This subclass is indented under subclass 1.05. Subject matter involving a metal-depositing composition containing a mixture of elemental metal and a metal compound and wherein the metal portion of said compound contains a metal other than solely as a Group IA (Li, Na, K, Rb, Cs, Ra) metal.
- 1.13 Elemental metal is a Group IB (Cu, Ag, Au):**
This subclass is indented under subclass 1.12. Subject matter wherein the elemental metal is a Group IB (Cu, Ag, Au) metal.
- 1.14 Elemental metal is Ag:**
This subclass is indented under subclass 1.13. Subject matter wherein the elemental metal is silver (Ag).
- 1.15 Elemental metal is a noble metal of Group VIII (Ru, Rh, Pd, Os, Ir, Pt):**
This subclass is indented under subclass 1.12. Subject matter wherein the elemental metal is a noble metal of Group VIII (Ru, Rh, Pd, Os, Ir, Pt).
- 1.16 Elemental metal is a Group IIB (Zn, Cd, Hg) metal:**
This subclass is indented under subclass 1.12. Subject matter wherein the elemental metal is a metal of Group IIB (Zn, Cd, Hg).
- 1.17 Elemental metal is Zn:**
This subclass is indented under subclass 1.16. Subject matter wherein the elemental metal is zinc (Zn).
- 1.18 Metal-depositing composition contains elemental metal of Group IB (Cu, Ag, Au):**
This subclass is indented under subclass 1.05. Subject matter involving a metal-coating composition containing an elemental metal of Group IB (Cu, Ag, Au).
- 1.19 Elemental metal is Ag:**
This subclass is indented under subclass 1.18. Subject matter wherein the elemental metal is silver (Ag).
- 1.21 Metal composition contains elemental noble metal of Group VIII (Ru, Rh, Pd, Os, Ir, Pt):**
This subclass is indented under subclass 1.05. Subject matter involving a metal-coating composition containing an elemental noble metal of Group VIII (Ru, Rh, Os, Ir, Pt).
- 1.22 Metal-depositing composition contains mixtures of metal compounds other than solely as Group IA metal compounds, e.g., electroless:**
This subclass is indented under subclass 1.05. Subject matter wherein the metal-depositing composition contains mixtures of metal compounds and wherein at least two metal compounds contain metal atoms other than Group IA metal compounds generally used in the electroless metal deposition process.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
1.11, for activating or sensitizing substrates for metalizing said substrates with metal-containing compositions by the electroless metal deposition process.
- SEE OR SEARCH CLASS:
427, Coating Processes, appropriate subclasses for a process of coating substrates by an electroless metal-deposition process.
- 1.23 At least one metal is a Group IB (Cu, Ag, Au) metal:**
This subclass is indented under subclass 1.22. Subject matter wherein at least one metal atom of said mixture of metal compounds is a Group IA (Cu, Ag, Au) metal atom.
- 1.24 At least one metal is a noble metal of a Group VIII (Ru, Rh, Pd, Os, Ir, Pt) metal:**
This subclass is indented under subclass 1.22. Subject matter wherein at least one metal atom of said mixture of metal compounds is a noble metal of Group VIII (Ru, Rh, Pd, Os, Ir, Pt).

1.25 Metal-depositing composition contains polyvalent metal compound:

This subclass is indented under subclass 1.05. Subject matter wherein a metal-depositing composition contains a polyvalent metal compound.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.11, for sensitizing or activating compositions for substrates to be subsequently treated with a polyvalent metal-depositing composition.

1.26 Group IB (Cu, Au) metal:

This subclass is indented under subclass 1.25. Subject matter wherein the polyvalent metal portion of said compound is a polyvalent metal of Group IB (Cu, Au).

1.27 Group VIII metal:

This subclass is indented under subclass 1.25. Subject matter wherein the polyvalent metal portion of said compound is a polyvalent metal of Group VIII (Fe, Co, Ni).

1.28 Group VIII noble metal (Ru, Rh, Pd, Os, Ir, Pt):

This subclass is indented under subclass 1.27. Subject matter wherein the polyvalent metal is a noble metal of Group VIII (Ru, Rh, Pd, Os, Ir, Pt).

1.29 Group IIB (Zn, Cd, Hg) metal:

This subclass is indented under subclass 1.25. Subject matter wherein the polyvalent metal is a Group IIB (Zn, Cd, Hg) metal atom.

2 Coating repellent:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specially designed for use in the prevention of the adherence of a coating material to a surface.

(1) Note. This subclass includes antismut compositions.

SEE OR SEARCH CLASS:

101, Printing, subclasses 130 and 135 through 146 for apparatus for printing dependent on the use of ink repellent

surfaces, subclasses 450+ for processes of printing, subclasses 453+ for lithographic printing plates, subclasses 463+ for lithographic plate making, and subclasses 416.1+ for antismut devices.

425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclasses 90+ for plastic or fluent material molding apparatus combined with means to apply a parting (i.e., repellent, etc.) material, many of which disclose specifics of the composition.

3 Polishes:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions, known as polishes, specially designed for use in producing a luster or sheen on a surface which may be applied by rubbing or burishing.

(1) Note. This subclass and indented subclasses include furniture polish, shoe polish, floor polish, etc.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 104.93+ for fabrics coated or saturated with a polish for use as wipers, daubers or polishers.

51, Abrasive Tool Making Process, Material, or Composition, appropriate subclasses for a polishing composition wherewith polishing is accomplished solely by an abradant.

510, Cleaning, Compositions for Solid Surfaces, Auxiliary Compositions Therefor, or Processes of Preparing the Compositions, appropriate subclasses for cleaning compositions which include a particulate polishing component or which deposit a polish-like coating component on the cleaned surface (e.g., subclasses 256, 400, etc.).

520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclass 167 for a composition containing a synthetic resin or natural rubber having utility in the manufacturing or repairing of shoes or

to processes of preparing said composition.

4 Protein or derivative containing:

This subclass is indented under subclass 3. Compositions in the preparation of which a protein is employed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.53+, 124+, 614+, and 645+, for other compositions containing proteins or derivatives.

5 Carbohydrate or derivative containing:

This subclass is indented under subclass 3. Compositions in the preparation of which a carbohydrate or reaction product thereof is employed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.36+, 31.69+, 126+, 139+, 150, 151, 157, 158, 162+, 617, 687, 729+, 779+, and 804+, for other compositions containing carbohydrates or derivatives.

6 Natural resin or derivative containing:

This subclass is indented under subclass 3. Compositions in the preparation of which a natural resin or reaction product thereof is employed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

16, 31.4, 31.72, 133, 144, 152, 156, 160, 172, 173.1, 200, 207, 212, 216, 218+, 622, 660, for other compositions containing natural resin or derivative.

7 With fatty oil:

This subclass is indented under subclass 6. Compositions in the preparation of which a fatty oil is employed.

- (1) Note. The term "varnish" when broadly used is presumed to include a mixture of natural resin with a drying oil, and patents drawn to compositions containing "varnish" recited broadly are classified upon this basis.

SEE OR SEARCH THIS CLASS, SUBCLASS:

17, 31.34, 172, and 220+, for other compositions containing a natural resin or derivative with a fatty oil.

8 Fat, fatty oil, fatty oil acid or salt thereof containing:

This subclass is indented under subclass 3. Compositions in the preparation of which a fat, fatty oil, fatty oil acid or salt thereof is employed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

18, 31.34+, 131, 132, 142, 143, 159, 171, 172, 199, 206, 211, 215, 219+, 243+, 620+, and 661+, for other compositions containing a fat, fatty oil, fatty oil acid or salt thereof.

9 Fatty oil:

This subclass is indented under subclass 8. Compositions in the preparation of which a fatty oil is employed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

18, 31.34, 132, 143, 159, 171, 199, 206, 211, 215, 220+, 244+, 620+, and 661+, for other compositions containing fatty oil.

10 Wax, bituminous material or tarry residue containing:

This subclass is indented under subclass 3. Compositions in the preparation of which a wax, a bituminous material or tarry residue is employed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.29, 134, 145, 152, 156, 160, 191, 201, 202, 207, 212, 216, 224, 225, 230, 231, 232+, 245, 246+, 269, 270+, 273.1, 622, and 660, for other compositions containing wax, bituminous material or tarry residue.

SEE OR SEARCH CLASS:

510, Cleaning Compositions for Solid Surfaces, Auxiliary Compositions There-

for, or Processes of Preparing the Compositions, appropriate subclasses for cleaning compositions which include wax as one of the components (e.g., subclasses 201+, 222, 347, etc.), although the wax may or may not be retained on the cleaned substrate.

11 Hydrocarbon containing:

This subclass is indented under subclass 3. Compositions in the preparation of which a hydrocarbon is employed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.88, 191, 227, 234, 239, 265, 267, and 285, for other compositions containing hydrocarbons.

12 Saturating or indurating:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specially designed for saturating or indurating solid base material.

(1) Note. Compositions found in this subclass are those which do not, by themselves, usually form hard, adherent films but exert a hardening or indurating action on the base.

(2) Note. Most of the compositions in this subclass are compositions for saturating and hardening siliceous and calcareous substances, e.g., concrete.

SEE OR SEARCH CLASS:

252, Compositions, subclasses 601+ for impregnating compositions which exert a fireproofing action.

424, Drug, Bio-Affecting and Body Treating Compositions, appropriate subclasses for a composition, biocidal or repellent to pest life, i.e., insects, rodents, microorganisms, etc., and which may saturate a substrate such as paper, wood or textile, etc.

13 Fog, frost or ice preventive:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specialized for use in preventing the for-

mation of a fog, frost or ice on a surface, usually the surface of a window.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 104.93+ for fabrics impregnated with a frost preventing composition to be used as wipers, daubers, or polishers.

252, Compositions, subclass 70 for other frost preventing compositions.

520, Synthetic Resins or Natural Rubbers, appropriate subclasses particularly Class 523, subclass 169 for a composition containing a synthetic resin or natural rubber having utility to preserve visibility through a windshield or other optical device by preventing the buildup of fog or by rendering the surface hydrophobia, thereby causing the surface to repel water or to processes of preparation thereof.

14.05 Corrosion inhibiting coating composition:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specifically designed for inhibiting corrosion of metal other than mere exclusion of air or other corrosive influences.

SEE OR SEARCH CLASS:

148, Metal Treatment, subclasses 240+ for chemical modification of a metal involving the use of a corrosion inhibiting composition.

252, Compositions, subclasses 387+ for preservative agents and compositions containing anticorrosion agents.

422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 7+ for processes of preserving metals or metallic surfaces against corrosion by maintaining the environment noncorrosive and subclasses 14+ wherein the environment is water.

427, Coating Processes, appropriate subclasses for coating substrates using a composition containing a corrosion inhibitor.

428, Stock Material or Miscellaneous Articles, coated with a composition containing a corrosion inhibitor.

- 14.11 Contains water:**
This subclass is indented under subclass 14.05. Subject matter wherein the corrosion inhibiting composition contains water.
- 14.12 Phosphorus material:**
This subclass is indented under subclass 14.11. Subject matter wherein the corrosion inhibiting agent contains a phosphorus atom.
- 14.13 Carboxylic acid, ester, alcohol or sulfur or metal derivative:**
This subclass is indented under subclass 14.11. Subject matter wherein the corrosion inhibiting composition contains a carboxylic acid, ester, alcohol, sulfur, or metal derivative.
- 14.14 Inorganic material other than water:**
This subclass is indented under subclass 14.13. Subject matter wherein said composition also contains an inorganic material other than water, e.g., inorganic salts, inorganic fillers, metal, sulfur, etc.
- 14.15 Organic nitrogen-containing material, e.g., amine, amide, etc.:**
This subclass is indented under subclass 14.11. Subject matter wherein the corrosion inhibiting composition contains an organic nitrogen-containing material, e.g., organic amine, amide, etc.
- 14.16 Heterocyclic nitrogen-containing material:**
This subclass is indented under subclass 14.15. Subject matter wherein the organic nitrogen-containing material contains at least one nitrogen atom in a hetero ring compound, e.g., pyridine or pyrrolidone-type compound, etc.
- 14.17 Inorganic material other than water:**
This subclass is indented under subclass 14.16. Subject matter wherein said composition also contains an inorganic material other than water.
- 14.18 Amine salt of carboxylic acid:**
This subclass is indented under subclass 14.15. Subject matter wherein the corrosion inhibiting composition contains an amine salt of a carboxylic acid, e.g., triethanolamine oleate, etc.
- 14.21 Inorganic material or elemental component thereof, e.g., S, metal, etc.:**
This subclass is indented under subclass 14.11. Subject matter wherein said corrosion inhibitor coating composition contains an inorganic material.
- 14.22 Contains animal, vegetable, fish oil or a fraction or derivative thereof:**
This subclass is indented under subclass 14.05. Subject matter wherein the corrosion inhibiting composition contains an animal, vegetable or fish oil or fraction or a derivative thereof.
- 14.23 Carboxylic acid, ester, alcohol or metal or sulfur or amine or amide derivative thereof:**
This subclass is indented under subclass 14.22. Subject matter wherein the corrosion inhibiting composition contains a carboxylic acid, ester, alcohol, sulfur, metal, amine, or amide derivative.
- 14.24 Carboxylic acid, ester, or amine or amide derivative:**
This subclass is indented under subclass 14.23. Subject matter wherein the corrosion inhibiting composition contains a carboxylic acid, ester, amine, or amide derivative of said carboxylic acid.
- 14.25 Inorganic material or elemental component thereof:**
This subclass is indented under subclass 14.22. Subject matter wherein a component of said corrosion inhibiting composition contains an inorganic material or elemental component thereof.
- 14.26 Contains petroleum oil or a fraction thereof:**
This subclass is indented under subclass 14.05. Subject matter wherein the corrosion inhibiting composition contains a petroleum oil or liquid fractions thereof.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
14.34, for solid petroleum wax as part of a corrosion inhibiting composition.

- 14.27 Carboxylic acid, ester, alcohol or sulfur or metal derivative thereof:**
This subclass is indented under subclass 14.26. Subject matter wherein the corrosion inhibiting composition contains a carboxylic acid, ester, alcohol, sulfur, or metal derivative thereof.
- 14.28 Metal salt of carboxylic acid:**
This subclass is indented under subclass 14.27. Subject matter wherein the corrosion inhibiting composition contains a metal salt of a carboxylic acid, e.g., sodium stearate, etc.
- 14.29 Metal salt of sulfonic acid:**
This subclass is indented under subclass 14.27. Subject matter wherein the corrosion inhibiting composition contains a metal salt of a sulfonic acid, e.g., Na petroleum sulfonate, etc.
- 14.31 Organic nitrogen-containing material, e.g., amine, amide, etc.:**
This subclass is indented under subclass 14.26. Subject matter wherein the corrosion inhibiting composition contains an organic nitrogen-containing material, e.g., amine, amide, etc.
- 14.33 Inorganic material or elemental component thereof, e.g., S, metal, etc.:**
This subclass is indented under subclass 14.26. Subject matter wherein a component of said petroleum oil-containing composition is an inorganic material or elemental component thereof.
- 14.34 Contains wax, bitumen, asphalt, gum, natural resin, varnish, lacquer, or paint:**
This subclass is indented under subclass 14.05. Subject matter wherein the corrosion inhibiting composition or a component thereof contains wax, bitumen, asphalt, gum, natural resin, varnish, lacquer, or paint.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
14.26, for a liquid petroleum fraction which is part of a corrosion inhibiting composition.
- 14.35 Carboxylic acid, ester, alcohol or sulfur or metal derivative:**
This subclass is indented under subclass 14.34. Subject matter wherein the corrosion inhibiting composition contains a carboxylic acid, ester, alcohol, sulfur, or metal derivative thereof.
- 14.36 Metal salt of carboxylic acid:**
This subclass is indented under subclass 14.35. Subject matter wherein the corrosion inhibiting composition contains a metal salt of a carboxylic acid.
- 14.37 Organic nitrogen-containing material:**
This subclass is indented under subclass 14.34. Subject matter wherein the corrosion inhibiting composition contains a nitrogen-containing material, e.g., amine, amide, etc.
- 14.38 Organic sulfur-containing material:**
This subclass is indented under subclass 14.34. Subject matter wherein the corrosion inhibiting composition contains a sulfur-containing material, e.g., organic sulfide, sulfonate, etc.
- 14.39 Inorganic material or elemental component thereof:**
This subclass is indented under subclass 14.34. Subject matter wherein a component of said composition is an inorganic material or elemental component thereof.
- 14.41 Contains mixture of at least two organic compounds:**
This subclass is indented under subclass 14.05. Subject matter wherein the corrosion inhibiting coating composition contains at least two organic compounds.
- 14.42 Organic nitrogen-containing material:**
This subclass is indented under subclass 14.41. Subject matter wherein at least one of the organic compounds is an organic nitrogen-containing compound, e.g., amine, amide, etc.
- 14.43 Organic sulfur-containing material:**
This subclass is indented under subclass 14.41. Subject matter wherein at least one of the organic compounds is an organic sulfur-containing compound.

14.44 Contains mixture of organic material and at least one inorganic material or elemental component thereof:

This subclass is indented under subclass 14.05. Subject matter wherein the corrosion inhibiting coating composition contains at least one organic material and at least one inorganic material or elemental component thereof.

14.45 Elemental S or inorganic sulfur-containing compound:

This subclass is indented under subclass 14.44. Subject matter wherein the inorganic material is elemental sulfur or an inorganic sulfur-containing compound, e.g., CS₂, Na₂S, etc.

14.5 Hectographic or copying:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specially designed for producing sheets or surfaces for receiving the negative design in copy printing and usually serving as a member for which to print a large number of copies.

SEE OR SEARCH THIS CLASS, SUBCLASS:

311, and other appropriate subclasses below, for duplicator fluids, that is, solvents which may be applied to the hectograph surface or the copy sheet.

SEE OR SEARCH CLASS:

101, Printing, subclass 131 for apparatus employing copy compositions and subclass 468 for hectographs and processes of use.

427, Coating Processes, subclass 144 for processes of applying a uniform coating to a base disclosed as useful in making hectographic copying surfaces.

15.05 Contains fireproofing or biocidal agent:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Subject matter containing an agent or material specifically designed to render the coating or plastic composition resistant to the effects of fire or unwarranted organisms.

(1) Note. Patents in this area have been placed away into the first appearing subclass of the classification schedule that provides for any part of the fireproofed or biocidal containing plastic composition. No attempt has been made to classify on the particular agent in the coating or plastic composition which may provide the desired fireproofing or biocidal effect.

(2) Note. Included herein are repellants, biocides, biostats, etc.

(3) Note. The organisms protected against may be microscopic or macroscopic.

