

**CLASS 424, DRUG, BIO-AFFECTING AND BODY TREATING COMPOSITIONS****SECTION I - CLASS DEFINITION****STATEMENT OF CLASS SUBJECT MATTER**

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

**A. DRUG AND BIO-AFFECTING COMPOSITIONS** which are generally capable of:

1. Preventing, alleviating, treating, or curing abnormal and pathological conditions of the living body by such means as: (a) destroying a parasitic organism; (b) limiting the affect of the disease or abnormality by chemically altering the physiology of the host or parasite.

2. Maintaining, increasing, decreasing, limiting, or destroying a physiologic body function; e.g., vitamin compositions, sex sterilants, fertility inhibitors, growth promoters, etc.

3. Diagnosing a physiological condition or state by an in vivo test; e.g., X-ray contrast, etc.

4. Controlling or protecting an environment or living body by attracting, disabling, inhibiting, killing, modifying, repelling or retarding an animal or micro-organism. For example: (a) Nonfood baits, attractants, and lures; (b) Biocides including antibiotics of undetermined structure; (c) Warfare gases such as lachrymators, sternutators, etc.; (d) Chemical pest repellents and adhesive trapping agents.

**B. BODY TREATING COMPOSITIONS** generally intended for deodorizing, protecting, adorning, or grooming a body; e.g., cosmetics, dentifrices, embalming fluids, etc.

**C. FERMENTATES** (e.g., antibiotics, etc.), **PLANT AND ANIMAL EXTRACTS, OR BODY FLUIDS OR MATERIAL CONTAINING PLANT OR ANIMAL CELLULAR STRUCTURE, PER SE,** intended to be used for the purposes set forth in A and B above, and whose chemical structure is not sufficiently known to be classified elsewhere.

**D. COMPOSITIONS OF THIS CLASS DEFINED IN TERMS OF SPECIFIC STRUCTURE; E.G., LAYERED TABLET, CAPSULE, ETC.**

The lines generally prevailing between the composition classes and the article classes are applicable to Class 424, unless otherwise indicated, with the exception that Class 424 provides for a composition, per se, defined in terms of specific structure having a utility for Class 424 (see subclasses 400+).

**E. PROCESSES OF USING** the subject matter of the Class Definition, A through C above, and in Lines With Other Classes or Within This Class, Compositions Of This Class Defined In Terms Of Specific Structure; e.g., Layered Tablet, Capsule, Etc., A, above, or compounds, per se, for the purposes set forth in A and B of the Class Definition (See References to Other Classes, below, for those classes that that concern "processes." Note particularly the Search Notes for Use Processes involving Class 424 subject matter classified elsewhere.)

**F. PROCESSES OF PREPARING** subject matter of the Class Definition, A through C, and of Lines With Other Classes and Within This Class, Compositions Of This Class Defined In Terms Of Specific Structure; e.g., Layered Tablet, Capsule, Etc., part A.

**G. ADJUVANT OR CARRIER COMPOSITIONS, PER SE,** for perfecting compositions for this class.

(1) Note. This class is the generic home for compositions for treating a living body and for controlling a pest.

(2) Note. The terms "mere use" or "mere application" as employed in the definitions of Class 424 and the search notes in other classes which refer to Class 424 are defined to encompass only a single step process and include expressions such as applying, contacting, dipping, spraying, injecting, combusting, administering orally, etc., recited either along or with recitations such as dosage amount or the treatment of a specific environment, organism, or body part. Examples of expressions considered mere use or mere application are "injecting 3 cc. of compound x into a vein" and "burning 20 grams of a sulfur fumigant in a room".

**SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS****CLASSIFICATION GUIDELINES FOR THIS CLASS**

A. In this class the chemical structure of the ingredient disclosed as having a utility set forth in the Class Definition above, is used as the primary basis of classification. Processes of using compositions or compounds, per se, and processes of making compositions, not provided for elsewhere, are classified in the first appearing subclass providing for the particular active ingredient being employed or prepared.

Compositions containing a biologically or pharmacologically active ingredient which generally, for example, control, cure, disable, inhibit, kill, modify, protect, repel, retard, sterilize or stimulate a living animal body; or inhibit or kill micro-organisms other than algae, etc., are provided for primarily in subclasses 85.1 and Class 514 appropriate subclasses. Compositions, intended for topical application, containing ingredients having other utilities under the class definition; e.g., grooming, enhancing, etc., which are not provided for in the Special subclasses 1.1-84, 125 and 126 have been classified in Class 514, appropriate subclasses.

B. The rule followed in classifying a patent having separate claims to several species of the active ingredient which fall into different subclasses is that the patent is placed as an original in the first appearing subclass, providing for the claimed subject matter and cross-referenced to the appropriate lower subclass, except where there is a compulsory search note between the subclasses. Where there are one or more indents under the generic subclass and one of the claimed species is not provided for specifically by any of these indents, the patent is placed as original in the generic subclass, since this is the first appearing subclass providing for said individually claimed species. In classifying a patent containing Markush type claims; i.e., "group consisting of X and Y" and no species claims, the original patent is placed in the first appearing subclass providing for the species (members) in the Markush group. If in addition to the Markush group, there are species claims, the first cited rule, governing a patent having separate species claims, is followed.

C. A patent claiming a composition wherein the active compound or ingredient has not been specified, has been classified as original in the first appearing subclass providing for any one of the claimed ingredients and cross-referenced to appropriate lower subclasses providing for the remaining compounds or ingredients.

D. A patent claiming a composition resulting from a chemical reaction, wherein the chemical structure of the compounds or ingredients which make up the final com-

position are unknown or undetermined, is classified as original in the first appearing subclass providing for anyone of the reactants and cross-referenced to the lower subclasses providing for the other reactants.