SEE OR SEARCH CLASS:

252, Compositions, subclasses 2+ for fire-extinguishing compositions and subclass 8.1 for fireproofing compositions.

424, Drug, Bio-Affecting and Body Treating Compositions, appropriate subclasses for a pest repelling composition, per se, and for certain coated substrates wherein the substrate functions as an applicator or carrier for the composition and wherein the general intent is to provide a pesticidal or pest-repelling effect rather than a means to protect the carrier or substrate.

428, Stock Material or Miscellaneous Articles, appropriate subclasses for a stock material product in the form of a single layer having significant structure, or plural layers of webs or sheets; and especially subclasses 920+ for a cross-reference art collection product which is resistant against plant or animal attack.

520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclass 122 for a composition containing a synthetic resin or natural rubber and an ingredient which prevents the commencement of biocidal deterioration from fungi, bacteria, or other organisms; and subclass 179 for a composition containing a synthetic resin or natural rubber and having utility as an ablative or intu-

- mescent coating composition or to processes of preparing said compositions.
- 16 Natural resin or derivative containing:**
This subclass is indented under subclass 15.05. Compositions in the preparation of which a natural resin or derivative is employed.
- (1) Note. See this class, the subclasses including “natural resin or derivative” or “resinous material” in the titles thereof, for other compositions containing natural resin or derivatives.
- 17 With fat, fatty oil, fatty oil acid or salt thereof:**
This subclass is indented under subclass 16. Compositions in the preparation of which a fat, fatty oil, fatty oil acid or salt thereof is employed.
- (1) Note. See this class, the subclasses including “natural resin or derivative with fat, fatty oil, fatty oil acid or salt thereof” in the titles thereof for other compositions containing natural resin or derivatives and a fat, fatty oil, fatty oil acid or salt thereof.
- 18 Fat, fatty oil, fatty oil acid or salt thereof containing:**
This subclass is indented under subclass 15.05. Compositions in the preparation of which a fat, fatty oil, fatty oil acid or salt thereof is employed.
- (1) Note. See this class, subclasses including “fat, fatty oil, fatty oil acid or salt thereof” in the titles thereof for other compositions containing a fat, fatty oil, fatty oil acid or salt thereof.
- 18.11 Contains fireproofing agent:**
This subclass is indented under subclass 15.05. Subject matter wherein the coating or plastic composition contains a specific material which renders it resistant to fire.
- 18.12 Silicon containing:**
This subclass is indented under subclass 18.11. Subject matter wherein the coating or plastic composition contains a silicon-containing material.
- 18.13 Boron containing:**
This subclass is indented under subclass 18.11. Subject matter wherein the coating or plastic composition contains a boron-containing material.
- 18.14 Phosphorus containing:**
This subclass is indented under subclass 18.11. Subject matter wherein the coating or plastic composition contains a phosphorus-containing material.
- 18.15 Nitrogen-containing phosphorus compound:**
This subclass is indented under subclass 18.14. Subject matter wherein phosphorus is in the form of phosphorus compound containing a nitrogen atom.
- 18.16 Inorganic compound contains a phosphorus and a nitrogen atom:**
This subclass is indented under subclass 18.15. Subject matter wherein the phosphorus-containing nitrogen compound is inorganic in nature.
- 18.17 Contains phosphorus directly bonded to nitrogen:**
This subclass is indented under subclass 18.15. Subject matter wherein the phosphorus-containing nitrogen compound has at least one nitrogen atom directly bonded to a phosphorus atom.
- 18.18 Phosphorus compound is organic:**
This subclass is indented under subclass 18.14. Subject matter wherein the phosphorus is in the form of an organic compound.
- 18.19 Phosphorus compound which is organic contains halogen:**
This subclass is indented under subclass 18.18. Subject matter wherein the organic phosphorus compound contains at least one halogen atom.
- 18.2 With halogen-containing compound:**
This subclass is indented under subclass 18.18. Subject matter wherein the organic phosphorus compound is in admixture with a halogen-containing compound.

- 18.21 Nitrogen-containing organic compound:**
This subclass is indented under subclass 18.11. Subject matter wherein the coating or plastic composition contains an organic compound which has at least one nitrogen atom therein.
- 18.22 Nitrogen compound contains a sulfur atom:**
This subclass is indented under subclass 18.21. Subject matter wherein the organic nitrogen compound contains at least one sulfur atom.
- 18.23 Elemental sulfur or sulfur-containing organic compound:**
This subclass is indented under subclass 18.11. Subject matter wherein the coating or plastic composition contains sulfur in elemental form or as part of a sulfur-containing organic compound.
- 18.24 Halogen-containing organic compound:**
This subclass is indented under subclass 18.11. Subject matter wherein the coating or plastic composition contains a halogen-containing organic compound.
- 18.25 With at least one inorganic material which is other than water:**
This subclass is indented under subclass 18.24. Subject matter wherein the organic halogen-containing compound is in admixture with at least one inorganic material, and wherein when water is present there is additionally present a different inorganic material.
- 18.26 Metal-containing material:**
This subclass is indented under subclass 18.11. Subject matter wherein the coating or plastic composition contains at least one metal atom-containing material.
- 18.27 Group IIB metal atom (Zn, Cd, Hg):**
This subclass is indented under subclass 18.26. Subject matter wherein a Group IIB metal atom (Zn, Cd, Hg) is present.
- 18.28 Group VA metal atom (As, Sb, Bi):**
This subclass is indented under subclass 18.26. Subject matter wherein a Group VA metal atom (As, Sb, Bi) is present.
- 18.29 Wax containing:**
This subclass is indented under subclass 15.05. Subject matter wherein the coating or plastic composition contains a wax.

(1) Note. The wax may be of any origin.
- 18.3 Boron containing:**
This subclass is indented under subclass 15.05. Subject matter wherein the coating or plastic composition contains a boron-containing material.
- 18.31 Phosphorus containing:**
This subclass is indented under subclass 15.05. Subject matter wherein the coating or plastic composition contains a phosphorus-containing material.
- 18.32 Nitrogen-containing compound:**
This subclass is indented under subclass 15.05. Subject matter wherein the coating or plastic composition contains a nitrogen-containing compound.
- 18.33 Nitrogen compound contains a sulfur atom:**
This subclass is indented under subclass 18.32. Subject matter wherein the nitrogen compound contains at least one sulfur atom.
- 18.34 Elemental sulfur or sulfur-containing organic compound:**
This subclass is indented under subclass 15.05. Subject matter wherein the coating or plastic composition contains sulfur in elemental form or as part of a sulfur-containing organic compound.
- 18.35 Halogen-containing organic compound:**
This subclass is indented under subclass 15.05. Subject matter wherein the coating or plastic composition contains a halogen-containing organic compound.
- 18.36 Group IIB metal containing (Zn, Cd, Hg):**
This subclass is indented under subclass 15.05. Subject matter wherein the coating or plastic composition contains at least one Group II metal atom (Zn, Cd, Hg).

31.01 Marking:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions which are specialized for use in producing characters and indicia by means of marking, writing, printing, etc.

- (1) Note. Search appropriate subclasses for similar compositions not designed for use as marking compositions.

SEE OR SEARCH CLASS:

- 401, Coating Implements With Material Supply, subclasses 49+ for pencils wherein significant structure of the pencil is claimed.
- 520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclass 164 for a composition containing a synthetic resin or natural rubber having utility as the writing material in a lead pencil or crayon or to processes of preparing said composition.

31.02 Odor masked, odor reduced, or perfumed:

This subclass is indented under subclass 31.01. Coating or plastic compositions which contain components which are odor masking, odor reducing, or perfuming.

SEE OR SEARCH CLASS:

- 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclass 5 for deodorizing process.
- 512, Perfume Compositions, appropriate subclasses for perfume compositions, per se.

31.03 Composition for marking live animal or plant, or for marking animal derived products (e.g., animal skins, etc.):

This subclass is indented under subclass 31.01. Coating or plastic compositions used for marking living animals or plants, or for marking animal derived products.

31.04 Reflecting composition for marking pavement or sign:

This subclass is indented under subclass 31.01. Reflecting coating or plastic compositions for marking pavement or signs.

31.05 Composition for marking an inorganic settable or ceramic object (e.g., for marking cement or glass, etc.):

This subclass is indented under subclass 31.01. Coating or plastic compositions for marking an inorganic settable or ceramic object.

31.06 Composition for marking metal or metal product:

This subclass is indented under subclass 31.01. Coating or plastic composition for marking metal or metal products.

31.07 Indelible crayon:

This subclass is indented under subclass 31.01. Coating or plastic compositions used as crayon, whose markings are indelible.

31.08 Wax containing:

This subclass is indented under subclass 31.07. Coating or plastic compositions containing wax.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 31.1, for erasable crayon composition containing wax.
- 31.12, for pencil lead compositions containing wax.
- 31.29, for inks containing organic dye that also are the hot melt type or wax-containing.
- 31.61, for inks containing pigments that also are the hot melt type or wax-containing.

31.09 Erasable crayon (i.e., washable or removable crayon):

This subclass is indented under subclass 31.01. Coating or plastic compositions used as crayon whose markings are erasable (i.e., washable or removable).

31.1 Wax containing:

This subclass is indented under subclass 31.09. Coating or plastic compositions containing wax.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 31.08, for indelible crayon compositions containing wax.
- 31.12, for pencil lead compositions containing wax.
- 31.29, for inks containing organic dye that also are the hot melt type or wax-containing.
- 31.61, for inks containing pigments that also are the hot melt type or wax-containing.

31.11 Pencil leads:

This subclass is indented under subclass 31.01. Coating or plastic compositions used as pencil leads.

31.12 Wax containing:

This subclass is indented under subclass 31.11. Coating or plastic compositions containing wax.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 31.08, for indelible crayon compositions containing wax.
- 31.1, for erasable crayon compositions containing wax.
- 31.29, for inks containing organic dye that also are the hot melt type or wax-containing.
- 31.61, for inks containing pigments that also are the hot melt type or wax-containing.

31.13 Inks:

This subclass is indented under subclass 31.01. Coating or plastic compositions specially designed for use as inks to be used for producing characters, by means of writing, printing, or marking.

SEE OR SEARCH CLASS:

- 8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclasses 445+ for textile printing pastes.
- 206, Special Receptacle or Package, subclass 5 for infusion packages or receptacles containing ink.

401, Coating Implements With Material Supply, subclasses 209+ for the combination of a ballpoint pen and ink.

516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclass 901 for a collection of art under the class definition which discloses subject matter relating to a colloid system comprising substantially pure elemental carbon in one of its various forms such as graphite, lamp black, carbon black, fullerenes.

520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclass 160 for a composition containing a synthetic resin or natural rubber having utility as an ink for glass or for ceramic substrates; and subclass 161 for a ballpoint pen or a typewriter ink composition, or for processes of preparing said compositions.

31.14 Invisible:

This subclass is indented under subclass 31.13. Coating or plastic compositions specifically designed to be an invisible ink, which may be activated by any known means to produce a visible ink (e.g., by the action of heat, light, or other subsequent treatment).

SEE OR SEARCH CLASS:

520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclass 161 for a composition containing a synthetic resin or natural rubber having utility as an invisible ink or to processes of preparing said composition.

31.15 Fluorescent:

This subclass is indented under subclass 31.14. Compositions which radiate unpolarized light when illuminated.

SEE OR SEARCH CLASS:

252, Compositions, subclasses 301.16 through 301.35, 301.36, 301.4 to 301.6, and 625 for compositions containing a fluorescent or phosphorescent material, becoming visible when

subjected to subsequent excitation (e.g., ultraviolet light.)

31.16 Chromogenic (i.e., color formation by reaction of color former with color developer):

This subclass is indented under subclass 31.14. Compositions which develop a color by contacting a color former compound (electron donor) with a color developer compound (electron acceptor) in a manner to cause reaction.

31.17 Specified developer (i.e., electron acceptor):

This subclass is indented under subclass 31.16. Compositions where the developer (electron acceptor) is identified.

31.18 Phenolic hydroxy compound as the developer:

This subclass is indented under subclass 31.17. Compositions wherein the specified developer is a phenolic hydroxy compound.

- (1) Note. A phenolic hydroxy compound is a compound wherein a hydroxy group is bonded directly to a substituted or unsubstituted benzene ring.

31.19 With specified color former:

This subclass is indented under subclass 31.18. Compositions where the color former (electron donator, proton accepting component) is identified.

- (1) Note. An example of a color former is malachite green lactone.

31.2 Specified color former (i.e., electron donating):

This subclass is indented under subclass 31.16. Compositions where the color former (electron donating or proton accepting) is identified.

31.21 The color former contains a heterocyclic oxygen ring:

This subclass is indented under subclass 31.2. Compositions wherein the color former contains a heterocyclic ring having a ring oxygen atom.

- (1) Note. A heterocyclic oxygen ring herein is a ring that contains carbon, oxygen, and optionally nitrogen, sulfur, selenium or tellurium as the only ring members.

31.22 Fluoran or derivative containing:

This subclass is indented under subclass 31.21. Compositions wherein the color former contains a fluoran or derivative thereof.

31.23 Erasable composition:

This subclass is indented under subclass 31.14. Compositions which have the ability to be removed (erased).

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.32, for inks containing organic dye and features (to include, i.e., erasable, purified, fugitive, indicative, conductive, fluorescent, chromogenic, or magnetic).

31.34, for inks (containing a pigment) which are erasable, purified, fugitive, indicative, conductive, fluorescent, chromogenic or magnetic.

31.24 Protein, carbohydrate, or wax containing:

This subclass is indented under subclass 31.14. Compositions containing one of the substances protein, carbohydrate, or wax.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.53, for inks containing organic dye and a protein or derivative.

31.82, for inks containing pigment and a protein or derivative.

31.94, for marking compositions containing carbohydrate, protein, or derivative.

31.25 Emulsion:

This subclass is indented under subclass 31.13. Compositions which are in the form of an emulsion.

SEE OR SEARCH CLASS:

252, Compositions, subclasses 306+ for emulsions, per se (i.e., not used as an ink).

31.26 Water in oil:

This subclass is indented under subclass 31.25. Compositions wherein the emulsion is water in oil.

31.27 Organic dye containing:

This subclass is indented under subclass 31.13. Compositions wherein a dye in the ink composition is an organic dye.

SEE OR SEARCH CLASS:

8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, appropriate subclasses for other compositions to be used for dyeing.

31.28 With pigment:

This subclass is indented under subclass 31.27. Compositions further containing a pigment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

24.00, for inks containing a pigment.
24.33, for inks containing an inorganic pigment.

SEE OR SEARCH CLASS:

106, Compositions: Coating or Plastic, subclasses 400+ for pigment, filler, or aggregate compositions.

31.29 Hot melt type or wax containing:

This subclass is indented under subclass 31.27. Compositions having the characteristic of being hot melt type ink compositions or containing wax.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.08, for indelible crayon compositions containing wax.
31.1, for erasable crayon compositions containing wax.
31.12, for pencil lead compositions containing wax.
31.61, for inks containing pigments that also are the hot melt type or wax-containing.

31.3 Petroleum derivative containing (e.g., paraffin or microcrystalline wax etc.):

This subclass is indented under subclass 31.29. Compositions containing a petroleum derivative (e.g., paraffin or microcrystalline wax, etc.).

31.31 Natural wax containing (e.g., carnauba, montan, Japan, candelilla, etc.):

This subclass is indented under subclass 31.29. Compositions containing a natural wax (e.g., carnauba, montan, Japan, candelilla, etc.).

31.32 Erasable, purified, correctable, fugitive, indicator, conductive, fluorescent, chromogenic, or magnetic composition:

This subclass is indented under subclass 31.27. Compositions having the characteristic of being erasable, purified, correctable, fugitive, indicative, conductive, fluorescent, chromogenic or magnetic in nature.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.23, for invisible inks that are erasable compositions.
31.84, for inks, containing a pigment, which are erasable, purified, correctable, fugitive, indicator, conductive, fluorescent, chromogenic, or magnetic.

31.33 Specified particle size or coated particle containing:

This subclass is indented under subclass 31.27. Compositions containing a particle of a specified size or which contain coated particles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.65, for pigmented ink containing a particle of a specified size or containing coated particles.

31.34 Fat, fatty oil, fatty acid, or derivative thereof containing:

This subclass is indented under subclass 31.27. Compositions containing fat, fatty oil, fatty acid, or derivative thereof (e.g., castor oil).

(1) Note. Many of the patents in this subclass and indented subclasses are for printing inks.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.66, for inks containing pigments and fat, fatty oil, fatty acid, or derivative thereof.

31.35 Fatty acid or derivative containing:

This subclass is indented under subclass 31.34. Compositions containing a fatty acid or fatty acid derivative.

31.36 Carbohydrate or derivative containing:

This subclass is indented under subclass 31.27. Compositions containing carbohydrate or derivative thereof (e.g., dextrin, etc.).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

31.24, for invisible inks containing protein, carbohydrate, or wax.

31.68, for pigment containing inks with carbohydrate or derivative thereof.

31.94, for marking compositions containing carbohydrate, protein, or derivative thereof.

31.37 Cellulose or derivative containing:

This subclass is indented under subclass 31.36. Compositions containing cellulose or derivative.

31.38 Carbohydrate gum containing:

This subclass is indented under subclass 31.36. Compositions containing carbohydrate gum.

(1) Note. Examples of carbohydrate gum are gum arabic, xanthan gum, and guar gum.

31.39 Starch containing:

This subclass is indented under subclass 31.36. Compositions containing starch.

31.4 Natural resin or derivative containing:

This subclass is indented under subclass 31.27. Compositions containing natural resin or derivative thereof.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

31.72, for pigmented inks which contain a natural resin or derivative thereof.

31.96, for marking compositions containing natural resin or derivative thereof.

31.41 Resin or derivative containing:

This subclass is indented under subclass 31.4. Compositions containing rosin or derivative thereof.

31.42 Shellac or derivative containing:

This subclass is indented under subclass 31.4. Compositions containing shellac or derivative thereof.

31.43 Organic nitrogen compound containing:

This subclass is indented under subclass 31.27. Compositions which contain an organic nitrogen compound.

(1) Note. An organic nitrogen compound is a compound wherein nitrogen is attached directly or indirectly to carbon of an organic compound by nonionic bonding.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

31.75, for pigmented ink containing an organic nitrogen compound, wherein the organic nitrogen compound may or may not be the pigment.

31.97, for marking compositions containing an organic nitrogen or organic sulfur compound.

31.44 Anthraquinone attached directly or indirectly to the nitrogen by nonionic bonding:

This subclass is indented under subclass 31.43. Subject matter wherein the nitrogen is attached directly or indirectly to an anthraquinone ring system by nonionic bonding.