E. Patents claiming synergistic or potentiated compositions have been classified as originals in the first appearing subclass providing for either the synergist, potentiator or active ingredient and cross-referenced to appropriate lower subclasses.

F. Patents claiming subject matter coming within the Special Subclasses 1.1-84, 125 and 126 have been classified on the basis of the disclosed or claimed function, or the particular subject matter provided for, in the first appearing subclass providing the same; e.g., Dentrifices, Embalming compositions, Solid synthetic organic polymer containing, etc., and no distinction has been made between the Class 424 active ingredients and nonactive ingredients with the one exception being applied to solid synthetic organic polymers, namely subclasses 78.01, 78.02+, and 78.08+. These subclasses consider only those polymers which are bioactive as defined therein.

G. Patents to adjuvant or carrier compositions, per se, which are claimed or solely disclosed for perfecting a composition for this class are classified as original in the first appearing appropriate subclass providing for any one of the ingredients in Class 514, appropriate subclasses, except where the claimed composition possesses a functional property or other feature which has been provided for in the Special subclasses 1.1-84, 125 and 126; e.g., Free carbon containing, Corrosion inhibitor containing, etc.

H. A patent claiming a Class 424 active ingredient broadly in terms of its function in combination with a specific adjuvant or carrier; e.g., "A tranquilizer and as a carrier therefore sugar and gelatin" has been classified as original in the first appearing subclass providing for any one of the disclosed specific active ingredients and cross-referenced to all other subclasses providing for the remaining disclosed active ingredients.

## CLASSIFICATION LINES WITH OTHER CLASSES

### A. General class lines

#### 1. Compound Classes

a. Where a patent claims a composition in nominal terminology only; e.g., "A composition comprising a therapeutic amount of compound X", and there are no claims to a method of use, or true mixture, the original

has been placed with the compound claimed. Some examples of nominal terminology are: “comprising as an active ingredient”, “containing an effective amount of”, “containing a lethal amount of, etc.

b. Where a patent claims dosage units (in the absence of more comprehensive or controlling claims as indicated below); e.g., “a tablet comprising (or containing) 15 grains of compound X” and in the absence of any structural limitations, definite shape, surface deformation, etc., the original has been placed with the compound.

c. Where a patent claims a composition wherein (1) another ingredient is recited, however broadly, or (2) proportions are recited, the original has been placed in Class 424. Some examples of claims reciting the following types of terminology are included herewith: “with a carrier”, “with a solvent”, “with an adjuvant”, “with an emulsifier”, “wetting agent”, “solubilizer”, “surface active agent”, “extending agent”, “buffering agent”, “from 5% to 90%”, “at least .05%”, “minor portion of compound X and major portions of carrier”, etc.

d. Where a patent contains at least one claim to a method of use, even if only nominally recited; e.g., “a method of killing insects by applying compound X”, the original has been placed in Class 424 (except when another use is also claimed which is superior to Class 424).

e. Where the patent claims an animal or plant extract of undetermined constitution, which is solely disclosed as being suitable for a Class 424 utility, the original will go to Class 424. Processes for obtaining such extracts will also be classified in Class 424 unless specifically provided for elsewhere.

#### 1a. Cross References From Compound Classes

In most instances, cross-referencing from the compound classes into Class 424 has been limited to those disclosures which provide (1) a specific composition; e.g., numerical values setting forth definite amounts for all ingredients of the composition having Class 424 properties, and (2) processes of using a compound for a Class 424 purpose wherein the process is significant in that it sets forth the administration of the active ingredient in more than just nominal terminology, i.e., it recites administering a specific amount of a compound to treat a specific condition in a specified host. Patents containing a mere recitation that a compound may be administered; e.g., orally, in association with an unspecified

pharmaceutical carrier will be excluded as cross-references.

#### 2. Composition Classes

The following general lines exist between Class 424 and the other composition classes or with classes containing patents wherein the claims recite a composition limited to an art use provided for in that class.

a. 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.

b. A list of superiority of composition classes appears in the main class definition of Class 252 Compositions (5) Note. This note in Class 252 explains classification of a generic composition with several disclosed uses.

504, Plant Protecting and Regulating Compositions

424, Drug, Bio-Affecting and Body Treating Compositions

71, Chemistry: Fertilizers,

149, Explosive and Thermic Compositions or Charges

508, Solid Antifriction Devices, Materials Therefor, Lubricant and Separant Compositions for Moving Solid Surfaces, and Miscellaneous Mineral Oil Compositions

44, Fuel and Related Compositions

148, Metal Treatment

252, Compositions, (special uses and functions) through subclass 88.2.

510, Cleaning Compositions for Solid Surfaces, Auxiliary Compositions Therefor, or Processes of Preparing the Compositions.

252, Compositions, (special uses and functions) through subclass 194.

106, Compositions: Coating or Plastic

51, Abrasive Tool Making Process, Material, or Composition

520, Synthetic Resins or Natural Rubbers, subclasses 1+

260, Chemistry of Carbon Compounds

585, Chemistry of Hydrocarbon Compounds

252, Compositions, (nonspecial uses or functions).

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

This superiority list 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 are determined.

#### B. Lines With Related Composition Classes

##### CLASS 504

1. Class 504 PLANT PROTECTING AND REGULATING COMPOSITIONS, provides for compositions having a stimulating, inhibiting (herbicides), or regulating action on plant growth and methods of using such compositions. Class 504 specifically provides for algicidal compositions and fertilizer compositions which contain an insecticide, fungicide, or deodorant. Class 504 is superior to Class 424. (See above for a list of superiority of composition classes).

2. If claims are drawn to a "pesticide" composition or method without specifically reciting the nature of the "pest" to be controlled or eradicated, the patent is placed as original in Class 424 when only a Class 424 type of "pest" (e.g., fungi, insect, rodent, etc.) is revealed in the patent disclosure. However, if both Class 504 and Class 424 types of "pest" are specifically disclosed or if no disclosure is made as to the specific type of pest, the patent is placed in Class 504 as original and cross-referenced to Class 424.

##### CLASS 8

1. Class 8, BLEACHING AND DYEING; FLUID TREATMENT AND CHEMICAL MODIFICATION OF TEXTILES AND FIBERS, provides for processes of dyeing hair on a living animal, not provided for elsewhere, processes of depilating (i.e., removing hair, fur, or feathers) a living animal and for processes of chemical modification of hair not on a living body. Class 8 also provides for compositions used in these processes.

2. Class 424 provides for a composition for treating hair (e.g., waving etc.) on a living body, and methods of use which are no more than the mere application of the composition. To be placed in Class 424, a patent must either specifically disclose or claim that the hair is on a living body; e.g., living hair, etc., or contain other disclosure which definitely indicates an intent to use the composition or process on a living body; e.g., not injurious to the person, etc. Recitation that the hair is on the body; e.g., scalp, etc., will be presumed to indicate that the body is living in the absence of disclosure to the contrary. The mere recitation "human hair" by itself is not enough to indicate that the hair is on a living body.

##### CLASS 71

1. Class 71, CHEMISTRY: FERTILIZERS, provides for compositions having a nutrient action on plant growth and methods of using such compositions.

##### CLASS 426

1. Class 426, FOOD OR EDIBLE MATERIAL: PROCESSES, COMPOSITIONS, AND PRODUCTS, provides for compositions intended to nourish an animal by natural oral ingestion, which may contain an additive necessary to maintain the normal metabolism of the animal; e.g., vitamins, minerals, amino acids, etc.

2. Class 424 provides for compositions intended to nourish an animal when such compositions are designed to be administered to the animal by routes other than the oral cavity; e.g., by rectal or parenteral injection, or via a tube through the alimentary tract or stomach wall.

3. Class 424 provides for compositions containing a food or beverage when said compositions are claimed or solely disclosed as having a utility set forth in I above. However, a food or beverage containing a biocide as a preservative therefore will be classified as original in Class 426. Class 424 also provides for methods of preserving Class 426 products when said methods are no more than the mere use of biocides.

4. Class 424 further provides for food or beverage compositions containing an animal growth regulator or other anabolic agents. For purposes of classification, an animal growth regulator or anabolic agent is defined to include the following illustrative causative effects:

- a. increase feed efficiency or weight gain

b. enhance color of egg yolks, combs, skin, or legs of chickens

c. enhance the hatchability of eggs

d. vary the fat-protein ratio or texture of flesh

e. chemically caponize an animal, etc.

5. Compositions wherein the nutritional ingredients fat, carbohydrate, or protein are varied to achieve a varied fat-flesh ratio in an animal or varied to meet the special nutritional needs of an abnormal metabolic condition; e.g., diabetes, etc., will not be considered as subject matter for Class 424.

#### CLASS 106

1. Class 106, COMPOSITIONS: COATING OR PLASTIC, provides for coating compositions which protect a base by forming a tough adherent film even though the composition also contains a biocide to protect the base against biological attack; e.g., marine anti-fouling paints, etc.

2. Materials or ingredients for coating and molding compositions (Class 106 appropriate subclasses) which are also useful as diluents or inert ingredients in pharmaceutical compositions are placed in Class 106 unless a therapeutic or biocidal property is claimed. Surgical sponges claimed only as being made from Class 106 compositions are placed in Class 106 if the sponge contains no active ingredient with a utility for Class 424. Patents claiming an ink suitable for coating or printing on pharmaceutical dosage units; e.g., tablets, etc., are placed in Class 106 unless the coated or printed article is also claimed.

3. Class 424 provides for the following coating compositions: compositions intended to decorate or beautify the body; e.g., hair lacquer, fingernail polish, lipstick, etc.; coating compositions which do not protect the base by forming a tough, adherent film and whose sole function is as a carrier for a composition of Class 424 utility; e.g., "stickers" which adhere insecticides to plants etc., whether or not claimed in combination with an active ingredient; coating compositions applied to the body for therapeutic purposes even though a tough, adherent film is formed; and coating compositions which do not form tough, adherent films and which have a utility provided for in Class 424; e.g., salve, skin cream, or a solution of a material, for example, a mixture of phenols to protect wood against insect, etc.

#### CLASS 119

1. Class 119, ANIMAL HUSBANDRY, provides for an animal litter composition, per se.

2. Class 424 takes litter compositions combined with a compound or composition having a Class 424 utility; e.g., a biocide, etc.

#### CLASS 127

1. Class 127, SUGAR, STARCH, AND CARBOHYDRATES, provides for sugar, starch, and carbohydrates, per se, and their hydrolysis products, even if these materials have utility provided for in Class 424.

2. Class 424 provides for compositions containing sugar, starch, or carbohydrates; e.g., a blend of two carbohydrates, etc., having a claimed or solely disclosed utility provided for in Class 424.

#### CLASS 131

1. Class 131, TOBACCO, provides for tobacco compositions to be employed to enhance the users' well-being or enjoyment when smoked, chewed, or inhaled including snuff, and takes these compositions even when they have a Class 424 utility; e.g., medicated smoking tobacco, etc. Class 131 also provides for tobacco substitutes or compositions intended to decrease the individual's need for tobacco and which are to be used in the same manner as tobacco; e.g., smoking, etc.

2. Class 424 takes a tobacco containing composition which is not intended to be smoked, chewed, etc. for the users' enjoyment; e.g., tobacco used as an insecticide, tobacco burned as a fumigant, etc., when said composition is claimed or solely disclosed for a Class 424 purpose. If the tobacco containing composition has plural functions with some functions provided for in Class 131 and some in Class 424, the patent will be placed in Class 131 as an original and crossed to Class 424. Class 424 also provides for compositions intended to decrease a person's use of tobacco, but which are not intended to be smoked, chewed, etc., as tobacco; e.g., ingested or injected, etc.