31.45 The nitrogen is part of a cyano group:

This subclass is indented under subclass 31.43. Subject matter wherein the nitrogen is in a cyano group.

31.46 The nitrogen is a ring member of a heterocyclic ring:

This subclass is indented under subclass 31.43. Subject matter wherein a heterocyclic ring contains at least one nitrogen atom as a ring member.

(1) Note. A heterocyclic ring is a ring that contains only carbon and at least one ring hetero atom selected from nitrogen, oxygen, sulfur, selenium, or tellurium.

31.47 Six-ring members in the heterocyclic ring:

This subclass is indented under subclass 31.46. Subject matter wherein the heterocyclic ring is six-membered.

- 31.48 Acyclic azo attached directly or indirectly to the heterocyclic ring by nonionic bonding:**
This subclass is indented under subclass 31.47. Subject matter wherein an acyclic azo group, -N=N-, is bonded to two discrete carbons and is attached directly or indirectly to the six-membered, heterocyclic ring by nonionic bonding.
- 31.49 Five-ring members in the heterocyclic ring:**
This subclass is indented under subclass 31.46. Subject matter wherein the heterocyclic ring is five-membered.
- 31.5 Acyclic azo attached directly or indirectly to the heterocyclic ring by nonionic bonding:**
This subclass is indented under subclass 31.49. Subject matter wherein an acyclic azo group, -N=N-, is attached directly or indirectly to the five-membered, heterocyclic ring by nonionic bonding. The azo group is bonded directly to two discrete carbons.
- 31.51 The nitrogen is part of an acyclic azo group:**
This subclass is indented under subclass 31.43. Compositions wherein the nitrogen is part of an acyclic azo group, -N=N-, which is bonded directly to two discrete carbons.
- 31.52 Plural acyclic azo group component containing:**
This subclass is indented under subclass 31.51. Compositions wherein a plural acyclic azo group containing compound is present.
- 31.53 Protein or derivative containing:**
This subclass is indented under subclass 31.43. Compositions containing a protein or derivative (e.g., alginic acid-plant protein, etc.).
- SEE OR SEARCH THIS CLASS, SUBCLASS:
31.24, for invisible inks containing protein, carbohydrate, or wax.
31.82, for pigmented inks containing protein or derivative thereof.
31.94, for marking compositions containing carbohydrate, protein, or derivatives thereof.
- 31.54 Gelatin, glue, or derivative containing:**
This subclass is indented under subclass 31.53. Compositions containing gelatin, glue, or derivative thereof.
- 31.55 Casein or derivative containing:**
This subclass is indented under subclass 31.53. Compositions containing casein or derivative thereof.
- 31.56 Seed or derivative thereof containing (e.g., nuts, beans, zein, grain, rice, corn, wheat, oats, gluten, soybean, etc.):**
This subclass is indented under subclass 31.53. Compositions containing natural seed or derivative thereof.
- 31.57 Specified vehicle, solvent, or dispersing medium containing:**
This subclass is indented under subclass 31.27. Compositions containing an identified vehicle, solvent, or dispersing medium.
- (1) Note. For purposes of this subclass and its indent, a substance is "identified" if it is defined either (a) in terms of a chemical structure characteristic or (b) quantitatively in terms of a specific physical property.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
31.59, for inks containing an organic dye and specified surfactant.
31.85, for inks containing a pigment and specified vehicle, solvent, or dispersing medium.
31.89, for inks containing a pigment and a specified surfactant.
- 31.58 Organic oxygen compound containing:**
This subclass is indented under subclass 31.57. Compositions containing an organic oxygen compound.
- (1) Note. An organic oxygen compound is one wherein oxygen is attached directly or indirectly to carbon of an organic compound by nonionic bonding.

31.59 Specified surfactant containing:

This subclass is indented under subclass 31.27. Compositions containing an identified surfactant.

- (1) Note. The surfactants may be of any type (e.g., anionic, nonionic etc.).
- (2) Note. For purposes of this subclass, a substance is "identified" if it is defined either (a) in terms of a chemical structure characteristic or (b) quantitatively in terms of a specific physical property.

31.6 Pigment containing:

This subclass is indented under subclass 31.13. Compositions containing a pigment.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 31.27, for inks containing an organic dye and a pigment.
31.9, for inks containing an inorganic pigment.

SEE OR SEARCH CLASS:

- 106, Compositions: Coating or Plastic, subclasses 400+ for pigment, filler, or aggregate composition.

31.61 Hot, melt type, or wax containing:

This subclass is indented under subclass 31.6. Composition having the characteristic of being hot melt type or wax containing.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 31.08, for indelible crayon compositions containing wax.
31.1, for erasable crayon compositions containing wax.
31.12, for pencil lead compositions containing wax.
31.29, for inks containing organic dye that are hot, melt type, or wax containing.

31.62 Petroleum derivative containing (e.g., paraffin or microcrystalline wax, etc.):

This subclass is indented under subclass 31.61. Compositions containing a petroleum derivative (e.g., paraffin or microcrystalline wax.)

31.63 Natural wax containing (e.g., carnauba, montan, Japan, candelilla, etc.):

This subclass is indented under subclass 31.61. Compositions containing a natural wax.

31.64 Erasable, purified, correctable, fugitive, indicator, conductive, fluorescent, chromogenic, or magnetic composition:

This subclass is indented under subclass 31.6. Compositions having the characteristic of being erasable, purified correctable, fugitive, indicator, conductive, fluorescent, chromogenic, or magnetic in nature.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 31.23, for invisible inks which have the ability to be removed or erased.
31.32, for inks containing organic dye which are erasable, purified, correctable, fugitive, indicator, conductive, fluorescent, chromogenic, or magnetic.

31.65 Specified particle size or coated particle containing:

This subclass is indented under subclass 31.6. Compositions containing a particle of a specified size or coated particles.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 31.33, for inks containing organic dye where a component is identified by particle size or is coated.

31.66 Fat, fatty oil, fatty acid, or derivative thereof containing:

This subclass is indented under subclass 31.65. Compositions containing fat, fatty oil, fatty acid, or derivative thereof (e.g., castor oil).

- (1) Note. Many of the patents in this subclass and indented subclasses are for printing inks.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 31.84, for organic dye containing inks with a component of fat, fatty oil, fatty acid, or derivative thereof (e.g., castor oil).

- 31.67 Fatty acid or derivative containing:**
This subclass is indented under subclass 31.65. Compositions containing a fatty acid or fatty acid derivative.
- 31.68 Carbohydrate or derivative containing:**
This subclass is indented under subclass 31.6. Compositions containing carbohydrate or derivative thereof (e.g., dextrin, etc.).
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
31.24, for invisible inks containing protein, carbohydrate, or wax.
31.36, for ink containing carbohydrate or derivative (e.g., dextrin, etc.).
31.94, for marking compositions containing carbohydrate, protein, or derivatives thereof.
- 31.69 Cellulose or derivative containing:**
This subclass is indented under subclass 31.68. Compositions containing cellulose or derivative thereof.
- 31.7 Carbohydrate gum containing:**
This subclass is indented under subclass 31.68. Compositions containing carbohydrate gum (e.g., gum arabic (acacia), xanthan gum, guar, etc.).
- 31.71 Starch containing:**
This subclass is indented under subclass 31.68. Compositions containing starch.
- 31.72 Natural resin or derivative containing:**
This subclass is indented under subclass 31.6. Compositions containing a natural resin or derivative.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
31.4, for inks containing organic dye and natural resin or derivative thereof.
31.96, for marking compositions containing natural resin or derivative thereof.
- 31.73 Rosin or derivative containing:**
This subclass is indented under subclass 31.72. Compositions containing rosin or derivative.
- 31.74 Shellac or derivative containing:**
This subclass is indented under subclass 31.72. Compositions containing shellac or derivative.
- 31.75 Organic nitrogen compound containing:**
This subclass is indented under subclass 31.6. Compositions which contain an organic nitrogen compound.
- (1) Note. An organic nitrogen compound is a compound wherein nitrogen is attached directly or indirectly to carbon of an organic compound by nonionic bonding.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
31.43, for ink containing organic dye wherein an organic nitrogen compound, which may be the dye, is present.
31.47, for marking compositions containing an organic nitrogen or an organic sulfur compound.
- 31.76 The nitrogen is a ring member of a heterocyclic ring:**
This subclass is indented under subclass 31.75. Subject matter wherein a heterocyclic ring contains at least one nitrogen atom as a ring member.
- (1) Note. A heterocyclic ring is a ring that contains only carbon and at least one ring hetero atom selected from nitrogen, oxygen, sulfur, selenium, or tellurium.
- 31.77 Six-ring members in the heterocyclic ring:**
This subclass is indented under subclass 31.76. Subject matter wherein the heterocyclic ring is six-membered and has at least one ring nitrogen.
- 31.78 Five-ring members in the heterocyclic ring:**
This subclass is indented under subclass 31.76. Subject matter wherein the heterocyclic ring is five-membered and has at least one ring nitrogen.
- 31.79 Acyclic azo attached directly or indirectly to the heterocyclic ring by nonionic bonding:**
This subclass is indented under subclass 31.76. Subject matter wherein an acyclic azo group, -N=N-, is bonded directly to two discrete car-

bonds and is attached directly or indirectly to the heterocyclic ring by nonionic bonding.

31.8 The nitrogen is part of an acyclic azo group:
This subclass is indented under subclass 31.75. Compositions wherein an acyclic azo group compound is present.

(1) Note. An acyclic azo group compound is one wherein acyclic -N=N- is bonded to two discrete carbons.

31.81 Plural acyclic azo group component containing:
This subclass is indented under subclass 31.8. Compositions wherein a plural acyclic azo group containing compound is present.

31.82 Protein or derivative containing:
This subclass is indented under subclass 31.75. Compositions containing a protein or derivative (e.g., alginic acid-plant protein).

31.83 Gelatin, glue, or derivative containing:
This subclass is indented under subclass 31.82. Compositions containing gelatin, glue, or derivative.

31.84 Casein or derivative containing:
This subclass is indented under subclass 31.82. Compositions containing casein or derivative.

31.85 Specified vehicle, solvent, or dispersing medium containing:
This subclass is indented under subclass 31.6. Compositions containing an identified vehicle, solvent, or dispersing medium.

(1) Note. For purposes of this subclass and its indents, a substance is "identified" if it is defined either (a) in terms of a chemical structure characteristic or (b) quantitatively in terms of a special physical property.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31.57, for inks containing an organic dye and a specified vehicle, solvent, or dispersing medium.

31.59, for inks containing an organic dye and a specified surfactant.

31.89, for inks containing a pigment and an identified surfactant.

31.86 Organic oxygen compound containing:
This subclass is indented under subclass 31.85. Compositions containing an organic oxygen compound.

(1) Note. An organic oxygen compound is one wherein oxygen is attached directly or indirectly to carbon of an organic compound by nonionic bonding.

31.87 Organic sulfur compound containing:
This subclass is indented under subclass 31.85. Compositions containing an organic sulfur compound.

(1) Note. An organic sulfur compound is one wherein sulfur is attached directly or indirectly to carbon of an organic compound by nonionic bonding.

31.88 Hydrocarbon compound containing:
This subclass is indented under subclass 31.85. Compositions containing a hydrocarbon.

(1) Note. A hydrocarbon compound consists of only carbon and hydrogen atoms.

31.89 Specified surfactant containing:
This subclass is indented under subclass 31.6. Compositions containing an identified surfactant.

(1) Note. The surfactants may be of any type (e.g., anionic, nonionic, etc.).

(2) Note. For purposes of this subclass and its indents, a substance is "identified" if it is defined either (a) in terms of a chemical structure characteristic or (b) quantitatively in terms of a special physical property.

31.9 The pigment is inorganic:
This subclass is indented under subclass 31.6. Compositions containing an inorganic pigment.

31.91 Bituminous material or tarry residue containing:
This subclass is indented under subclass 31.13. Compositions containing bituminous material or tarry residue.

31.92 Electrically conductive or magnetic compositions (e.g., electrically sensitive, electrochemical, electrolytic, etc.):

This subclass is indented under subclass 31.13. Compositions which exhibit electrically conductive or magnetic properties.

31.93 Felt tip or correction composition:

This subclass is indented under subclass 31.01. Coating or plastic compositions useful as felt tip devices or as correction compositions.

31.94 Carbohydrate, protein, or derivative containing:

This subclass is indented under subclass 31.01. Compositions containing carbohydrate, protein, or derivative thereof.

31.95 Glass, glass derivative, carbon, or free metal containing:

This subclass is indented under subclass 31.01. Compositions containing glass, glass derivative, carbon, or free metal.

- (1) Note. Buckminster fullerenes, graphite, and diamond are encompassed by carbon.

31.96 Natural resin or derivative thereof containing:

This subclass is indented under subclass 31.01. Compositions containing a natural resin or derivative thereof.

31.97 Organic nitrogen compound or organic sulfur compound containing:

This subclass is indented under subclass 31.01. Compositions wherein an organic nitrogen compound or organic sulfur compound is present.

- (1) Note. An organic nitrogen compound is one wherein nitrogen is attached directly or indirectly to carbon of an organic compound by nonionic bonding. An organic sulfur compound is similarly defined.

32.5 Erasable surface:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specialized for use in producing sur-

faces which are intended to receive marks, and from which the marks may be readily removed, e.g., blackboards, slates and analogous surfaces.

SEE OR SEARCH CLASS:

- 428, Stock Material or Miscellaneous Articles, subclass 687 for metallic stock material having a special surface feature, e.g., glossy.
- 434, Education and Demonstration, subclass 425 for devices having erasable surfaces wherein the structure is claimed in combination with special materials used in its construction, and including devices which are merely coated bases.

33 Leak stopping:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specialized for use in plugging or stopping leaks or punctures.

- (1) Note. Most of the patents in this subclass are drawn to compositions for stopping leaks in automobile radiators and in pneumatic tires.

SEE OR SEARCH CLASS:

- 152, Resilient Tires and Wheels, subclasses 502+ for pneumatic tire leak-stopping compositions for the self-healing of tire punctures.
- 252, Compositions, subclass 72 for heat exchange, low-freezing or pour point or high boiling compositions containing leak-stopping agents.
- 428, Stock Material or Miscellaneous Articles, subclass 912 (a cross-reference art collection) for a product embodying a puncture healing layer.
- 520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclass 166 for a composition containing a synthetic resin or natural rubber as a puncture sealant for a pneumatic tire or for a composition used in the emergency repair of vehicular tires or to processes of preparing said composition.

34 Stains:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions which are specially designed for use as stains.

SEE OR SEARCH CLASS:

8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, appropriate subclasses, particularly subclass 402 for stains wherein the staining action is accomplished by use of compositions including dyestuffs, which do not form a permanent film on the base.

35 Dental:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specialized for dental use, e.g., for dentures, artificial teeth, etc., and dental fillings and cements.

SEE OR SEARCH CLASS:

420, Alloys or Metallic Compositions, appropriate subclasses for alloys which contain less than 50 percent iron and which may be useful for making dental parts and cements, particularly subclasses 526+ for amalgams.

433, Dentistry, subclasses 167+ for dentures and artificial teeth, per se, where there is no claim to the composition, per se.

523, Synthetic Resins or Natural Rubbers, subclasses 116+ for a composition containing a synthetic resin or natural rubber used as a cement or filling for a tooth or to processes of preparing said composition.

36 Tractive or friction surface:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specially designed for the production of a tractive or friction surface, e.g., in forming pulley, clutch or brake facing.

SEE OR SEARCH CLASS:

75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, subclass 231 for a composition having a continuous phase of free metal made by consolidating metal particles and having an abrasive constituent.

152, Resilient Tires and Wheels, appropriate subclasses, particularly subclass 211 for antiskid tires.

188, Brakes, subclasses 250+ for brake elements having significant brake structure which brake elements may include as an element a lining or facing of a traction or friction composition.

192, Clutches and Power-Stop Control, subclass 107 for clutches having significant clutch structure which clutches may include as an element a lining or facing of a traction or friction composition.

474, Endless Belt Power Transmission Systems or Components, appropriate subclasses, particularly subclasses 177+ and 190+ for a friction drive pulley having a nonmetallic component forming the drive face, for pulleys including a composition on the rim to increase the traction on the belt.

37 Sound recording:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions which are specially designed for use in recording sound.

(1) Note. The broad reference to shape or to the presence of grooves is not considered enough structure to take a claim to a sound record, which is otherwise defined solely by composition of matter, away from this class.

SEE OR SEARCH CLASS:

- 369, Dynamic Information Storage or Retrieval, subclasses 272.1 through 291.1 for sound records which include significant structure, other than shape or presence of grooves.
- 720, Dynamic Optical Information Storage or Retrieval, subclasses 718 through 746 for optical storage medium structure.

38**Shoe filling:**

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions specially designed for fillings in the bottom of shoes or soles thereof.

- (1) Note. See Class 520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclass 167 for a composition containing a synthetic resin or natural rubber having utility in the manufacturing or repairing of shoes or to processes of preparing said composition.

SEE OR SEARCH CLASS:

- 36, Boots, Shoes, and Leggings, appropriate subclasses, particularly subclasses 25 and 34 for shoes and elements, thereof, e.g., soles or heels, defined only by composition.

38.2**Molds and mold coating compositions:**

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Compositions which are (a) specialized for use in making molds, (b) specialized for use in coating molds, or (c) molds claimed solely in terms of the composition of which they are composed.

- (1) Note. The molds and mold compositions included in this subclass are intended for use in plastic shaping processes such as casting, injecting, film spreading, etc., regardless of the material shaped. For the purpose of classification in this and indented subclasses, such shaping members as patterns, matrices, cores and film casting surfaces are all considered to be molds.

- (2) Note. For molds and analogous devices claimed in terms of significant mold structure, whether or not the composition of which the mold is composed is also claimed, the Search Class notes below referencing this (2) Note should be consulted.
- (3) Note. Molds mentioned by name only and defined by a single material other than a composition of which the mold is made, are classified on the basis of such material. In this connection, the Search Class notes referencing this (3) Note should be consulted.
- (4) Note. Search this class, appropriate subclasses, for similar compositions which are not specialized for use in making or coating molds.

SEE OR SEARCH CLASS:

- 148, Metal Treatment, subclasses 400+ for molds which are stock resulting from processes of treating metals classifiable in Class 148, or are stock distinguished only by the internal structure or characteristics of the metals, metallic compositions or alloys comprising such products. (See (3) Note above).
- 164, Metal Founding, appropriate subclasses, particularly subclasses 520+ for processes of making molds from particular material, subclass 138 for processes of casting metal in a mold of a particular composition, and subclasses 349+ for sand molds or cores. (See (2) Note above).
- 249, Static Molds, subclasses 134+ for molds having a particular structure composed of a specific composition; see (2) Note above.
- 260, Chemistry of Carbon Compounds, see (3) Note above.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 219+ for processes within the class definition including the step of making the mold (including mold making, per se) and subclasses 337+ pertaining to the use of particular mold materials. (See (2) Note above).