#### CLASS 435

1. Class 435, CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY, provides for enzymes, per se, which are not more specifically provided for elsewhere, and enzyme compositions containing a pre-

servative unless a Class 424 utility is recited in the claim or is the sole utility disclosed. Class 435 also takes a composition or method employing a line micro-organism for an in vitro test.

2. Class 424 provides for fermentates; e.g., antibiotics, etc., of unknown chemical structure wherein the fermentate is claimed or disclosed to have a utility specified in Class 424.

3. Class 424 provides for compositions containing micro-organisms either alive, dead, or attenuated; enzymes or coenzymes; ferments or fermentates; antigens or antibodies which are claimed or solely disclosed to have a Class 424 utility and methods of using said compositions.

4. Class 424 provides for compositions for in vivo measuring, testing, or diagnosis and methods of using said compositions or a compound for in vivo measuring, testing or diagnosis. This includes in vivo testing compositions containing an enzyme.

#### CLASS 252

1. Class 510, CLEANING COMPOSITIONS FOR SOLID SURFACES, AUXILIARY COMPOSITIONS THEREFOR, OR PROCESSES OF PREPARING THE COMPOSITIONS, provides for biocide containing cleaning and detergent compositions having a mere cleaning function.

2. Class 252 provides for compositions specifically classified therein protected against biological attack by a composition otherwise classifiable in Class 424. Class 252, provides for stabilized compositions where the ingredients other than the stabilizers are claimed so broadly as not to furnish a basis of classification (e.g., a carbon compound, etc.).

3. See Class 512 for perfume compositions, per se.

4. Class 424 takes all other detergent or emulsifier containing compositions which are claimed or solely disclosed for a Class 424 purpose.

#### CLASS 260

1. Class 260, CHEMISTRY OF CARBON COMPOUNDS, provides for a compound classified therein containing a preservative; e.g., to protect the compound against biological attack, etc., when there is no claim to an art use for the mixture.

#### CLASS 585

1. Class 585, CHEMISTRY OF HYDROCARBON COMPOUNDS, provides for a composition which is a blend of hydrocarbon compounds only and for a blend of a hydrocarbon with a nonhydrocarbon preservative.

#### CLASS 423

1. Class 423, CHEMISTRY OF INORGANIC COMPOUNDS, provides for compositions containing an element or an inorganic compound combined with a preservative; e.g., a substance which protects the element or compound against biological attack, etc. However, a Class 423 element or compound containing a preservative, in which state it is claimed or solely disclosed as having a Class 424 utility, is placed as an original in Class 424.

C. Lines with other classes

#### CLASS 43

1. Class, 43, FISHING, TRAPPING, AND VERMIN DESTROYING, provides for apparatus for trapping or destroying vermin; i.e., animals injurious or pestiferous to man. The apparatus may utilize a composition classifiable in Class 424; e.g., attractant, nonfood bait, poison, etc. Class 43 structural elements containing a Class 424 composition must have more structure than, for example, that represented by a mere coated or impregnated base; e.g., flypaper of a particular shape or dimension, etc. Class 43 also provides for fumigating candles used for destroying vermin claimed in terms of more structure than a compound or composition containing a nominal wick.

2. vermin which is more than the mere application of a compound or Class 424 composition.

3. Class 424 takes methods of destroying vermin which are no more than a single step of mere application of a compound or a Class 424 composition.

4. Class 424 takes articles for trapping or destroying vermin claimed in terms of no more structure than a coating or impregnant on a base. Class 424 also takes fumigating candles of no more structure than compound or composition nominally containing a wick.

#### CLASS 119

1. Class 119, ANIMAL HUSBANDRY, provides for

the treatment of animals other than man to increase their growth rate, produce a superior quality or quantity of meat, control their sex or the killing of unwanted organisms which interfere with the growth or well-being of the desired animal if the method is more than the mere application or applications of a Class 424 composition or compositions.

2. Class 424 takes a process of treatment of an animal with a compound or composition for a Class 424 purpose which process is a single step or a plurality of steps, each step individually being no more than a mere application of a compound or composition, and there is no manipulative step included.

#### CLASS 128

1. Class 128, SURGERY, provides for bandages, body applicators or body dressings which contain a medicine and are claimed in terms of more structure than a randomly distributed single layer on a base material or randomly impregnated base material. For example, Class 128 takes a base material wherein certain portions thereof are impregnated with an adhesive and other portions are impregnated with a Class 424 medicine at those places where there is no adhesive backing on a gauze impregnated with a Class 424 composition, etc. Class 128 also provides for a bandage, body applicator, or body dressing containing a Class 424 composition and which is claimed in terms of specific structure; e.g., pore size, thickness, length, width, etc.

2. Class 424 takes a bandage, body applicator, or body dressing which contains a specific or nominally recited medicinal ingredient which is either randomly distributed in a single layer on a base material or randomly impregnated in a base material.

3. Class 128 provides for a process of use of a Class 424 composition which is more than single or plural steps of mere application of one or more Class 424 compositions; e.g., removal of a body fluid such as milk, adding medicine to the fluid and re-injecting the fluid, surgical implantation, etc.

4. Class 424 provides for a process of applying a compound or composition to a living body wherein said process is no more than the mere application of the compound or composition, or wherein said process is a combination of steps, each step individually being a mere application, and there are no manipulative steps included. Class 424 takes; e.g., oral administration, injection, etc., even if the particular part of the body treated is recited.

5. Class 128 will take a capsule or pill, not specifically provided for elsewhere, that must be broken prior to use to empty its contents, even if said capsule or pill contains a specific medicine. This includes an inhalant capsule.