- 420, Alloys or Metallic Compositions, appropriate subclasses for molds claimed solely in terms of the metal or alloy of which they are composed. (See (3) Note above).
- 423, Chemistry of Inorganic Compounds, see (3) Note above).
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, appropriate subclasses for a molding machine for manufacturing nonmetal products, especially see subclasses 175+ for such apparatus for forming a mold. (See (2) Note above).
- 427, Coating Processes, subclasses 133+ for processes of coating, per se, wherein the substrate is disclosed as a mold.
- 428, Stock Material or Miscellaneous Articles, appropriate subclasses for a coated mold, where no significant mold structure is claimed, especially subclasses 411+ for a composite, non-structural product distinguished only by the compositions of the layers and subclasses 544+ for molds claimed in terms of metallic stock.
- 508, Solid Anti-Friction Devices, Materials Therefor, Lubricant or Separant Compositions for Moving Solid Surfaces, and Miscellaneous Mineral Oil Compositions, appropriate subclasses for compositions whose purpose is to impart lubricity to moving surfaces. A search in Class 508 may be appropriate to ensure a complete search.
- 520, Synthetic Resins or Natural Rubbers, appropriate subclasses for a composition for making or coating a mold, particularly Class 523, subclasses 139+ for compositions relating to metal foundry molding or metallurgical furnaces. (See (2) Note above).
- 38.22 Compositions for coating and lining molds:**
This subclass is indented under subclass 38.2. Compositions which are specialized for use in coating or lining molds.
- SEE OR SEARCH CLASS:
249, Static Molds, subclasses 114+ for molds having a particular structure provided with a coating or lining.
- 38.23 Carbohydrate or derivative containing:**
This subclass is indented under subclass 38.22. Compositions in the preparation of which a carbohydrate or derivative thereof is employed.
- 38.24 Fat, fatty oil, fatty oil acid or salt thereof containing:**
This subclass is indented under subclass 38.22. Compositions in the preparation of which a fat, fatty oil, fatty oil acid or salt thereof is employed.
- 38.25 Wax, bituminous or resinous material or tarry residue containing:**
This subclass is indented under subclass 38.22. Compositions in the preparation of which a wax, bituminous or resinous material or tarry residue is employed.
- 38.27 Inorganic materials only:**
This subclass is indented under subclass 38.22. Compositions which contain only inorganic materials or materials in elemental form.
- SEE OR SEARCH CLASS:
420, Alloys or Metallic Compositions, appropriate subclasses for mold coatings claimed solely in terms of the metal or alloy of which they are composed.
- 38.28 Elemental carbon containing:**
This subclass is indented under subclass 38.27. Compositions in the preparation of which elemental carbon, e.g., graphite, is employed.
- 38.3 Alkali metal silicate or inorganic settable ingredient containing:**
This subclass is indented under subclass 38.2. Compositions in the preparation of which an alkali metal silicate or an inorganic settable ingredient is employed.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
600+, and 638+, for similar compositions which are not specialized for use in making molds.
- 38.35 With organic material:**
This subclass is indented under subclass 38.3. Compositions in the preparation of which an organic material is employed.

38.4 Protein or derivative containing:

This subclass is indented under subclass 38.2. Compositions in the preparation of which a protein or derivative thereof is employed.

38.51 Carbohydrate or derivative containing:

This subclass is indented under subclass 38.2. Carbohydrate or Derivative Containing: Compositions in the preparation of which a carbohydrate or derivative thereof is employed.

SEE OR SEARCH CLASS:

75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, subclass .5 and subclasses 122.1+ for molds claimed solely in terms of the metal or alloy composition of which they are composed.

38.6 Natural resin or derivative containing:

This subclass is indented under subclass 38.2. Compositions in the preparation of which a natural resin or derivative thereof is employed.

38.7 Fat, fatty oil, fatty oil acid or salt thereof containing:

This subclass is indented under subclass 38.2. Compositions in the preparation of which a fat, fatty oil, fatty oil acid or salt thereof is employed.

38.8 Wax, bituminous material or tarry residue containing:

This subclass is indented under subclass 38.2. Compositions in the preparation of which a wax, bituminous material or tarry residue is employed.

38.9 Inorganic materials only:

This subclass is indented under subclass 38.2. Compositions which contain only inorganic materials or materials in elemental form.

SEE OR SEARCH CLASS:

420, Alloys or Metallic Compositions, appropriate subclasses for molds claimed solely in terms of the metal or alloy of which they are composed.

122 Pore forming:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic compositions which are rendered porous by some specific step performed for this purpose.

- (1) Note. This subclass does not include porous compositions in which the porosity is due solely to the use of naturally occurring porous ingredients, which compositions are classified on some other basis.

SEE OR SEARCH THIS CLASS, SUBCLASS:

40, 41, 601+, and 672+, for other pore forming within this class.

SEE OR SEARCH CLASS:

- 51, Abrasive Tool Making Process, Material, or Composition, subclass 296 for an abrasive tool making process including a pore forming step, or for a porous abrading composition.
- 216, Etching a Substrate: Processes, subclass 56 for the use of etching in the formation of a porous or perforated article.
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 41+ for processes of molding which include the step of pore forming in situ.
- 366, Agitating, subclasses 3+ for mortar mixing processes including the step of incorporating air or gas.
- 419, Powder Metallurgy Processes, subclass 2 for processes of making porous products from particulate material which include metal particles with heat.
- 428, Stock Material or Miscellaneous Articles, subclasses 304.4+ for a stock material product of at least two components, in which one of the components is either porous or cellular and subclass 613 for porous metallic stock.
- 521, Synthetic Resins or Natural Rubbers, appropriate subclass for a cellular or pore containing synthetic resin or natural rubber.

123.11 Cellulose liberation waste liquor, solid, or reaction product thereof containing (e.g., black liquor, sulfite yeast liquor, neutralized sulfite liquor, etc.):

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Compositions which contain a waste product from sulfur paper making process or the chemical modification of such waste product.

- (1) Note. This subclass and indented subclasses provide for all treatments of waste cellulose liberation residues or liquor for which there is no provision elsewhere.
- (2) Note. The expression "organic compound" in this and indented subclasses corresponds to the class 260 class definition, i.e., compounds containing carbon, which are further characterized by the presence in a molecule thereof of (a) two carbon atoms bonded together, (b) one atom of carbon bonded to at least one atom of hydrogen or halogen, or (c) one atom of carbon bonded to at least one atom of nitrogen by a single or double bond, with the proviso that HCN, CN-CN, HNCO, HNCS, cyanamide, cyanogen halides, fulminic acid, metal carbides, and graphite are excluded from being organic compounds.

SEE OR SEARCH CLASS:

- 110, Furnaces, subclass 346 for processes of burning waste cellulose liberation liquor or residues not accompanied by the recovery of any specific material.
- 162, Paper Making and Fiber Liberation, appropriate subclasses, particularly subclasses 29+ for processes of fiber liberation including recovery or recycle of the waste digestion liquor or residue thereof.
- 423, Chemistry of Inorganic Compounds, appropriate subclasses, especially subclasses 1+ for treating mixtures to obtain metal containing compounds.
- 435, Chemistry: Molecular Biology and Microbiology, subclasses 251 and 252 for processes of fermenting cellu-

- lose liberation waste liquor not combined with a fiber liberation.
- 520, Synthetic Resins or Natural Rubbers, Class 524, subclasses 72+ and 735 for lignin nonreactant materials in admixture with a synthetic resin; and Class 527, subclasses 400+ for a lignin containing synthetic resin.
- 530, Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof, subclasses 205+ and 500+ for the recovery of organic compound from waste fiber treating agents, not combined with fiber treating steps.

123.12 With proteinaceous material or carbohydrate from an external source:

This subclass is indented under subclass 123.11. Compositions which contain a proteinaceous material or a carbohydrate from a source external to the cellulose liberation waste liquor, solid, or reaction product thereof in addition to the cellulose liberation waste liquor, solid, or reaction product thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, for the definition of a proteinaceous material; and (5) Note, for the definition of a carbohydrate.

123.13 With bituminous or tarry residue, naturally occurring wax, or organic compound containing oxygen:

This subclass is indented under subclass 123.11. Compositions which contain (a) a composition or compound having the characteristics of a tar or pitch no matter what the origin, (b) a naturally occurring low-melting organic mixture or compound of hydrocarbons or esters of fatty acids and alcohols having the characteristics of wax (solid at room temperature), or (c) an organic compound which has at least one oxygen atom therein in addition to the cellulose liberation waste liquor, solid, or chemical modification thereof.

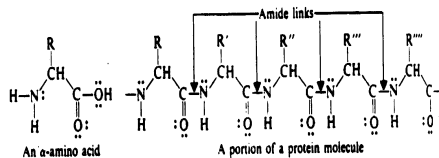
SEE OR SEARCH THIS CLASS, SUBCLASS:

- 123.11, (2) Note, for the definition of an organic compound.

124.1 Proteinaceous material containing:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Compositions which contain a polypeptide (polyamide) of more than 100, α -amino acid residues or of molecular weight of greater than 10,000, a naturally occurring material which has such polypeptide as one of its ingredients, or a chemical modification of such polypeptide.

- (1) Note. A peptide (amide) bond is an amino bond between the carboxyl group of one amino acid and the amino group of another.



Where R, R', R'', or R''' are defined by R below along with the names of the amino acids found in proteins.

L-Amino Acids Found in Proteins

$$\begin{array}{c} \text{COOH} \\ | \\ \text{H}_2\text{N}-\text{C}-\text{H} \\ | \\ \text{R} \end{array} \quad \text{or} \quad \begin{array}{c} \text{H} \\ | \\ \text{R}-\text{C}-\text{COOH} \\ | \\ \text{NH}_2 \end{array}$$

STRUCTURE OF R	NAME	ABBREVIATION	pK _a α -CO ₂ H	pK _a α -NH ₃ ⁺	pK _a R Group	pI
R group is neutral						
-H	Glycine	Gly	2.3	9.6		6.0
-CH ₃	Alanine	Ala	2.3	9.7		6.0
-CH(CH ₃) ₂	Valine*	Val	2.3	9.6		6.0
-CH ₂ CH(CH ₃) ₂	Leucine*	Leu	2.4	9.6		6.0
-CH(CH ₃)CH ₂ CH ₃	Isoleucine*	Ile	2.4	9.7		6.1
-CH ₂ -	Phenylalanine*	Phe	1.8	9.1		5.5

STRUCTURE OF R	NAME	ABBREVIATION
-CH ₂ CONH ₂	Asparagine	Asn
-CH ₂ CH ₂ CONH ₂	Glutamine	Gln
-CH ₂ -	Tryptophan*	Trp
	Proline	Pro
R contains an -OH group		
-CH ₂ OH	Serine	Ser
-CH(OH)CH ₃	Threonine*	Thr
-CH ₂ -	Tyrosine	Tyr
	Hydroxyproline	Hyp
R contains sulfur		
-CH ₂ SH	Cysteine	Cys
-CH ₂ -S-	Cystine	Cys-Cys
-CH ₂ -S-	Methionine*	Met
R contains a carboxyl group		
-CH ₂ COOH	Aspartic acid	Asp
-CH ₂ CH ₂ COOH	Glutamic acid	Glu
R contains a basic amino group		
-CH ₂ CH ₂ CH ₂ CH ₂ NH ₂	Lysine*	Lys
-CH ₂ CH ₂ CH ₂ NH-C(=NH)-NH ₂	Arginine	Arg
-CH ₂ -	Histidine	His

* = essential amino acids

- (2) Note. Examples of proteins included herein are chemically modified protein wherein the polypeptide chemical structure is preserved, chemically modified protein wherein part of the polypeptide chemical structure has been removed, chemically modified protein wherein part of the polypeptide chemical structure has been replaced, chemically modified protein wherein the polypeptide chemical structure is indeterminate, and plant- or animal-derived material which has protein as one of its ingredients.

- (3) Note. The term "chemical modification" herein is intended to include the conjugation of a protein with a nonpeptide compound, the addition of simple chemical elements or compounds to the protein, the sundering of parts of a large protein molecule, and the treatment to deliberately change the secondary, tertiary or quaternary structure of a polypeptide.

- (4) Note. The expression “organic compound” in this and indented subclasses corresponds to the Class 260 class definition, i.e., compounds containing carbon, which are further characterized by the presence in a molecule thereof of (a) two carbon atoms bonded together, (b) one atom of carbon bonded to at least one atom of hydrogen or halogen, or (c) one atom of carbon bonded to at least one atom of nitrogen by a single or double bond, with the proviso that HCN, CN-CN, HNCO, HNCS, cyanamide, cyanogen halides, fulminic acid, metal carbides, and graphite are excluded from being organic compounds.
- (5) Note. The term “carbohydrate or derivative” in this and indented subclasses corresponds to Class 536, subclass 1.1 definition; i.e., saccharide whose monomeric units are polyhydroxy mono-aldehydes or polyhydroxy mono-ketones, having the formula $C_n(H_2O)_n$ (wherein n is five or six), or the corresponding cyclic hemiacetals thereof; or the reaction derivatives thereof in which the product is of indeterminate structure or the carbon skeleton and the carbonyl function or hemiacetal function of the saccharide unit are not destroyed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 158.1, for compositions containing albumin or derivative thereof.
- 159.1, for compositions containing casein or derivative thereof.
- 160.1, for compositions containing gelatin or collagen or derivative thereof.
- 161.1, for compositions containing proline or derivative thereof.

SEE OR SEARCH CLASS:

- 426, Food or Edible Material: Processes, Compositions, and Products, appropriate subclasses, especially subclasses 23, 32, 41, 54, 55+, 92, 105, and 129 for edible materials which are or contain protein and processes for preparing the same.

- 428, Stock Material or Miscellaneous Articles, subclasses 474.4+ for a non-structural stock material product in the form of a composite web or sheet including a layer comprising protein, and other appropriately titled subclasses (e.g., subclasses 435 and 458).
- 451, Abrading, for abrasive tool compositions having a protein component.
- 514, Drug, Bio-Affecting and Body Treating Compositions, subclass 1.1 for a therapeutic, bio-affecting composition containing peptide or protein.
- 520, Synthetic Resins or Natural Rubbers, Class 523, subclasses 449 and 508, and Class 524, subclasses 9+, 17+, and 704 for a protein nonreactant material in admixture with a synthetic resin or natural rubber; and Classes 525, 526, 527, and 528 for a protein containing synthetic resin. See in particular, Class 520, subclass 1 (Note 9, C) for an explanation of the type of polymer derived from a protein reactant which is proper for Class 520.
- 530, Chemistry: Natural Resins or Derivatives; Peptides or Proteins, Lignins or Reaction Products Thereof, subclasses 350+ for proteins or derivatives thereof.
- 930, Peptide or Protein Sequence, subclasses 10+ for peptide or protein sequence of four or more amino acids.

124.2 Milk:

This subclass is indented under subclass 124.1. Compositions wherein the proteinaceous material is milk.

- (1) Note. A portion of a milk sample will be assumed to be proper for this subclass unless it is clearly indicated that the sample contains no amino acid or polypeptide.

124.3 Chemically modified tissue derived from multicellular animal of indeterminate structure (e.g., hydrolyzed, etc.):

This subclass is indented under subclass 124.1. Compositions wherein the proteinaceous material is found in a hydrolysis product or other chemical modification of tissue derived from multicellular animal of indeterminate structure.

- (1) Note. The term “multicellular animal” refers to living sentient multicelled organisms and is intended to include insects, fish, fowl, mammals, and other members of the animal kingdom.

124.4 Tissue derived from multicellular animal (e.g., connective tissue, muscle, organ, tendon, etc.):

This subclass is indented under subclass 124.1. Compositions wherein the proteinaceous material is a tissue of multicellular animal origin.

- (1) Note. The term “multicellular animal” refers to living sentient multicelled organisms and is intended to include insects, fish, fowl, mammals, and other members of the animal kingdom.

124.5 Blood or blood plasma:

This subclass is indented under subclass 124.4. Compositions wherein the tissue derived from multicellular animal is blood or blood plasma.

- (1) Note. A portion of a blood or blood plasma sample will be assumed to be proper for this subclass unless it is clearly indicated that the sample contains no amino acid or polypeptide.

SEE OR SEARCH CLASS:

- 424, Drug, Bio-Affecting and Body Treating Compositions, subclasses 85.1+ for composition of that class containing a blood protein.
- 514, Drug, Bio-Affecting and Body Treating Compositions, subclasses 1.1-21.92, especially subclasses 13.5 through 15.3 for therapeutic or bio-affecting compositions of that class containing a blood protein.

124.51 With carbohydrate from an external source:

This subclass is indented under subclass 124.5. Compositions which contain, in addition to the blood or blood plasma, a carbohydrate material from a source external to the blood or blood plasma.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (5) Note, for the definition of a carbohydrate.

124.6 Hide:

This subclass is indented under subclass 124.4. Compositions wherein the tissue derived from multicellular animal is animal skin.

SEE OR SEARCH CLASS:

- 520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523 and Class 524 for synthetic resin or natural rubber compositions containing leather.

124.61 With carbohydrate from an external source:

This subclass is indented under subclass 124.6. Compositions which contain, in addition to the hide, a carbohydrate material from a source external to the hide.

124.62 With natural resin or derivative, lanolin, lecithin, fat, or fatty oil:

This subclass is indented under subclass 124.6. Compositions which contain, in addition to the hide, a natural resin or chemical modification of a natural resin, lanolin, lecithin, fat, or fatty oil.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, Japan, Japan varnish, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.
- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, and sulfurized resins, or salts thereof.

GLOSSARY

FAT AND FATTY OIL

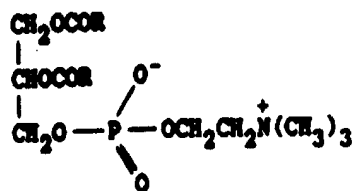
The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

LANOLIN

Cholesterol esters of higher fatty acids.

LECITHIN

A mixture of the diglycerides of stearic, palmitic, and oleic acids, linked to the choline ester of phosphoric acid. Lecithin has the following structure, as shown below, wherein the R's are the same or different, and are acyclic hydrocarbon radicals of at least seven carbon atoms chain length.