6. Class 128 provides for a dosage unit; e.g., suppository, etc., shaped to fit a particular body cavity, even if the active ingredients are claimed specifically.

7. Class 424 takes a medicine in the form of a capsule or pill that is ingested, as well as a method of using an inhalant capsule by squeezing said capsule to liberate the enclosed medicine.

8. Class 128 provides for methods of blood transfusion and insemination by artificial means.

9. Class 128 provides for catgut impregnated with a medicine.

#### CLASS 132

1. Class 132, TOILET, provides for a process of treating the hair on the scalp (e.g., waving, etc.) which is more than the mere application of a Class 424 composition. This includes plural treatments with more than one Class 424 composition (e.g., waving composition followed by neutralizing), and the application of a Class 424 composition combined with a hair treating step, per se, classifiable in Class 132, even if the Class 132 step is only claimed broadly; e.g., application of Class 424 composition combined with "waving" or "shaping the hair" etc.

2. Class 132 provides for dental floss and toothpicks claimed in terms of their shape or structure and nominally recited toothpicks or dental floss which are not classifiable in Class 424.

3. Class 424 takes methods of treating hair on the living body (other than dyeing) which are no more than the mere application of a composition or compound to the hair.

4. Class 424 provides for toothpicks and dental floss which are claimed nominally and which contain a compound or composition having a utility for Class 424.

#### CLASS 435

1. Class 435, CHEMISTRY: MOLECULAR BIOLOGY AND MICROBIOLOGY, provides for methods of

purifying, propagating or attenuating a micro-organism; e.g., a virus, bacteria, etc., except for propagating a micro-organism in an animal for the purpose of producing an antibody containing sera.

2. Class 435, provides for methods of propagating animal organs, tissues or cells; e.g., blood, sperm, etc., and culture media therefor.

3. Class 435 is the generic home for processes of (1) analyzing or testing which involve a fermentation step or (2) qualitative or quantitative testing for fermentability, or fermentative power.

4. Class 424 provides for methods of in vivo testing, measuring or diagnosis employing a Class 424 compound or composition.

5. Class 424 provides for methods of producing an antibody composition using a live micro-organism; e.g., virus or bacteria, etc., as the antibody inducing agent. For example, injecting a horse with a virus to produce an antibody containing sera.

#### CLASS 206

1. Class 206, SPECIAL RECEPTACLE OR PACKAGE, provides for a dosage unit made up of a therapeutic material or article and a container, where the container is intended to be physically removed from the therapeutic material or article; e.g., a wrapped pill or capsule, etc.

2. Class 424 takes a structured dosage unit which is intended to be used as a whole without disassembly or removal of a part; e.g., unwrapping. Examples of dosage units provided for in Class 424 are a capsule filled with coated particulate material intended to be swallowed whole, and a filled soluble, gelatin container intended to be dissolved into water or other liquid.

#### CLASS 210

1. Class 210, LIQUID PURIFICATION OR SEPARATION, provides for a process for the separation from a liquid of any character of material and a process of a liquid mixture not elsewhere provided for.

2. Class 424 provides for a process of (1) merely adding a chemical to water to impart medicinal values thereto and the resultant treated water; e.g., the fluoridating of drinking water, etc., or (2) merely adding a biocide to water for preventing growth of animal matter or micro-organisms other than algae, where as to either (1) or (2)

there are no other additional water treating steps defined.

#### CLASS 422

1. Class 422, CHEMICAL APPARATUS AND PROCESS DISINFECTING, DEODORIZING, PRESERVING, OR STERILIZING, provides for a process of preserving, disinfecting, or sterilizing which is more than the mere application of a compound or Class 424 composition.

2. Class 422 also provides for fumigating apparatus including fumigating candles in which the shape of the wick or candle is claimed.

3. Class 424 takes a process of preserving against decay, deterioration by a living organism, including disinfecting or sterilizing to prevent the above by employing a compound or composition, which process is no more than the mere application of the compound or composition. Class 424 will also take a nominal product resulting from such a process, where structure sufficient for classification elsewhere is not recited.

4. Class 424 also takes a compound or composition, intended to be used for a Class 424 purpose, nominally recited as containing a wick.

#### CLASS 264

1. Class 264, PLASTIC AND NONMETALLIC ARTICLE SHAPING OR TREATING: PROCESSES, provides for manufacturing dosage units by shaping; e.g., molding, etc., a Class 424 composition. The line between Class 424 and Class 264 is that set forth in the main Class 264 definition, Lines With Other Classes and Within This Class, Chemical Composition Classes.

#### CLASS 427

1. Class 427, COATING PROCESSES, has the following line with Class 424. For purposes of placement of a patent between Class 424 and class 427, the controlling claim will be determined according to superiority of invention as follows with regard to claims of equal comprehensiveness.

- (1) Treating a living body
- (2) Coating product
- (3) Method of coating



## (4) Composition

2. Class 427 provides for a claim to a significant coating process, as set forth in the Class 427 definitions, in which an inanimate base is coated with a compound or composition which may have a Class 424 utility. In placement of a patent directed to a process of coating a dosage unit; e.g., pill, tablet, etc., the line between Class 427 and the coating composition Classes is followed.

3. Class 424 provides for a claim to a process of treating the living body (as between Class 424 and Class 427) even though the method of treatment is a coating step.

4. Class 424 provides for a claim to a method of coating (not significant for Class 427) a base or substrate with a compound or composition having a Class 424 utility.

**CLASS 428**

1. Class 428, STOCK MATERIAL OR MISCELLANEOUS ARTICLES, provides for a stock material product in the form of a single or plural layer web or sheet as provided for therein and which contains a biocide.

2. An article impregnated with a biocide and not containing structure (e.g., size or apertures) and not elsewhere provided (see the Search Class reference to Class 428 below for an example) will be classified in Class 424.

3. Class 428 provides for a claim to a coated or impregnated article, not otherwise provided for, which comprises a base preserved by a composition or compound which has a Class 424 utility, (e.g., mothproofed textile or termite proofed wood).

4. Class 424 provides for a claim to a base coated with a compound or composition which has a Class 424 utility and in which the base function as a carrier for the active material (e.g., medicated applicator or mosquito repellent fabric). Class 424 also provides for a claim to a coated dosage unit containing a substance having a Class 424 utility.

**REFERENCES TO THE SEARCH CLASS NOTES IN REFERENCES TO OTHER CLASSES, BELOW**

References to Other Classes, below, contains the following:

## A. Compounds and Compositions

## B. Processes of Use Involving Class 424 Subject Matter

## C. Other Processes

## D. Apparatus and Articles - Bio-Affecting or Other

**SECTION III - REFERENCES TO OTHER CLASSES****SEE OR SEARCH CLASS:**

- 2, Apparel, for garment structures containing a Class 424 composition, particularly subclass 4 for insect repelling head guards and subclass 171.2 for head coverings containing a medication. (Apparatus and Articles, Bio-Affecting.)
- 4, Baths, Closets, Sinks, and Spittoons, subclasses 222+ for apparatus for disinfecting the subject matter of the class. Subclasses 245.1+ for sanitary covers for toilet seats. (Apparatus and Articles, Bio-Affecting.)
- 5, Beds, subclass 641 for pillows; and subclasses 482+ for bed clothing, each protected against biological attack. (Apparatus and Articles, Bio-Affecting.)
- 8, Bleaching and Dyeing: Fluid Treatment and Chemical Modification of Textiles and Fibers, subclasses 405+ for compositions for dyeing hair on a living animal; subclasses 94.16+ for depilating compositions; subclasses 160 and 161 for compositions for depilating a living animal; subclass 127.51 for compositions for chemically modifying human hair not on a living body. (Compounds and Compositions.)
- 8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclasses 405+ for a process of dyeing hair on living animals; subclasses 94.16+ for a process of depilating a living animal body. (Processes of Use Involving Class 424 subject matter.)
- 8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclass 101 for processes of bleaching hair not on a living body; subclass 127.51 for processes of chemically modifying human hair not on a living body. (Other Processes.)
- 15, Brushing, Scrubbing, and General Cleaning, for implements useful for applying Class 424 compositions, particularly subclasses 167.1+ for toothbrushes and 209.1+ for wipers, daub-

- ers and polishers; e.g., fabric puffs, per se, etc. (Apparatus and Articles)
- 27, Undertaking, subclasses 22.1+ for a process of embalming or preserving a body which is more than the mere use of a Class 424 compositions.
- 30, Cutlery, subclasses 32+ for razors useful in shaving the living body. (Apparatus and Articles)
- 34, Drying and Gas or Vapor Contact With Solids, subclasses 283+ for a process of drying hair on the head. (Other Processes.)
- 34, Drying and Gas or Vapor Contact With Solids, subclasses 283+ for apparatus for drying hair on the head. (Apparatus and Articles, Other.)
- 36, Boots, Shoes, and Leggings, for boots, etc., or parts thereof which contain a Class 424 composition. (Apparatus and Articles, Bio-Affecting.)
- 43, Fishing, Trapping, and Vermin Destroying, for a process of killing vermin with a Class 424 biocide which is more than the mere application of the biocide to the vermin. See the line note to this class in Lines With Other Classes and Within This Class, for examples of processes which are more than mere application. (Processes of Use Involving Class 424 subject matter.)
- 43, Fishing, Trapping, and Vermin Destroying, for apparatus for trapping or destroying animals (other than micro-organisms) which are injurious or pestiferous to man; e.g., insects, etc., and which may use a Class 424 composition; subclasses 114+ for fly paper recited in terms of more structure than a coating on a base; subclasses 125+ for fumigators for destroying insects using a Class 424 composition. (Apparatus and Articles, Bio-Affecting.)
- 44, Fuel and Related Compositions, for fuel containing an additive to protect it against decay or biological attack. Particularly note subclasses 300+ for the combination of a mineral oil containing a nonmineral oil preservative disclosed for use as fuel or any light mineral oil fraction with a preservative not restricted to a particular art use. Also for smoke signal compositions. (Compounds and Compositions.)
- 47, Plant Husbandry, for apparatus provided for therein which may apply a Class 424 composition; e.g., insecticide, etc., to plants. (Apparatus and Articles, Bio-Affecting.)
- 51, Abrasive Tool Making Process, Material, or Composition, for an abrasive composition, per se, including a composition useful in abrading teeth in a dental operation. (Compounds and Compositions.)
- 52, Static Structures (e.g., Buildings), subclasses 129+ for a burial vault with means to treat the corpse or product thereof with a Class 424 composition; subclass 517 for structurally defined static structures; e.g., buildings, utility poles, etc., with a coating to repel biological attack. (Apparatus and Articles, Bio-Affecting.)
- 53, Package Making, for methods of making and filling packages with a Class 424 composition. (Other Processes.)
- 57, Textiles: Spinning, Twisting, and Twining, subclasses 217, 221, 223, 232+ and 258 for textile strands, having structural limitations, coated with a biocide. (Apparatus and Articles, Bio-Affecting.)
- 62, Refrigeration, for processes of refrigeration combined with deodorizing or disinfecting with a Class 424 composition, also processes of preserving living tissue or organs outside the body by refrigeration. (Processes of Use Involving Class 424 subject matter.)
- 70, Locks, subclasses 15+ for fetters useful in restraining living animals. (Apparatus and Articles, Bio-Affecting.)
- 73, Measuring and Testing, subclass 866.2 for methods of measuring the release rate of a sustained release dosage unit. (Other Processes.)
- 73, Measuring and Testing, subclass 866.2 for apparatus for measuring the release rate of a sustained release dosage unit. (Apparatus and Articles, Other.)
- 75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, subclasses 255+ for loose metal particles which may have a Class 424 utility. (Compounds and Compositions.)
- 83, Cutting, subclasses 13+ for processes of shaving the living body, particularly subclasses 14+ wherein a Class 424 shaving preparation is used in preparatory treatment of the hair before shaving. (Process of Use Involving Class 424 subject matter.)
- 102, Ammunition and Explosives, for ammunition, per se, used for applying or delivering Class 424 compositions such as warfare gases, repellents, etc., particularly subclass 367 for gas shells and other gas delivering ammunition, 368 for gas grenades, 369 for gas bombs, and 370 for gas cartridges. (Apparatus and Articles, Bio-Affecting.)