124.7 Feather, scale, horn, hoof, claw, ivory, or bone:

This subclass is indented under subclass 124.4. Compositions wherein the tissue derived from multicellular animal is feather, scale, horn, hoof, claw, ivory, or bone.

SEE OR SEARCH CLASS:

- 34, Drying and Gas or Vapor Contact With Solids, subclasses 280+ and note thereto, for feather treatment.
- 520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Classes 523 and 524 for synthetic resin or natural rubber compositions containing feathers.

124.8 Hair or fur:

This subclass is indented under subclass 124.4. Compositions wherein the tissue derived from multicellular animal is hair or fur.

SEE OR SEARCH CLASS:

- 520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Classes 523 and 524 for synthetic resin or natural rubber compositions containing hair.

124.81 With carbohydrate from an external source:

This subclass is indented under subclass 124.8. Compositions which contain, in addition to the hair or fur, a carbohydrate material from a source external to the hair or fur.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (5) Note, for the definition of a carbohydrate.

124.82 With natural resin or derivative, lanolin, lecithin, fat, or fatty oil:

This subclass is indented under subclass 124.8. Compositions which contain, in addition to the hair or fur, a natural resin or chemical modification of a natural resin, lanolin, lecithin, fat, or fatty oil.

124.83 With bituminous or tarry residue, hydrocarbon, or naturally occurring wax:

This subclass is indented under subclass 124.8. Compositions which contain, in addition to the hair or fur, (a) a composition or compound having the characteristics of a tar or pitch no matter what the origin, (b) an organic compound consisting exclusively of the elements carbon and hydrogen, or (c) a naturally occurring low-melting organic mixture or compound of hydrocarbons or esters of fatty acids and alcohols having the characteristics of wax (solid at room temperature).

- (1) Note. Examples of components included herein are alkanes, alkenes, olefins, montan wax, ceresin wax, carnauba wax, all asphalts, bitumens, pitches and tars from coal, mineral oil, cotton seed pitch and the residue from the destructive distillation of wood, and natural oil distillations.

125.1 Seed or tuber material (e.g., whole grains, rice flour, wheat flour, cornmeal, etc.):

This subclass is indented under subclass 124.1. Compositions wherein the proteinaceous material is seed or tuber material (e.g., potatoes, arrowroot, etc.).

- (1) Note. A naturally occurring mixture of carbohydrate and protein can be found in seed or tuber material.

- (2) Note. This and indented subclasses will take compositions containing seed or tuber material that has been physically processed (e.g., cooked, mashed, comminuted, etc.).

SEE OR SEARCH CLASS:

- 241, Solid Material Comminution or Disintegration, subclasses 6+ for processes involving comminution of grain and the like.

126.1 With carbohydrate from an external source:

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, a carbohydrate material from a source external to the seed or tuber material.

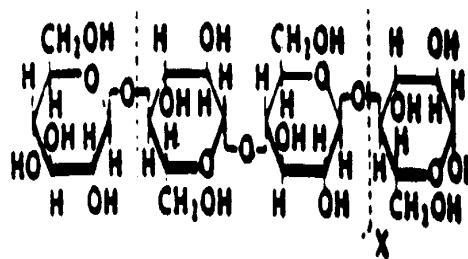
SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (5) Note, for the definition of a carbohydrate.

126.2 Lignocellulosic material (e.g., flock, sawdust, wood, etc.):

This subclass is indented under subclass 126.1. Compositions wherein the carbohydrate is found in a lignocellulosic material.

- (1) Note. Lignocellulosic material is raw vegetable matter consisting primarily of cellulose, primarily of cellulose and lignin, or primarily of cellulose and lignin and minor amounts of carbohydrate and resin.
- (2) Note. Lignin is a noncarbohydrate, polymeric substance found in wood and woody plants which functions as a natural plastic binder for the cellulose fibers. It is isolated directly from wood or wood products or from the treatment of wood, e.g., waste sulfite liquor or black liquor. The structure of the lignin monomer is not completely known.
- (3) Note. Cellulose is a carbohydrate consisting of repeating glucose units having the following structure:



126.3 Carbohydrate gum or cellulosic material:

This subclass is indented under subclass 126.1. Compositions wherein the carbohydrate is a carbohydrate gum or a chemically modified carbohydrate gum, cellulose or a chemically modified cellulose, or a naturally occurring material which has cellulose as one of its ingredients.

- (1) Note. Carbohydrate gums include but are not limited to arabic, tragacanth, xanthan, galactomannan, irish moss, carrageenan, karaya, agar agar, algin, guar, xylogalactan, and glucomannan.
- (2) Note. Carbohydrate gums are highly branched polysaccharides composed of two or more monosaccharides, and are exudations of plants produced by the plant to cover wounds and to prevent attack by organisms.
- (3) Note. The term "derivative" herein is intended to include a chemical modification of the carbohydrate gum or cellulose wherein the carbon skeleton of the carbohydrate gum or cellulose is not destroyed or wherein the carbon skeleton of the carbohydrate gum or cellulose is indeterminate.
- (4) Note. This subclass and indented subclasses provide for relatively pure cellulose (e.g., cotton linters, etc.), regenerated cellulose (e.g., cellophane and rayon), or chemically modified forms of cellulose (e.g., pyroxylin, viscose, etc.) for which there is no provision elsewhere.

127.1 With nonproteinaceous hetero ring compound:

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, a nonproteinaceous organic compound having a hetero ring.

- (1) Note. Hetero ring is a ring having only carbon and at least one atom from the group consisting of nitrogen, oxygen, sulfur, selenium and tellurium as ring members.

128.1 With nonproteinaceous phosphorus or boron compound or organic compound containing silicon:

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, a nonproteinaceous compound of phosphorus or boron or an organic compound which has at least one silicon atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

129.1 With natural resin or derivative:

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, a natural resin or a chemical modification of a natural resin.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, Japan, Japan varnish, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.
- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, and sulfurized resins, or salts thereof.

130.1 With terpene or derivative (e.g., pine oil, clove oil, spirits of turpentine, etc.):

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, a terpene or a chemical modification of a terpene.

- (1) Note. Terpene denotes a hydrocarbon having two or more isoprene units (C_5H_8). Most terpenes have carbon skeleton of 10, 15, 20, or 30 atoms.
- (2) Note. The term "derivative" herein is intended to include a chemical modification of the terpene wherein the terpene structure is not destroyed or wherein the terpene structure is indeterminate.

131.1 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

132.1 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

132.2 The oxygen is part of a -C(=O)O- group:

This subclass is indented under subclass 132.1. Compositions wherein the nonproteinaceous organic compound containing oxygen has a carboxylate group (i.e., -C(=O)O-).

133.1 With bituminous or tarry residue, hydrocarbon, or naturally occurring wax:

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, (a) a composition or compound having the characteristics of a tar or pitch no matter what the origin, (b) an organic compound consisting exclusively of the ele-

ments carbon and hydrogen, or (c) a naturally occurring low-melting organic mixture or compound of hydrocarbons or esters of fatty acids and alcohols having the characteristics of wax (solid at room temperature).

- (1) Note. Examples of components included herein are alkanes, alkenes, olefins, montan wax, ceresin wax, carnauba wax, all asphalts, bitumens, pitches and tars from coal, mineral oil, cotton seed pitch and the residue from the destructive distillation of wood, and natural oil distillations.

134.1 With element or inorganic compound except water:

This subclass is indented under subclass 125.1. Compositions which contain, in addition to the seed or tuber material, elemental material or any inorganic compound except water.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (4) Note, for the definition of an organic compound.

134.2 Elemental silicon or inorganic silicon compound:

This subclass is indented under subclass 134.1. Compositions wherein the element or the inorganic compound is elemental silicon or an inorganic compound containing silicon.

135.1 With carbohydrate or derivative:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a carbohydrate or derivative.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (5) Note, for the definition of a carbohydrate or its derivative.

136.1 Cellulosic material:

This subclass is indented under subclass 135.1. Compositions wherein the carbohydrate or derivative is cellulose, a derivative of cellulose, or a naturally occurring material which has cellulose as one of its ingredients.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 126.2, (3) Note, for the definition of a cellulose.

- (1) Note. The term "cellulose derivative" herein is intended to include chemically modified cellulose wherein the carbon skeleton of the cellulose is unchanged or is indeterminate.

- (2) Note. This subclass and indented subclasses provide for lignocellulosic material (e.g., wood, bark, etc.), relatively pure cellulose (e.g., cotton linters, etc.), regenerated cellulose (e.g., cellophane and rayon), or chemically modified forms of cellulose (e.g., pyroxylin, viscose, etc.) for which there is no provision elsewhere.

137.1 Lignocellulosic material (e.g., flock, sawdust, wood, etc.):

This subclass is indented under subclass 136.1. Compositions wherein the cellulosic material is a lignocellulosic material.

- (1) Note. Lignocellulosic material is raw vegetable matter consisting primarily of cellulose, primarily of cellulose and lignin, or primarily of cellulose and lignin and minor amounts of carbohydrate and resin.

- (2) Note. Lignin is a noncarbohydrate, polymeric substance found in wood and woody plants which functions as a natural plastic binder for the cellulose fibers. It is isolated directly from wood or wood products or from the treatment of wood, e.g., waste sulfite liquor or black liquor. The structure of the lignin monomer is not completely known.

137.2 Cork or peat:

This subclass is indented under subclass 137.1. Compositions wherein the lignocellulosic material is the exterior layer of the bark of the Cork Oak Tree or cork, per se, or partially decayed plant matter formed in water-saturated environments, such as bogs and marshes.

137.3 With nonproteinaceous noncarbohydrate hetero ring compound:

This subclass is indented under subclass 137.1. Compositions which contain, in addition to the lignocellulosic material, a nonproteinaceous noncarbohydrate organic compound having a hetero ring.

- (1) Note. Hetero ring is a ring having only carbon and at least one atom from the group consisting of nitrogen, oxygen, sulfur, selenium and tellurium as ring members.

137.4 With nonproteinaceous phosphorus or boron compound or organic compound containing silicon:

This subclass is indented under subclass 137.1. Compositions which contain, in addition to the lignocellulosic material, a nonproteinaceous compound of phosphorus or boron or an organic compound which has at least one silicon atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (4) Note, for the definition of an organic compound.

137.5 With natural resin or derivative:

This subclass is indented under subclass 137.1. Compositions which contain, in addition to the lignocellulosic material, a natural resin or a chemical modification of a natural resin.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, Japan, Japan varnish, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.
- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, and sulfurized resins, or salts thereof.

137.6 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 137.1. Compositions which contain, in addition to the lignocellulosic material, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (4) Note, for the definition of an organic compound.

137.7 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 137.1. Compositions which contain, in addition to the lignocellulosic material, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

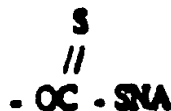
137.71 The oxygen is part of a -C(=O)O- group:

This subclass is indented under subclass 137.7. Compositions wherein the nonproteinaceous organic compound containing oxygen has a carboxylate group (i.e., -C(=O)O-).

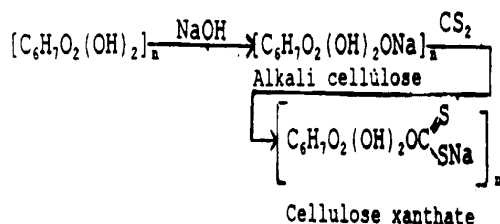
138.1 Cellulose xanthate or viscose or cuprammonium cellulose:

This subclass is indented under subclass 136.1. Compositions wherein the cellulosic material is cellulose xanthate or viscose or cellulose in cupra-ammonium solution.

- (1) Note. Cellulose xanthate or viscose is a cellulose derivative with the group:



- (2) Note. The viscose process is based on the reaction of carbon disulfide with the sodium salt of cellulose to yield a xanthate, which forms a viscous colloidal solution in dilute aqueous alkali.

**139.1 Cellulose ester or salt thereof:**

This subclass is indented under subclass 136.1. Compositions wherein the cellulosic material is the product of the reaction of a hydroxyl group of cellulose with an acid.

- (1) Note. The esterifying acid may be organic or inorganic.

139.2 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 139.1. Compositions which contain, in addition to the cellulose ester or salt thereof, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (4) Note, for the definition of an organic compound.

139.3 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 139.1. Compositions which contain, in addition to the cellulose ester or salt thereof, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

140.1 Cellulose ether or salt thereof:

This subclass is indented under subclass 136.1. Compositions wherein the cellulosic material is a compound having the general formula ROR₄, wherein RO- is the cellulose residue moiety and R₄ is an ether-forming radical.

- (1) Note. Cellulose ether is made by etherifying the hydroxyl groups of cellulose.

140.2 With natural resin or derivative:

This subclass is indented under subclass 140.1. Compositions which contain, in addition to the cellulose ether or salt thereof, a natural resin or a chemical modification of a natural resin.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, Japan, Japan varnish, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.
- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, and sulfurized resins, or salts thereof.

140.3 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 140.1. Compositions which contain, in addition to the cellulose ether or salt thereof, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

141.1 With nonproteinaceous noncarbohydrate hetero ring compound:

This subclass is indented under subclass 136.1. Compositions which contain, in addition to the cellulosic material, a nonproteinaceous noncarbohydrate organic compound having a hetero ring.

- (1) Note. Hetero ring is a ring having only carbon and at least one atom from the group consisting of nitrogen, oxygen, sulfur, selenium, and tellurium as ring members.

142.1 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 136.1. Compositions which contain, in addition to the cellulosic material, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

124.1, (4) Note, for the definition of an organic compound.

143.1 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 136.1. Compositions which contain, in addition to the cellulosic material, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

144.1 Dextrin or derivative, carbohydrate gum or derivative (e.g., arabic, tragacanth, guar, karaya, agar agar, algin, irish moss, etc.):

This subclass is indented under subclass 135.1. Compositions wherein the carbohydrate is dextrin, carbohydrate gum, or derivative thereof.

- (1) Note. Dextrin consists of various gummy polysaccharides produced by thermal or acid degradation of starch.
- (2) Note. Carbohydrate gums are highly branched polysaccharides composed of two or more monosaccharides, and are exudations of plants produced by the plant to cover wounds and to prevent attack by organisms.
- (3) Note. Carbohydrate gums include but are not limited to arabic, tragacanth, xanthan, galactomannan, irish moss, carrageenan, karaya, agar agar, algin, guar, xylogalactan, and glucomannan.
- (4) Note. Examples of derivatives included herein are esterified, etherified, sulfonated, and borated.
- (5) Note. The term "derivative" in this and indented subclasses is intended to include a chemical modification of the carbohydrate gum or dextrin wherein the carbon skeleton of the carbohydrate gum or dextrin is not destroyed or wherein the carbon skeleton of the carbohydrate gum or dextrin is indeterminate.

144.2 With nonproteinaceous phosphorus or boron compound or organic compound containing silicon:

This subclass is indented under subclass 144.1. Compositions which contain, in addition to the dextrin or derivative thereof, the carbohydrate gum or derivative thereof, a nonproteinaceous compound of phosphorus or boron or an organic compound which has at least one silicon atom therein.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

124.1, (4) Note, for the definition of an organic compound.

144.3 With natural resin or derivative:

This subclass is indented under subclass 144.1. Compositions which contain, in addition to the dextrin or derivative thereof, the carbohydrate gum or derivative thereof, a natural resin or a chemical modification of a natural resin.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, Japan, Japan varnish, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.
- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, and sulfurized resins, or salts thereof.

144.4 With lanolin, fat, or fatty oil:

This subclass is indented under subclass 144.1. Compositions which contain, in addition to the dextrin or derivative thereof, the carbohydrate gum or derivative thereof, a fat, fatty oil, or lanolin.

- (1) Note. Definitions are found in the Glossary below.

GLOSSARY

FAT, FATTY OIL

The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

LANOLIN

Cholesterol esters of higher fatty acids.

144.5 With terpene or derivative:

This subclass is indented under subclass 144.1. Compositions which contain, in addition to the dextrin or derivative thereof, the carbohydrate gum or derivative thereof, a terpene or a chemical modification of a terpene.

- (1) Note. Terpene denotes a hydrocarbon having two or more isoprene units (C₅H₈). Most terpenes have carbon skeleton of 10, 15, 20, or 30 atoms.
- (3) Note. The term "derivative" herein is intended to include a chemical modification of the terpene wherein the terpene structure is not destroyed or wherein the terpene structure is indeterminate.

144.6 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 144.1. Compositions which contain, in addition to the dextrin or derivative thereof, the carbohydrate gum or derivative thereof, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

144.7 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 144.1. Compositions which contain, in addition to the dextrin or derivative thereof, the carbohydrate gum or derivative thereof, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

144.71 The oxygen is part of a -C(=O)O- group:

This subclass is indented under subclass 144.7. Compositions wherein the nonproteinaceous organic compound containing oxygen has a carboxylate group (i.e., -C(=O)O-).

144.72 Dihydric or polyhydric alcohol:

This subclass is indented under subclass 144.7. Compositions wherein the nonproteinaceous organic compound containing oxygen is an alcohol having two or more -OH groups.

145.1 Starch or derivative:

This subclass is indented under subclass 135.1. Compositions wherein the carbohydrate is a compound containing amylose and amylopectin as its main components or derivatives thereof.

- (1) Note. Starches are heterogenous in that the amylose and amylopectin occur in different ratios to each other.
- (2) Note. Included herein are starch fractions such as amylose and amylopectin as well as modified starches (e.g., thin boiling starches, etc.).

145.2 With natural resin or derivative:

This subclass is indented under subclass 145.1. Compositions which contain, in addition to the starch or derivative thereof, a natural resin or a chemical modification of a natural resin.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, Japan, Japan varnish, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.
- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, and sulfurized resins, or salts thereof.

145.3 With lanolin, lecithin, fat, or fatty oil:

This subclass is indented under subclass 145.1. Compositions which contain, in addition to the starch or derivative thereof, a fat, fatty oil, lecithin, or lanolin.

- (1) Note. Definitions are found in the Glossary below.

GLOSSARY

FAT, FATTY OIL

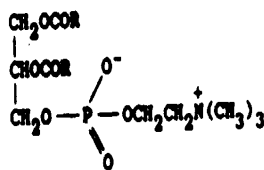
The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

LANOLIN

Cholesterol esters of higher fatty acids.

LECITHIN

A mixture of the diglycerides of stearic, palmitic, and oleic acids, linked to the choline ester of phosphoric acid. Lecithin has the following structure [wherein the R's are the same or different, and are acyclic hydrocarbon radicals of at least seven carbon atoms chain length]:

**145.4 With nonproteinaceous organic compound containing sulfur or nitrogen:**

This subclass is indented under subclass 145.1. Compositions which contain, in addition to the starch or derivative thereof, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (4) Note, for the definition of an organic compound.