- 106, Compositions: Coating or Plastic, subclasses 15.05+ for a coating composition provided for in Class 106 containing a biocidal or antifouling agent. (Compounds and Compositions.)
- 109, Safes, Bank Protection, or a Related Device, subclasses 20 and 29+ for safes or bank protection devices with means to release, generate, or distribute a fluent Class 424 composition to repel attack. (Apparatus and Articles, Bio-Affecting.)
- 111, Planting, subclasses 118+ for planting apparatus which treats the soil with a Class 424 composition. (Apparatus and Articles, Bio-Affecting.)
- 118, Coating Apparatus, for apparatus useful in coating a base with a Class 424 composition. (Apparatus and Articles, Other.)
- 119, Animal Husbandry, for a process of treatment of domestic animals with a Class 424 composition which does not involve cutting the skin and which is more than the mere application of the composition to the animal. See subclasses 156+ for methods of topically applying a composition to an animal to heal sores, kill parasites, repel insects, etc., particularly subclass 160 for fumigating. (Processes of Use Involving Class 424 subject matter.)
- 119, Animal Husbandry, subclass 348 for artificially medicated nest eggs; subclasses 156+ for apparatus for topically applying a Class 424 composition to a domestic animal, particularly subclass 160 for fumigators. (Apparatus and Articles, Bio-Affecting.)
- 126, Stoves and Furnaces, subclasses 204+ for body warmers. (Apparatus and Articles, Other.)
- 127, Sugar, Starch, and Carbohydrates, for sugar, starch and carbohydrates, per se, which may have a utility for Class 424. Class 127 also provides for a sugar, starch and carbohydrate composition protected against biological attack not having a utility provided for in another class. (Compounds and Compositions.)
- 128, Surgery, for a process of treating an abnormal condition of a living body with a compound or a Class 424 composition which goes beyond one or more steps of mere application of a compound or composition(s); e.g., removal of a body fluid such as milk, adding a medicine to the fluid and re-injecting the fluid, surgical implantation, etc. Processes in Class 128 are either placed in subclass 1 or classified below based on the particular appliance used. (Processes of Use Involving Class 424 subject matter.)
- 128, Surgery, for apparatus for treating abnormal conditions of the human body. Class 128 also provides for medicated applicators; e.g., bandages, etc., claimed in terms of more structure than a coating or a base; subclass 161 for paper containing a biocide to protect it against biological attack, which biocide was incorporated into the paper stock before it was made into a self-sustaining web. (Apparatus and Articles, Bio-Affecting.)
- 131, Tobacco, for tobacco containing a bio-affecting compound or composition intended to be smoked, chewed, etc., for enjoyment. Class 131, subclass 359 also provides for tobacco substitutes intended to be used in the same manner as tobacco for enjoyment. (Compounds and Compositions.)
- 131, Tobacco, for smoking apparatus to be used with tobacco or a tobacco substitute intended for enjoyment. (Apparatus and Articles, Other.)
- 132, Toilet, subclasses 202+ for a process of treating hair on the scalp which is more than the mere application of a Class 424 composition. (Processes of Use Involving Class 424 subject matter.)
- 132, Toilet, for miscellaneous apparatus for grooming or enhancing the appearance of the human body; e.g., combs, manicuring, toothpicks, dental floss, etc. (Apparatus and Articles, Other.)
- 141, Fluent Material Handling, With Receiver or Receiver Coacting Means, subclass 3 for methods of filling aerosol or gas charged dispensers. (Other Processes.)
- 149, Explosive and Thermic Compositions or Charges, for explosive or thermic compositions. (Compounds and Compositions.)
- 162, Paper Making and Fiber Liberation, subclass 161 for a process of paper making wherein a biocide is added during the process. (Processes of Use Involving Class 424 subject matter.)
- 168, Farriery, subclass 2 for medicating overshoes and subclass 26 for medicating sole pads used in treating the hooves of horses or cattle. (Apparatus and Articles, Bio-Affecting.)
- 174, Electricity: Conductors and Insulators, subclasses 68.1+ for electrical conductor structures containing a biocide or repellent (e.g., to repel rats, etc.). (Apparatus and Articles, Bio-Affecting.)
- 204, Chemistry: Electrical and Wave Energy, appropriate subclasses for compound which may possess a Class 424 utility and which are