145.5 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 145.1. Compositions which contain, in addition to the starch or derivative thereof, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

146.1 Sugar or hydrogenated sugar (e.g., sorbitol, maltitol, xylitol, etc.):

This subclass is indented under subclass 135.1. Compositions wherein the carbohydrate is a sugar or a sugar that has undergone hydrogenation.

- (1) Note. Sugar is a carbohydrate which has one or more saccharide units. The ending of the names of most sugars is *-ose*.
- (2) Note. Examples of sugars included herein are sucrose, glucose, fructose, and maltose.

146.2 With natural resin or derivative:

This subclass is indented under subclass 146.1. Compositions which contain, in addition to the sugar or the hydrogenated sugar, a natural resin or a chemical modification of a natural resin.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, Japan, Japan varnish, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.
- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, and sulfurized resins, or salts thereof.

146.3 With lanolin, lecithin, fat, or fatty oil:

This subclass is indented under subclass 146.1. Compositions which contain, in addition to the sugar or the hydrogenated sugar, a fat, fatty oil, lecithin, or lanolin.

- (1) Note. Definitions are found in the Glossary below.

GLOSSARY

FAT, FATTY OIL

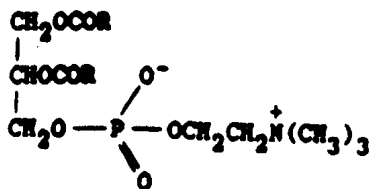
The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

LANOLIN

Cholesterol esters of higher fatty acids.

LECITHIN

A mixture of the diglycerides of stearic, palmitic, and oleic acids, linked to the choline ester of phosphoric acid. Lecithin has the following structure [wherein the R's are the same or different, and are acyclic hydrocarbon radicals of at least seven carbon atoms chain length]:



146.4 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 146.1. Compositions which contain, in addition to the sugar or the hydrogenated sugar, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

146.5 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 146.1. Compositions which contain, in addition to the sugar or the hydrogenated sugar, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

146.51 The oxygen is part of a -C(=O)O- group:

This subclass is indented under subclass 146.5. Compositions wherein the nonproteinaceous organic compound containing oxygen has a carboxylate group (i.e., -C(=O)O-).

147.1 With natural resin or derivative:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a natural resin or a chemical modification of a natural resin.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, Japan, Japan varnish, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.

- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, and sulfurized resins, or salts thereof.

147.2 With nonproteinaceous phosphorus or boron compound or organic compound containing silicon:

This subclass is indented under subclass 147.1. Compositions which contain, in addition to the natural resin or derivative thereof, a nonproteinaceous compound of phosphorus or boron or an organic compound which has at least one silicon atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

147.3 With lanolin, fat, or fatty oil:

This subclass is indented under subclass 147.1. Compositions which contain, in addition to the natural resin or derivative thereof, a fat, fatty oil, or lanolin.

- (1) Note. Definitions can be found in the Glossary below.

GLOSSARY

FAT, FATTY OIL

The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

LANOLIN

Cholesterol esters of higher fatty acids.

147.4 With terpene or derivative:

This subclass is indented under subclass 147.1. Compositions which contain, in addition to the natural resin or derivative thereof, a terpene or a chemical modification of a terpene.

- (1) Note. Terpene denotes a hydrocarbon having two or more isoprene units (C₅H₈). Most terpenes have carbon skeleton of 10, 15, 20, or 30 atoms.
- (3) Note. The term "derivative" herein is intended to include a chemical modification of the terpene wherein the terpene structure is not destroyed or wherein the terpene structure is indeterminate.

147.5 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 147.1. Compositions which contain, in addition to the natural resin or derivative thereof, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 124.1, (4) Note, for the definition of an organic compound.

147.6 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 147.1. Compositions which contain, in addition to the natural resin or derivative thereof, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

147.61 The oxygen is part of a -C(=O)O- group:

This subclass is indented under subclass 147.6. Compositions wherein the nonproteinaceous organic compound containing oxygen has a carboxylate group (i.e., -C(=O)O-).

148.1 With lanolin, lecithin, fat, or fatty oil:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a fat, fatty oil, lanolin, or lecithin.

- (1) Note. Definitions are found in the Glossary below.

GLOSSARY

FAT, FATTY OIL

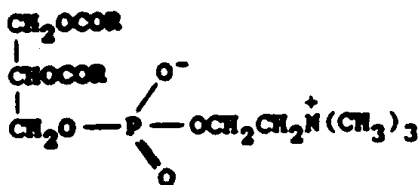
The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

LANOLIN

Cholesterol esters of higher fatty acids.

LECITHIN

A mixture of the diglycerides of stearic, palmitic, and oleic acids, linked to the choline ester of phosphoric acid. Lecithin has the following structure [wherein the R's are the same or different, and are acyclic hydrocarbon radicals of at least seven carbon atoms chain length]:



148.2 With nonproteinaceous phosphorus or boron compound or organic compound containing silicon:

This subclass is indented under subclass 148.1. Compositions which contain, in addition to the lanolin, lecithin, fat, or fatty oil, a nonproteinaceous compound of phosphorus or boron or an organic compound which has at least one silicon atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

148.3 With terpene or derivative:

This subclass is indented under subclass 148.1. Compositions which contain, in addition to the lanolin, lecithin, fat, or fatty oil, a terpene or a chemical modification of a terpene.

- (1) Note. Terpene denotes a hydrocarbon having two or more isoprene units (C_5H_8). Most terpenes have carbon skeleton of 10, 15, 20, or 30 atoms.
- (2) Note. The term "derivative" herein is intended to include a chemical modification of the terpene wherein the terpene structure is not destroyed or wherein the terpene structure is indeterminate.

148.4 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 148.1. Compositions which contain, in addition to the lanolin, lecithin, fat, or fatty oil, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

148.5 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 148.1. Compositions which contain, in addition to the lanolin, lecithin, fat, or fatty oil, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

148.51 The oxygen is part of a -C(=O)O- group:

This subclass is indented under subclass 148.5. Compositions wherein the nonproteinaceous organic compound containing oxygen has a carboxylate (-C(=O)O-) group.

148.52 Dihydric or polyhydric alcohol:

This subclass is indented under subclass 148.5. Compositions wherein the nonproteinaceous organic compound containing oxygen is an alcohol with two or more hydroxyl (-OH) groups.

149.1 With terpene or derivative:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a terpene or a chemical modification of a terpene.

- (1) Note. Terpene denotes a hydrocarbon having two or more isoprene units (C_5H_8). Most terpenes have carbon skeleton of 10, 15, 20, or 30 atoms.
- (2) Note. The term "derivative" herein is intended to include a chemical modification of the terpene wherein the terpene structure is not destroyed or wherein the terpene structure is indeterminate.

150.1 With nonproteinaceous hetero ring compound:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a nonproteinaceous organic compound having a hetero ring.

- (1) Note. Hetero ring is a ring having only carbon and at least one atom from the group consisting of nitrogen, oxygen,

sulfur, selenium and tellurium as ring members.

150.2 With nonproteinaceous organic compound containing sulfur or nitrogen:

This subclass is indented under subclass 150.1. Compositions which contain, in addition to the nonproteinaceous hetero ring compound, a nonproteinaceous organic compound which has at least one sulfur or nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

124.1, (4) Note, for the definition of an organic compound.

150.3 With nonproteinaceous organic compound containing oxygen except wax:

This subclass is indented under subclass 150.1. Compositions which contain, in addition to the nonproteinaceous hetero ring compound, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.

151.1 With nonproteinaceous phosphorus compound:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a nonproteinaceous compound of phosphorus.

151.2 With nonproteinaceous organic compound containing oxygen:

This subclass is indented under subclass 151.1. Compositions which contain, in addition to the nonproteinaceous phosphorus compound, a nonproteinaceous organic compound which has at least one oxygen atom therein.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

124.1, (4) Note, for the definition of an organic compound.

152.1 With nonproteinaceous boron compound:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a nonproteinaceous compound of boron.

153.1 With organic compound containing silicon:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, an organic compound which has at least one silicon atom therein.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

124.1, (4) Note, for the definition of an organic compound.

154.11 With nonproteinaceous organic compound containing sulfur:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a nonproteinaceous organic compound which has at least one sulfur atom therein.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

124.1, (4) Note, for the definition of an organic compound.

154.2 Carbon double bonded directly to the sulfur:

This subclass is indented under subclass 154.11. Compositions wherein the sulfur is double bonded directly to a carbon.

154.3 Nitrogen and sulfur in the same compound:

This subclass is indented under subclass 154.11. Compositions wherein the nonproteinaceous organic compound has both nitrogen and sulfur.

154.4 Sulfonated compound of indeterminate structure:

This subclass is indented under subclass 154.11. Compositions wherein the nonproteinaceous organic compound containing sulfur is a sulfonation chemical modification of indeterminate structure.

155.1 With nonproteinaceous organic compound containing nitrogen:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a nonproteinaceous organic compound which has at least one nitrogen atom therein.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
124.1, (4) Note, for the definition of an organic compound.
- 155.2 Nitrogen and oxygen in the same compound:**
This subclass is indented under subclass 155.1. Compositions wherein the nonproteinaceous organic compound has both nitrogen and oxygen.
- 155.21 Nitrogen single bonded directly to carbon of a -C(=O)- group:**
This subclass is indented under subclass 155.2. Compositions wherein the nonproteinaceous organic compound has the carbon of a -C(=O)-group bonded directly to the nitrogen by a single bond.
- 155.22 Alkanol amine or salt thereof:**
This subclass is indented under subclass 155.2. Compositions wherein the nonproteinaceous organic compound has an amino nitrogen attached directly to the carbon of an alkyl alcohol or salt thereof.
- 155.23 Tertiary amine oxide:**
This subclass is indented under subclass 155.2. Compositions wherein the nonproteinaceous organic compound has an oxygen attached to tertiary nitrogen by ionic bonding (i.e., $R_3N^+O^-$, where R is an organic group).
- 156.1 With nonproteinaceous organic compound containing oxygen except wax:**
This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, a nonproteinaceous organic compound which has at least one oxygen atom therein except wax.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
124.1, (4) Note, for the definition of an organic compound.
- 156.2 The oxygen is part of a -C(=O)O- group:**
This subclass is indented under subclass 156.1. Compositions wherein the nonproteinaceous organic compound containing oxygen has a carboxylate group (i.e., -C(=O)O-).
- 156.21 Carbon bonded directly to the single bonded oxygen of the -C(=O)O- group:**
This subclass is indented under subclass 156.2. Compositions wherein the nonproteinaceous organic -C(=O)O- group containing compound has the single-bonded oxygen of the -C(=O)O-group single bonded to an additional carbon atom.
- 156.22 Plural -C(=O)O- groups:**
This subclass is indented under subclass 156.21. Compositions wherein the nonproteinaceous organic -C(=O)O- group containing compound has two or more carboxylate groups.
- 156.23 Metal salt:**
This subclass is indented under subclass 156.2. Compositions wherein the carboxyl hydrogen of a carboxylic acid is replaced by a metal.
- 156.24 Metal salt of higher fatty acid:**
This subclass is indented under subclass 156.23. Compositions wherein the carboxyl hydrogen of a higher fatty acid is replaced by a metal.
- (1) Note. By "higher fatty acid" is meant aliphatic monocarboxylic acid containing an unbroken chain of at least seven carbon atoms bonded to a carboxyl group (e.g., lauric, palmitic, stearic, oleic, ricinoleic, linoleic, behenic, etc.). Where there are several unbroken chains of carbon atoms bonded to the -C(=O)O-group, one of the chains must contain at least seven carbon atoms.
- 156.25 With additional nonproteinaceous organic compound containing oxygen:**
This subclass is indented under subclass 156.2. Compositions which contain, in addition to the organic compound containing the carboxylate group, a nonproteinaceous organic compound which has at least one oxygen atom therein.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
124.1, (4) Note, for the definition of an organic compound.

156.3 Carbonyl group containing:

This subclass is indented under subclass 156.1. Compositions wherein the nonproteinaceous organic compound containing oxygen has a carbonyl group (i.e., -C(=O)-).

156.31 With additional nonproteinaceous organic compound containing oxygen:

This subclass is indented under subclass 156.3. Compositions which contain, in addition to the organic compound containing the carbonyl group, a nonproteinaceous organic compound which has at least one oxygen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

156.4 Ether except dialkylene or polyalkylene glycol:

This subclass is indented under subclass 156.1. Compositions wherein the nonproteinaceous organic compound containing oxygen has an ether group (i.e., -C-O-C-) except dialkylene or polyalkylene glycol.

SEE OR SEARCH THIS CLASS, SUBCLASS:

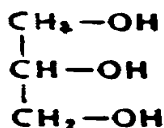
156.5, for compositions containing dialkylene or polyalkylene glycol.

156.5 Dihydric or polyhydric alcohol:

This subclass is indented under subclass 156.1. Compositions wherein the nonproteinaceous organic compound containing oxygen is an alcohol with two or more hydroxyl (-OH) groups.

156.51 Glycerol:

This subclass is indented under subclass 156.5. Compositions wherein the nonproteinaceous organic compound containing oxygen is a trihydric alcohol with the following structure:

**157.1 With bituminous or tarry residue, hydrocarbon, or naturally occurring wax:**

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, (a) a composition or compound having the characteristics of a tar or pitch no matter what the origin, (b) an organic compound consisting exclusively of the elements carbon and hydrogen, or (c) a naturally occurring low-melting organic mixture or compound of hydrocarbons or esters of fatty acids and alcohols having the characteristics of wax (solid at room temperature).

(1) Note. Examples of components included herein are alkanes, alkenes, olefins, montan wax, ceresin wax, carnauba wax, all asphalts, bitumens, pitches and tars from coal, mineral oil, cotton seed pitch and the residue from the destructive distillation of wood, and natural oil distillations.

157.2 With element or inorganic compound except water:

This subclass is indented under subclass 124.1. Compositions which contain, in addition to the proteinaceous material, elemental material or any inorganic compound except water.

SEE OR SEARCH THIS CLASS, SUBCLASS:

124.1, (4) Note, for the definition of an organic compound.

157.3 Mineral acid (e.g., sulfuric, nitric, etc.):

This subclass is indented under subclass 157.2. Compositions wherein the inorganic compound is an inorganic acid.

(1) Note. Mineral acids include but are not limited to sulfuric, nitric, hydrochloric, and phosphoric acids.

(2) Note. All mineral acids are highly irritant and corrosive to human tissue.

157.4 Ammonium hydroxide (i.e., ammonium hydrate, aqua ammonia, ammonia solution) or ammonia:

This subclass is indented under subclass 157.2. Compositions wherein the inorganic compound is ammonium hydroxide (NH₄OH) or anhydrous ammonia (NH₃).

157.5 Elemental sulfur or inorganic sulfur compound:

This subclass is indented under subclass 157.2. Compositions wherein the element or inorganic compound is elemental sulfur or an inorganic compound containing sulfur.

157.51 Aluminum sulfate (e.g., alum, pearl alum, cake alum, etc.):

This subclass is indented under subclass 157.5. Compositions wherein the inorganic compound containing sulfur is Al₂(SO₄)₃.

157.6 Elemental halogen, inorganic halogen compound, or inorganic nitrate compound:

This subclass is indented under subclass 157.2. Compositions wherein the inorganic compound or element is an inorganic compound containing halogen or elemental halogen or an inorganic compound having a nitrate (NO₃⁻) radical.

157.7 Elemental silicon or inorganic silicon compound:

This subclass is indented under subclass 157.2. Compositions wherein the element or inorganic compound is elemental silicon or an inorganic compound containing silicon.

157.71 Clay:

This subclass is indented under subclass 157.7. Compositions wherein the inorganic compound containing silicon is a naturally occurring, fine grained, earthy, hydrated aluminum silicate containing composition; i.e., clay.

- (1) Note. The term "clay" includes materials commonly known as attapulgite, bentonite, fuller's earth, halloysite, illite, kaolinite, and montmorillonite.

157.8 Metal oxide:

This subclass is indented under subclass 157.2. Compositions wherein the inorganic compound is a metal oxide.

157.9 Alkali or alkaline earth metal hydroxide (e.g., caustic soda, caustic alkali, caustic lime, etc.):

This subclass is indented under subclass 157.2. Compositions wherein the inorganic compound is an alkali metal hydroxide or an alkaline earth metal hydroxide.

- (1) Note. The alkali metals are lithium, sodium, potassium, rubidium, cesium, and francium.
- (2) Note. The alkaline earth metals are magnesium, calcium, strontium, barium, and radium.

158.1 Albumin or derivative:

This subclass is indented under subclass 124.1. Compositions wherein the proteinaceous material is albumin or a chemical modification of albumin.

- (1) Note. Albumins are proteins characterized by heat coagulability and solubility in dilute salt solution. The most notable albumins are ovalbumin, serum albumin, lactalbumin, grain and soybean albumins.
- (2) Note. Example of derivative included herein is the metal salt of the albumin.

159.1 Casein or derivative:

This subclass is indented under subclass 124.1. Compositions wherein the proteinaceous material is casein or a chemical modification of casein.

- (1) Note. Casein is the principal protein in milk. It is a phosphoprotein consisting of about 15 amino acids and has a molecular weight ranging from 75,000 to 375,000.
- (2) Note. Example of derivative included herein is the metal salt of the casein.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
124.2, for compositions containing milk.

160.1 Gelatin or collagen or derivative (e.g., glue, etc.):

This subclass is indented under subclass 124.1. Compositions wherein the proteinaceous material is gelatin, collagen, or a chemical modification of gelatin or collagen.

- (1) Note. Gelatin is derived from collagen by boiling skin, tendons, ligaments, bones, etc. with water.
- (2) Note. Collagen is a protein with a molecular weight of about 130,000. It is the main constituent of skin, connective tissue, and the organic substance of bones and teeth.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
124.4+, for compositions containing tissue derived from multicellular animal.

161.1 Prolamine or derivative (e.g., zein, etc.):

This subclass is indented under subclass 124.1. Compositions wherein the proteinaceous material is prolamine or derivative thereof.

- (1) Note. Prolamines are those proteins contained in cereal grains which are soluble in strong alcohol and insoluble in water. Prolamine from corn is known as zein; from wheat, gliadin; from rye, hordein.

162.1 Carbohydrate or derivative containing:

This subclass is indented under the unnumbered subclass, COATING OR PLASTIC COMPOSITIONS. Coating or plastic composition containing a carbohydrate or derivative thereof.

- (1) Note. The term "carbohydrate or derivative" in this and indented subclasses corresponds to Class 536, subclass 1.11 definition; i.e., saccharide whose monomeric units are polyhydroxy mono-aldehydes or polyhydroxy mono-ketones, having the formula $C_n(H_2O)_n$ (wherein n is five or six), or the corresponding cyclic hemiacetals thereof; or the reac-

tion derivatives thereof in which the carbon skeleton and the carbonyl function or hemi-acetal function of the saccharide unit are not destroyed.

- (2) Note. The expression "organic compound" in this and indented subclasses corresponds to the Class 260 class definition; i.e., compounds containing carbon, which are further characterized by the presence in a molecule thereof of (a) two carbon atoms bonded together, (b) one atom of carbon bonded to at least one atom of hydrogen or halogen, or (c) one atom of carbon bonded to at least one atom of nitrogen by a single or double bond, with the proviso that HCN, CN-CN, HNCO, HNCS, cyanamide, cyanogen halides, fulminic acid, metal carbides, and graphite are excluded from being organic compounds.

SEE OR SEARCH CLASS:

- 127, Sugar, Starch, and Carbohydrates, appropriate subclass for processes of production, purification, extraction, etc., of starch and sugar, and products of such processes.
- 428, Stock Material or Miscellaneous Articles, subclasses 532+ for a nonstructural laminate including a layer comprising carbohydrate.
- 435, Chemistry: Molecular Biology and Microbiology, appropriate subclasses for the liberation or treatment of carbohydrates by fermentation processes.
- 520, Synthetic Resins or Natural Rubbers, Class 523, subclasses 447+ and 509 and Class 524, subclasses 9+, 27+ 702+, 716, and 732+ for a carbohydrate or derivative nonreactant material in admixture with a synthetic resin or natural rubber; and Classes 525, 526, 527, and 528 for a carbohydrate or derivative containing synthetic resin, and see Class 520, subclass 1 for an explanation of the type of polymer derived from a protein reactant which is proper for Class 520 (Note 9, C).
- 536, Organic Compounds, subclasses 1.11+ for a carbohydrate prepared by a synthesis other than hydrolytic conversion of a carbohydrate.

162.2 Aminopolysaccharide (e.g., heparin, glycosamine, mucopolysaccharide, chitin, hyaluronic acid, etc.):

This subclass is indented under subclass 162.1. Compositions wherein the carbohydrate is a polysaccharide with an amino group therein.

162.5 With lignocellulosic material (i.e., mixture of a lignocellulosic material and a carbohydrate material which is other than a lignocellulosic material or a component thereof):

This subclass is indented under subclass 162.1. Compositions which contain a lignocellulosic material in addition to the carbohydrate or derivative whereby the carbohydrate or derivative is not a lignocellulosic material or a constituent thereof.

- (1) Note. Lignocellulosic material is raw vegetable matter consisting primarily of cellulose, primarily of cellulose and lignin, or primarily of cellulose and lignin and minor amounts of carbohydrate and resin. Lignocellulosic materials include but are not limited to straw, bagasse, corn stalk, grass, wood pulp, wood, bark.
- (2) Note. Lignin is a noncarbohydrate, polymeric substance found in wood and woody plants which functions as a natural plastic binder for the cellulose fibers. It is isolated directly from wood or wood products or from the treatment of wood, e.g., waste sulfite liquor or black liquor. The structure of the lignin monomer is not completely known.

SEE OR SEARCH THIS CLASS, SUBCLASS:

162.6, 162.7, 162.8, and 162.9 for compositions containing carbohydrate or derivative and cellulose xanthate, cellulose ester or salt thereof, cellulose ether or salt thereof, or cellulose or derivative.

163.01, for definition of cellulose.

164.01+, for compositions containing one or more lignocellulosic materials.

162.51 The carbohydrate is starch:

This subclass is indented under subclass 162.5. Compositions wherein the carbohydrate is a polysaccharide in plants (e.g., corn, potatoes,

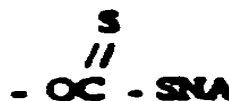
tapioca, rice, wheat, etc.) which has amylose and amylopectin as the main ingredients.

- (1) Note. Starches are heterogenous in that the amylose and amylopectin occur in different ratios to each other.
- (2) Note. Included herein are starch fractions such as amylose and amylopectin as well as modified starches (e.g., thin boiling starches, etc.).

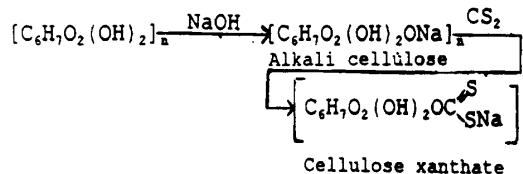
162.6 With cellulose xanthate or viscose (i.e., mixture of cellulose xanthate or viscose and a carbohydrate material which is other than cellulose xanthate or viscose):

This subclass is indented under subclass 162.1. Compositions which contain cellulose xanthate or viscose in addition to the carbohydrate or derivative whereby the carbohydrate or derivative is not cellulose xanthate or viscose.

- (1) Note. Cellulose xanthate or viscose is a cellulose derivative with the group:



- (2) Note. The viscose process is based on the reaction of carbon disulfide with the sodium salt of cellulose to yield a xanthate, which forms a viscous colloidal solution in dilute aqueous alkali.



SEE OR SEARCH THIS CLASS, SUBCLASS:

162.5, 162.7, 162.8, and 162.9, for compositions containing carbohydrate or derivative and lignocellulosic mate-

rial, cellulose ester or salt, cellulose ether or salt, or cellulosic material.

162.7 With cellulose ester or salt thereof (i.e., mixture of (a) a cellulose ester or salt thereof and (b) a carbohydrate material which is other than cellulose ester or salt of the same acid as in (a) differing only in the degree of esterification):

This subclass is indented under subclass 162.1. Compositions which contain (a) a cellulose ester or salt thereof in addition to (b) the carbohydrate or derivative thereof whereby the carbohydrate or derivative cannot be a cellulose ester or salt of the same acid as in (a) differing only in the degree of esterification.

(1) Note. This subclass provides for compositions containing both a and b as defined below:

(a) cellulose ester such as (1) cellulose ester of a single acid (e.g., cellulose acetate, cellulose propionate, etc.), (2) cellulose ester of mixed acids (e.g., cellulose butyrate propionate, cellulose propionate isobutyrate, etc.), or (3) mixture of cellulose esters of the same acid differ only in the degree of esterification (e.g., pyroxylin - mixture of cellulose tetranitrate and cellulose trinitrate, mixture of cellulose acetate and cellulose triacetate, etc.), and

(b) carbohydrate or derivative.

SEE OR SEARCH THIS CLASS, SUBCLASS:

162.5, 162.6, 162.8, and 162.9, for compositions containing carbohydrate or derivative and lignocellulosic material, cellulose xanthate, cellulose ether or salt, or cellulosic material.

162.71, for compositions containing cellulose ester (e.g., cellulose nitrate, cellulose acetate, etc.) and a cellulosic material (e.g., carboxymethyl cellulose, ethyl cellulose, etc.).

162.72, for compositions containing two or more different cellulose esters (e.g., cellulose nitrate and cellulose acetate, cellulose propionate and cellulose acetate, cellulose propionate and cellulose propionate isobutyrate, etc.).

168.01, for definition of cellulose ester or salt thereof.

169.01+, for compositions containing pyroxylin as the only carbohydrate or derivative and the only cellulose ester or derivative.

162.71 The carbohydrate is a cellulose material:

This subclass is indented under subclass 162.7. Compositions wherein the carbohydrate derivative is cellulose, chemically modified cellulose wherein the carbon skeleton of the cellulose is not destroyed, or a naturally occurring material which has cellulose as one of its ingredients.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, for definition of cellulose or derivative thereof.

162.72 Diverse cellulose ester or salt thereof (i.e., mixture of two or more cellulose esters or salts of diverse acids or mixture of two or more cellulose mixed esters or salts of different diverse acids groups):

This subclass is indented under subclass 162.71. Compositions which contain (a) mixture of two or more cellulose esters or salts thereof whereby at least one cellulose ester or salt has a diverse acid group or (b) mixture of two or more mixed cellulose esters or salts thereof whereby at least one mixed cellulose ester or salt has a diverse mixed acids group.

(1) Note. Cellulose ester is a product of a reaction of a hydroxyl group of cellulose with an acid. The esterifying acid may be organic or inorganic.

(2) Note. This subclass provides for compositions containing two or more different cellulose esters (e.g., cellulose nitrate and cellulose acetate, cellulose propionate and cellulose acetate, cellulose propionate and cellulose propionate isobutyrate, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:

168.01+, for compositions containing cellulose mixed esters or mixture of cellulose esters of the same acid different only in the degree of esterification (e.g.,

cellulose acetate propionate, cellulose propionate and cellulose tripropionate, etc.).

171.1, for compositions containing mixture of cellulose acetate of differing degree of esterification (e.g., cellulose acetate and cellulose triacetate, etc.).

162.8 With cellulose ether or salt thereof (i.e., mixture of (a) a cellulose ether or salt thereof and (b) a carbohydrate material which is other than cellulose ether or salt of the same etherifying radical as in (a) differing only in the degree of etherification):

This subclass is indented under subclass 162.1. Compositions which contain (a) a cellulose ether or salt thereof in addition to (b) the carbohydrate or derivative whereby the carbohydrate or derivative cannot be a cellulose ether or salt of the same etherifying radical as in (a) differing only in the degree of etherification.

- (1) Note. Cellulose ether is a cellulose derivative having a general formula ROR₄, wherein RO- is the cellulose residue moiety and R₄ is an ether forming radical.
- (2) Note. Cellulose ether is made by etherifying the hydroxyl groups of cellulose.

SEE OR SEARCH THIS CLASS, SUBCLASS:

162.82, for compositions containing mixture of cellulose ethers.

162.81 The carbohydrate is starch or derivative:

This subclass is indented under subclass 162.8. Compositions wherein the carbohydrate is a polysaccharide in plants (e.g., corn, potatoes, tapioca, rice, wheat, etc.) which has amylose and amylopectin as the main ingredients or derivatives thereof.

- (1) Note. Starches are heterogenous in that the amylose and amylopectin occur in different ratios to each other.
- (2) Note. Included herein are starch fractions such as amylose and amylopectin as well as modified starches (e.g., thin boiling starches, etc.).

162.82 The carbohydrate is diverse cellulose ether or salt thereof (i.e., mixture of two or more cellulose ethers or salts of diverse etherifying radicals or mixture of two or more cellulose mixed ethers or salts of different diverse etherifying radical groups):

This subclass is indented under subclass 162.8. Compositions wherein the carbohydrate derivative is a diverse cellulose ether or salt thereof or a diverse cellulose mixed ethers or salts thereof.

- (1) Note. This subclass provides for compositions containing two or more different cellulose ethers or mixed ethers or salts thereof (e.g., methyl cellulose and ethyl cellulose, methyl propyl cellulose and ethyl butyl cellulose, etc.).

162.9 With cellulosic material (i.e., mixture of a cellulosic material and a carbohydrate material which is other than a cellulosic material):

This subclass is indented under subclass 162.1. Compositions which contain (a) a naturally occurring material which has cellulose as one of its ingredients, cellulose, or a derivative thereof, and (b) a carbohydrate or derivative thereof whereby the carbohydrate or derivative is not a cellulosic material.

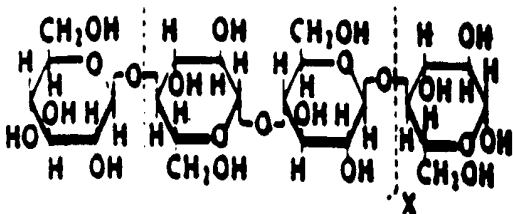
SEE OR SEARCH THIS CLASS, SUBCLASS:

162.5, 162.6, 162.7, and 162.8, for compositions containing cellulose or other derivatives of cellulose and additional carbohydrate or derivative.

163.01, for definition of cellulose or derivative thereof.

163.01 Cellulosic material:

This subclass is indented under subclass 162.1. Compositions wherein the carbohydrate is cellulose with the following structure, below, or the reaction products wherein the carbon skeleton of the cellulose is not destroyed or a naturally occurring material which has cellulose as one of its ingredients.



- (1) Note. This subclass and indented subclasses provide for lignocellulosic material (e.g., wood, bark, etc.), relatively pure cellulose (e.g., cotton linters, etc.), regenerated cellulose (e.g., cellophane and rayon), or chemically modified forms of cellulose (e.g., pyroxylin, viscose, etc.) for which there is no provision elsewhere.
- (2) Note. The expression “organic compound” in this and indented subclasses corresponds to the Class 260 class definition; i.e., compounds containing carbon, which are further characterized by the presence in a molecule thereof of (a) two carbon atoms bonded together, (b) one atom of carbon bonded to at least one atom of hydrogen or halogen, or (c) one atom of carbon bonded to at least one atom of nitrogen by a single or double bond, with the proviso that HCN, CN-CN, HNCO, HNCS, cyanamide, cyanogen halides, fulminic acid, metal carbides, and graphite are excluded from being organic compounds.
- (3) Note. The term “carbohydrate or derivative” in this and indented subclasses corresponds to Class 536, subclass 1.1 definition; i.e., saccharide whose monomeric units are polyhydroxy mono-aldehydes or polyhydroxy mono-ketones, having the formula $C_n(H_2O)_n$ (wherein n is five or six), or the corresponding cyclic hemiacetals thereof; or the reaction derivatives thereof in which the carbon skeleton and the carbonyl function or hemi-acetal function of the saccharide unit are not destroyed.

- (4) Note. The term “alloy” in this and indented subclasses corresponds to Class 75 class definition; i.e., a union, possessing metallic properties of two or more metallic elements or of nonmetallic element(s) and metallic element(s) which are not pure compounds and which are miscible with each other, which at least to a certain extent when molten forms a more or less homogeneous liquid having a metallic matrix and which does not separate into distinct layers when solid. Such combinations when solidified from a melt may consist of mechanical mixtures, eutectics, eutectoids, solid solutions, or in part of chemical compounds one or more of which may exist at the same time. Intermetallic compounds are considered alloys for purposes of classification.
- (5) Note. The term “hetero ring” in this and indented subclasses corresponds to Class 532 class definition; i.e., a ring having only carbon and at least one atom from the group consisting of nitrogen, oxygen, sulfur, selenium and tellurium as ring members.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 15.05+, for compositions containing fireproofing or biocidal agent.
- 31.36+, for compositions which are specialized for use as marking, writing, printing, and particularly subclass 31.37 for ink compositions containing cellulose or derivative thereof.
- 166.01, 168.01, 169.01, and 172.1, for compositions containing cellulose xanthate, cellulose ester, cellulose nitrate, or cellulose ether.
- 638+, for compositions containing inorganic settable ingredients.

SEE OR SEARCH CLASS:

- 138, Pipes and Tubular Conduits, subclass 118.1 for inedible sausage casings, per se, including shirred casings, with more than nominal wall structure.
- 162, Paper Making and Fiber Liberation, subclasses 1+ for processes of liberating cellulosic fibers from natural

- sources including chemical treatment, and subclasses 100+ for cellulosic fiber containing compositions which are deposited from liquid suspensions.
- 252, Compositions, subclasses 582+ for compositions containing ultraviolet filtering material or other light transmission modifying materials.
- 426, Food or Edible Material: Processes, Compositions, and Products, subclasses 105, 135, and 138+ for edible food casings or casings containing a food product.
- 428, Stock Material or Miscellaneous Articles, subclass 34.8 for a flexible casing with nominal wall structure for food products such as sausage, appropriate subclasses for a stock material product in the form of a single or plural layer web or sheet, and particularly subclasses 227+ for such a product comprising intertangled strands or strand-portions, and subclasses 375+ for structurally defined or coated fiber or filament, or a mass thereof.
- 536, Organic Compounds, subclasses 56+ for cellulose or derivatives thereof, per se.

164.01 Lignocellulosic material (e.g., wood, bark, straw, bagasse, wood pulp, etc.):

This subclass is indented under subclass 163.01. Compositions wherein the cellulosic material is raw vegetable matter consisting primarily of cellulose, primarily of lignin and cellulose, or primarily of lignin and cellulose and minor amounts of carbohydrate and resin.

- (1) Note. Lignin is a noncarbohydrate, polymeric substance found in wood and woody plants which functions as a natural plastic binder for the cellulose fibers. It is isolated directly from wood or wood products or from the treatment of wood, e.g., waste sulfite liquor or black liquor. The structure of the lignin monomer is not completely known.
- (2) Note. Lignocellulosic materials include but are not limited to straw, bagasse, corn stalk, grass, wood pulp, wood, bark.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 164.1, for cork or 164.2 for peat.
165.01, for compositions containing chemically modified lignocellulosic material of indeterminate structure (e.g., hydrolyzed, etherified, etc.).

164.1 Cork:

This subclass is indented under subclass 164.01. Compositions wherein the lignocellulosic material is (a) the exterior layer of the bark of the cork oak tree or (b) cork, per se.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 38, for shoe filling composition with cork.

164.11 With fat, fatty oil, higher fatty acid, or derivative:

This subclass is indented under subclass 164.1. Compositions which contain, in addition to the cork, fat, fatty oil, higher fatty acid, and functional derivative thereof.

- (1) Note. Definitions are found in the Glossary below.
- (2) Note. Examples of derivative included herein are esterified, oxidized, polymerized, vulcanized, hydrogenized fat, or fatty oil and the functional derivative of higher fatty acid such as esters, acid salts, and amides.
- (3) Note. Included herein are oils derived from plant and animal origin (e.g., castor, coconut, corn, soybean, olive, cottonseed, safflower, fish, fish-liver, sperm, etc.) and the functional oils, such as drying oils (linseed, tung, oiticica), semidrying oils (soybean, cottonseed), and nondrying oils (castor, coconut).

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 164.4, compositions containing lignocellulosic material and organic compound containing chalcogen.
164.43, for compositions containing fat, fatty oil, higher fatty acid, or derivative in combination with lignocellulosic

material and natural resin or derivative.

164.44, for compositions containing fat, fatty oil, higher fatty acid, or derivative in combination with lignocellulosic material.

GLOSSARY

FAT, FATTY OIL

The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

HIGHER FATTY ACID

Aliphatic monocarboxylic acid containing an unbroken chain of at least seven carbon atoms bonded to a carboxyl group (e.g., lauric, palmitic, stearic, oleic, ricinoleic, linoleic, behenolic, etc.). Where there are several unbroken chains of carbon atoms bonded to the -C(=O)O- group, one of the chains must contain at least seven carbon atoms.

164.12 With bituminous or tarry residue:

This subclass is indented under subclass 164.1. Compositions which contain, in addition to the cork, a composition or compound having the characteristics of a tar or pitch no matter what the origin.

- (1) Note. Examples of components included herein are all asphalts, bitumens, pitches and tars from coal, mineral oil, cotton seed pitch and the residue from the destructive distillation of wood, and natural oil distillations.

SEE OR SEARCH THIS CLASS, SUBCLASS:

164.6, for compositions containing lignocellulosic material and bituminous or tarry residue.

164.2 Peat:

This subclass is indented under subclass 164.01. Compositions wherein the lignocellulosic material is partially decayed plant matter formed in water-saturated environments, such as bogs and marshes.

164.3 With organic compound containing nitrogen:

This subclass is indented under subclass 164.01. Compositions which contain, in addition to the lignocellulosic material, an organic compound which has at least one nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (2) Note, for definition of an organic compound.

166.4+, 169.46+, 170.42+, 190.1, and 200.1+, for compositions containing cellulose xanthate, cellulose nitrate, cellulose ester or salt thereof, cellulose ether or salt thereof, or a cellulosic material and an organic compound containing nitrogen.

164.4 With organic compound containing chalcogen:

This subclass is indented under subclass 164.01. Compositions which contain, in addition to the lignocellulosic material, an organic compound which has at least one chalcogen atom (i.e., oxygen, sulfur, selenium or tellurium) therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (2) Note, for the definition of an organic compound.

164.41 Natural resin or derivative:

This subclass is indented under subclass 164.4. Compositions wherein the organic compound containing chalcogen is a natural resin or derivative of a natural resin.

- (1) Note. Natural resins include but are not limited to shellac, copals from various sources (e.g., congo, manila, etc.), amber, dammar, dead dammar, gum rosin, rosin (colophony), tall oil (liquid rosin), wood rosin, burgundy pitch, gurjun balsam, canada balsam, sandrac, mastic, accroides, benzoin, elemi, gamboge, gum thus, venice turpentine, bordeaux turpentine, abietic acid, and pimaric acid.

- (2) Note. Examples of derivatives included herein are hydrogenated, esterified, polymerized, or sulfurized resin, or salt thereof.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

169.18+, 170.21, and 178.1, for compositions containing natural resin or derivative and cellulose nitrate, cellulose ester or salt thereof, or cellulose ether or salt thereof.

164.42 With hydrocarbon (e.g., petroleum fraction, paraffin, olefin, acetylene, etc.):

This subclass is indented under subclass 164.41. Compositions which contain in addition to the lignocellulosic material and natural resin an organic compound consisting exclusively of the elements carbon and hydrogen.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

166.7, for compositions containing cellulose xanthate and hydrocarbon.

164.43 With fat, fatty oil, higher fatty acid, or derivative:

This subclass is indented under subclass 164.41. Compositions which contain, in addition to the lignocellulosic material and natural resin, fat, fatty oil, higher fatty acid or derivative thereof.

- (1) Note. Definitions can be found in the Glossary below.

- (2) Note. Examples of derivatives included herein are esterified, oxidized, polymerized, vulcanized, hydrogenized fat, or fatty oil and the functional derivative of higher fatty acid such as esters, acid salts, and amides.

- (3) Note. Included herein are oils derived from plant and animal origin (e.g., castor, coconut, corn, soybean, olive, cottonseed, safflower, fish, fish-liver, sperm, etc.) and the functional oils, such as drying oils (linseed, tung, oiticica), semidrying oils (soybean, cottonseed), and nondrying oils (castor, coconut).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

164.11, for compositions containing cork and fat, fatty oil, higher fatty acid or derivative.

164.44, for compositions containing lignocellulosic material and fat, fatty oil, higher fatty acid or derivative.

GLOSSARY

FAT, FATTY OIL

The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

HIGHER FATTY ACID

Aliphatic monocarboxylic acid containing an unbroken chain of at least seven carbon atoms bonded to a carboxyl group (e.g., lauric, palmitic, stearic, oleic, ricinoleic, linoleic, behenolic, etc.). Where there are several unbroken chains of carbon atoms bonded to the $-C(=O)O-$ group, one of the chains must contain at least seven carbon atoms.

164.44 Fat, fatty oil, higher fatty acid or derivative:

This subclass is indented under subclass 164.4. Compositions wherein the organic compound containing chalcogen is fat, fatty oil, higher fatty acid or derivative thereof.

- (1) Note. Definitions are in the Glossary below.

- (2) Note. Examples of derivatives included herein are esterified, oxidized, polymerized, vulcanized, hydrogenized fat, or fatty oil and the functional derivative of higher fatty acid such as esters, acid salts, and amides.

- (3) Note. Included herein are oils derived from plant and animal origin (e.g., castor, coconut, corn, soybean, olive, cottonseed, safflower, fish, fish-liver, sperm, etc.) and the functional oils, such as drying oils (linseed, tung, oiticica), semidrying oils (soybean, cottonseed), and nondrying oils (castor, coconut).

SEE OR SEARCH THIS CLASS, SUB-CLASS:

164.11, for compositions containing cork and fat, fatty oil, higher fatty acid or derivative.

164.43, for compositions containing fat, fatty oil, higher fatty acid or derivative in combination with lignocellulosic material and natural resin or derivative.

GLOSSARY

FAT, FATTY OIL

The glyceryl triester (triglyceride) of the same or different higher fatty acids (e.g., oleic, myristic, palmitic, stearic, linolenic, etc.) or mixtures thereof present in a single oil or fat (e.g., lard, tallow, castor oil, etc.).

HIGHER FATTY ACID

Aliphatic monocarboxylic acid containing an unbroken chain of at least seven carbon atoms bonded to a carboxyl group (e.g., lauric, palmitic, stearic, oleic, ricinoleic, linoleic, behenolic, etc.). Where there are several unbroken chains of carbon atoms bonded to the -C(=O)O- group, one of the chains must contain at least seven carbon atoms.

164.5 With element or inorganic compound except water:

This subclass is indented under subclass 164.01. Compositions which contain, in addition to the lignocellulosic material, elemental material or any inorganic compound except water.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

163.01, (2) Note, for the definition of an organic compound.

166.8+, and 204.01+, for compositions containing cellulose xanthate or cellulose and inorganic compound or element, other than water.

- (1) Note. Examples of components included herein are carbon black, metal alloy, metal dust, sodium chloride, and calcium carbonate.

164.51 Elemental silicon or inorganic silicon compound:

This subclass is indented under subclass 164.5. Compositions in which the inorganic compound or element is an inorganic compound containing silicon or elemental silicon.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

166.82, 169.55, 170.57, and 203.3, for compositions containing cellulose xanthate, cellulose nitrate, cellulose ester or salt, cellulose ether or salt, or a cellulosic material and an inorganic compound containing silicon or an elemental silicon.

164.52 Asbestos:

This subclass is indented under subclass 164.51. Compositions in which the compound containing silicon is fibrous calcium magnesium silicate.

164.53 Elemental sulfur or inorganic sulfur compound:

This subclass is indented under subclass 164.5. Compositions in which the inorganic compound or element is an inorganic compound containing sulfur or elemental sulfur.

164.6 With bituminous or tarry residue:

This subclass is indented under subclass 164.01. Compositions which contain a composition or compound having the characteristics of a tar or pitch no matter what the origin.

- (1) Note. Examples of components included herein are all asphalts, bitumens, pitches and tars from coal, mineral oil, cotton seed pitch and the residue from the destructive distillation of wood, and natural oil distillations.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

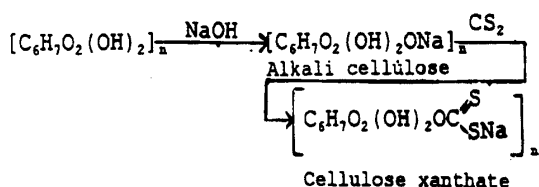
164.12, for compositions containing cork and bituminous or tarry residue.

165.01 Chemically modified lignocellulosic material of indeterminate structure (e.g., hydrolyzed, etherified, etc.):

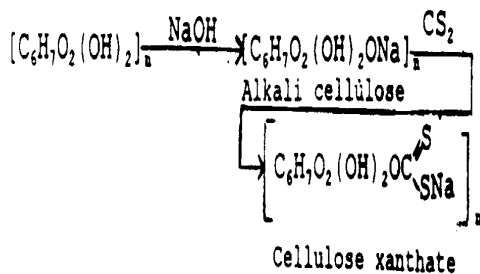
This subclass is indented under subclass 163.01. Compositions wherein the cellulosic material is found in a hydrolyzed, etherified, or other reaction products of lignocellulosic material of indeterminate structure.

166.01 Cellulose xanthate or viscose:

This subclass is indented under subclass 163.01. Compositions wherein the cellulosic material contains the group:



- (1) Note. The viscose process is based on the reaction of carbon disulfide with the sodium salt of cellulose to yield a xanthate, which forms a viscous colloidal solution in dilute aqueous alkali.



SEE OR SEARCH CLASS:

- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 188+ for processes of forming indefinite or continuous length articles from viscose spinning solutions by extrusion thereof into a specified precipitating medium as defined, see Class 264 definitions, Lines With Other Classes, "Lines With The Chemical Composition Classes," (5). Where an

additive is included in a molding composition or a treating bath for purposes of preventing fouling of equipment, see Class 264, subclass 170.

- 536, Organic Compounds, subclasses 60+ for viscose, per se, and its subsequent treatment.

166.1 With organic compound containing silicon:

This subclass is indented under subclass 166.01. Compositions which contain an organic compound which has at least one silicon atom therein in addition to the cellulose xanthate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 163.01, (2) Note, for the definition of an organic compound.
169.17, 170.2, and 177.1, for compositions containing cellulose nitrate, cellulose ester or salt, or cellulose ether or salt and organic compound containing silicon.

166.2 With phosphorus compound:

This subclass is indented under subclass 166.01. Compositions which contain a compound of phosphorus in addition to the cellulose xanthate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 169.14+, 170.15+, and 175.1, for compositions containing cellulose nitrate, cellulose ester or salt, or cellulose ether or salt and phosphorus compound.

166.3 With organic compound containing sulfur:

This subclass is indented under subclass 166.01. Compositions which contain an organic compound which has at least one sulfur atom therein in addition to the cellulose xanthate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 163.01, (2) Note, for the definition of an organic compound.
169.45, 170.46, 191.1, and 202.1, for compositions containing cellulose nitrate, cellulose ester or salt, cellulose ether

or salt, or a cellulosic material and organic compound containing sulfur.

166.31 Carbon double bonded directly to the sulfur:

This subclass is indented under subclass 166.3. Compositions wherein the sulfur is double bonded directly to a carbon.

166.4 With organic compound containing nitrogen:

This subclass is indented under subclass 166.01. Compositions which contain, in addition to the cellulose xanthate, an organic compound which has at least one nitrogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (2) Note, for the definition of an organic compound.

164.3, 169.46+, 170.42+, 190.1, and 200.1+, for compositions containing lignocellulosic material, cellulose nitrate, cellulose ester or salt, cellulose ether or salt, or a cellulosic material and an organic compound containing nitrogen.

166.41 The nitrogen is a member of a hetero ring:

This subclass is indented under subclass 166.4. Compositions wherein the nitrogen of the organic compound containing nitrogen is part of a hetero ring.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (5) Note, for the definition of hetero ring.

169.1+, 170.1+, 173.01, and 200.2, for compositions containing cellulose nitrate, cellulose ester or salt, cellulose ether or salt, or a cellulosic material and nitrogen containing hetero ring.

166.42 Oxygen and nitrogen in the same compound (e.g., ammonium alkyl sulfonate, tertiary amine oxide, triethanolamine, etc.):

This subclass is indented under subclass 166.4. Compositions wherein the organic compound has both oxygen and nitrogen.

SEE OR SEARCH THIS CLASS, SUBCLASS:

200.3, for compositions containing a cellulosic material and organic compound containing both oxygen and nitrogen.

166.43 The oxygen is part of a -C(=O)- group (e.g., amide, urea, etc.):

This subclass is indented under subclass 166.42. Compositions wherein the oxygen is double bonded to a carbon atom.

166.5 With organic compound containing oxygen:

This subclass is indented under subclass 166.01. Compositions which contain in addition to the cellulose xanthate an organic compound which has at least one oxygen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (2) Note, for the definition of an organic compound.

203.1, for compositions containing a cellulosic material and organic compound containing oxygen.

166.51 Natural resin or organic -C(=O)O- compound (e.g., rosin, tall oil, tallow, castor oil, carboxylic acid, etc.):

This subclass is indented under subclass 166.5. Compositions wherein the organic compound containing oxygen is (a) a natural resin, or (b) a compound in which the carbon of the -C(=O)O- group is, or is attached directly or indirectly by nonionic bonding to, the carbon of an organic compound.

SEE OR SEARCH THIS CLASS, SUBCLASS:

203.3, for compositions containing a cellulosic material and natural resin or organic -C(=O)O- compound.

166.52 Dihydric or polyhydric alcohol or ether derivative thereof:

This subclass is indented under subclass 166.5. Compositions wherein the organic compound containing oxygen has two or more -OH groups, each of which is bonded directly to a carbon, which carbon may be single bonded to any element but may be multiple bonded only

to carbon or ether derivative thereof whereby the H of the -OH group is replaced by a C.

SEE OR SEARCH THIS CLASS, SUBCLASS:

203.2, for compositions containing a cellulosic material and a dihydric or polyhydric alcohol.

166.6 With organic compound containing halogen:

This subclass is indented under subclass 166.01. Compositions which contain, in addition to the cellulose xanthate, an organic compound which has at least one halogen atom therein.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (2) Note, for the definition of an organic compound.

170.55, 195.1, and 201.1, for compositions containing cellulose ester or salt, cellulose ether or salt, or a cellulosic material and an organic compound containing halogen.

166.7 With bituminous or tarry residue or hydrocarbon (e.g., petroleum fraction, paraffin, olefin, acetylene, etc.):

This subclass is indented under subclass 166.01. Compositions which contain, in addition to the cellulose xanthate, a composition or compound having the characteristics of a tar or pitch no matter what the origin or an organic compound consisting exclusively of the elements carbon and hydrogen.

(1) Note. Examples of components included herein are all asphalts, bitumens, pitches and tars from coal, mineral oil, cotton seed pitch and the residue from the destructive distillation of wood, and natural oil distillations.

SEE OR SEARCH THIS CLASS, SUBCLASS:

164.42, for compositions containing a hydrocarbon in addition to a lignocellulosic material, an organic compound containing chalcogen, and a natural resin or derivative.

166.8 With element or inorganic compound except water:

This subclass is indented under subclass 166.01. Compositions which contain in addition to the cellulose xanthate elemental material or any inorganic compound except water.

(1) Note. Examples of components included herein are carbon disulfide, carbon black, metal alloy, metal dust, sodium chloride, and calcium carbonate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (2) Note, for the definition of an organic compound.

164.5+, and 203.1+, for compositions containing a lignocellulosic material or a cellulosic material and inorganic compound or element, other than water.

166.81 Elemental titanium or inorganic titanium compound:

This subclass is indented under subclass 166.8. Compositions wherein the inorganic compound or element is elemental titanium or an inorganic compound containing titanium.

SEE OR SEARCH THIS CLASS, SUBCLASS:

204.2, for compositions containing a cellulosic material and inorganic compound containing titanium.

166.82 Elemental silicon or inorganic silicon compound:

This subclass is indented under subclass 166.8. Compositions wherein the inorganic compound or element is elemental silicon or an inorganic compound containing silicon.

SEE OR SEARCH THIS CLASS, SUBCLASS:

164.51+, 169.55, 170.57, 197.01, and 203.3, for compositions containing a lignocellulosic material, cellulose nitrate, cellulose ester or salt, cellulose ether or salt, or a cellulosic material and elemental silicon or inorganic compound containing silicon.

167.01 Cuprammonium cellulose:

This subclass is indented under subclass 163.01. Compositions wherein the cellulosic material is cellulose in cupra-ammonium solution.

168.01 Cellulose ester or salt thereof:

This subclass is indented under subclass 163.01. Compositions wherein the cellulosic material is the product of the reaction of a hydroxyl group of cellulose with an acid.

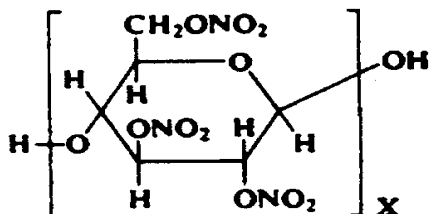
- (1) Note. The esterifying acid may be organic or inorganic.
- (2) Note. For purposes of classifying patents in this and indented subclasses, each of the following group is considered to be a single cellulose ester and not diverse cellulose esters: (a) cellulose ester of a single acid (e.g., cellulose acetate, cellulose propionate, etc.); (b) cellulose ester of mixed acids (e.g., cellulose butyrate propionate, cellulose propionate isobutyrate, etc.), or (c) mixture of cellulose esters of the same acid differ only in the degree of esterification (e.g., mixture of cellulose propionate and cellulose tripropionate, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:

169.01+, for compositions containing cellulose nitrate as the cellulose ester.

169.01 Cellulose nitrate:

This subclass is indented under subclass 168.01. Compositions wherein the cellulose ester is a product produced by reacting nitric acid with cellulose, one of the principal component of which has the following structure:



- (1) Note. Examples of cellulose nitrate included herein are pyroxylin, nitrocellulose, and gun cotton.

169.1 With nitrogen hetero ring compound (e.g., succinimide, caprolactam, piperazine, etc.):

This subclass is indented under subclass 169.01. Compositions which contain an organic compound having a heterocyclic ring containing nitrogen as a hetero atom in addition to the cellulose nitrate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (5) Note, for the definition of hetero ring.

166.41, 170.1+, 173.01, and 200.2, for compositions containing cellulose xanthate, cellulose ester or salt, cellulose ether or salt, or a cellulosic material and nitrogen containing hetero ring.

169.11 The hetero ring is part of a polycyclic ring system (e.g., guanine, phthalimide, etc.):

This subclass is indented under subclass 169.1. Compositions wherein the nitrogen containing hetero ring compound has a ring system with at least two rings which (a) share with each other two adjacent ring atoms, or (b) share with each other three or more ring atoms.

169.12 With chalcogen hetero ring compound (e.g., lactone, maleic anhydride, furan, etc.):

This subclass is indented under subclass 169.01. Compositions which contain an organic compound having a hetero ring containing chalcogen (i.e., oxygen, sulfur, selenium, and tellurium) as a hetero atom in addition to the cellulose nitrate.

SEE OR SEARCH THIS CLASS, SUBCLASS:

163.01, (5) Note, for the definition of hetero ring.

170.12+, 174.1+, for compositions containing cellulose ester or salt or cellulose ether or salt and chalcogen containing hetero ring.