- produced by a chemical change which is brought about by an electric current or wave energy and which can only be defined by its process of making. (Compounds and Compositions.)
- 206, Special Receptacle or Package, subclass 213 for insect proof receptacles. (Apparatus and Articles, Bio-Affecting.)
- 208, Mineral Oils: Processes and Products, subclasses 1 and 2 for biocidal mineral oil products and mixture thereof. Subclasses 14+ for mineral oil products preserved against biological attack by a mineral oil additive. (Compounds and Compositions.)
- 210, Liquid Purification or Separation, for a process of liquid purification which is more than the mere application of a Class 424 composition in particular see subclasses 749+ for processes of chemical treatment. (Processes of Use Involving Class 424 subject matter.)
- 210, Liquid Purification or Separation, for apparatus for liquid purification (e.g., water etc.) utilizing a Class 424 composition. (Apparatus and Articles, Bio-Affecting.)
- 219, Electric Heating, for electrical apparatus for heating the body, particularly subclasses 526+ and 528+. (Apparatus and Articles, Other.)
- 220, Receptacles, subclasses 87.1+ for a disinfecting device to be attached to the receptacles of that class. (Apparatus and Articles, Bio-Affecting.)
- 222, Dispensing, subclasses 394+ for the structure of pressurized containers useful for dispensing a Class 424 composition. (Apparatus and Articles, Other.)
- 223, Apparel Apparatus, subclass 86 for insect repelling garment hangers. (Apparatus and Articles, Bio-Affecting.)
- 239, Fluid Sprinkling, Spraying, and Diffusing, subclasses 34+ for slow diffusers useful in applying Class 424 compositions by evaporation. (Apparatus and Articles, Other.)
- 252, Compositions, subclass 299.01 for liquid crystal containing optical filter compositions; subclasses 365+ for anti-ingestible or denatured compositions; subclasses 380+ provide stabilized compositions where the ingredients other than the stabilizers are claimed so broadly as not to furnish a basis of classification (e.g., a carbon compound, etc.); subclasses 389.1+ for preservative compositions broadly not elsewhere provided for, and for a preservative mixed with a compound claimed so broadly as not to afford a basis of classification (e.g., “a carbon compound,” etc.); and subclasses 582+ for other optical filter compositions. (Compounds and Compositions.) (Also see the Class 252 reference in Lines With Related Composition Classes above)
- 260, Chemistry of Carbon Compounds, appropriate subclasses for an organic compound which is disclosed or claimed as having a Class 424 utility, also for an organic compound with an additive to protect the compound against deterioration or biological attack. (Compounds and Compositions.)
- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, for processes of making molded dosage units; e.g., pills, etc., from Class 424 compositions by a Class 264 process. (Other Processes.)
- 351, Optics: Eye Examining, Vision Testing and Correcting, for optical methods of eye examination and vision correction. (Processes of Use Involving Class 424 subject matter.)
- 351, Optics: Eye Examining, Vision Testing and Correcting, for apparatus for eye examination and eye glasses. (Apparatus and Articles, Bio-Affecting.)
- 359, Optics: Systems (Including Communication) and Elements, subclasses 885+ for optical filters. (Apparatus and Articles, Other.)
- 383, Flexible Bags, subclass 901 for hot water bags, useful in heating the body. (Apparatus and Articles, Other.)
- 401, Coating Implements With Material Supply, for implements under the class definition used to apply a Class 424 composition; e.g., lipstick, deodorant, etc. (Apparatus and Articles, Other.)
- 420, Alloys or Metallic Compositions, appropriate subclasses for an alloy or alloy powder which may have a Class 424 utility. (Compounds and Compositions.)
- 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 1+ for processes of disinfecting, deodorizing, preserving, or sterilizing using a compound or a Class 424 composition which is more than the single step of mere application of the compound or composition. (Processes of Use Involving Class 424 subject matter.)
- 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, appropriate subclasses for bio-affecting apparatus employing a Class 424 composition. (Apparatus and Articles, Bio-Affecting.)

- 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving, or Sterilizing, subclasses 129+ for apparatus in general for performing chemical reactions; and subclasses 50+ for testing apparatus, including apparatus for performing a Class 424 test. (Apparatus and Articles, Other.)
- 423, Chemistry of Inorganic Compounds, for inorganic compounds and nonmetallic elements which may have a Class 424 utility. Class 423 provides inorganic compounds which include an additive, see especially subclass 265. (Compounds and Compositions.)
- 425, Plastic Article or Earthenware Shaping or Treating: Apparatus, subclass 2 for apparatus for molding plastic material against animal or plant body structure. (Apparatus and Articles, Other.)
- 426, Food or Edible Material: Processes, Compositions, and Products, for food or edible Material for the nourishment of man and animals. Class 426 also provides for preserved foods and foods containing vitamin or mineral. (Compounds and Compositions.)
- 427, Coating Processes, subclasses 2.1+ for significant processes of coating wherein the product has a medical or dental utility. (Processes of Use Involving Class 424 subject matter.)
- 428, Stock Material or Miscellaneous Articles, subclasses 540+ for articles impregnated with a biocide and not containing structure (e.g., size or apertures); subclass 907 (a cross-reference art collection) for a product treated against attack by plant or animal life. (Apparatus and Articles, Bio-Affecting.)
- 431, Combustion, subclasses 288+ for a candle, *per se*. (Apparatus and Articles, Other.)
- 433, Dentistry, subclasses 215+ for a process of dentistry which is more than the mere application of a Class 424 composition. (Processes of Use Involving Class 424 subject matter.)
- 433, Dentistry, subclasses 25+ for apparatus for the cleaning or replacement of teeth, especially subclass 80 for structurally defined dental applicators containing a medicament. (Apparatus and Articles, Bio-Affecting.)
- 435, Chemistry: Molecular Biology and Microbiology, for ferments not otherwise provided for either, *per se*, or preserved against biological attack, also for media for the culture of single celled animals or for living tissue and organs outside a living body. (Compounds and Compositions.)
- 435, Chemistry: Molecular Biology and Microbiology, for processes of fermentation, including propagation and/or attenuation of a micro-organism, (e.g., bacteria and virus, etc.), and compositions for carrying out said processes. subclasses 235.1+ for virus propagation. Subclass 1 for propagating living organs, tissues or cells outside the body. Subclasses 240.1+ for fermentation processes wherein undesired micro-organisms are eliminated from the process by the use of a biocide. (Processes of Use Involving Class 424 subject matter.)
- 436, Chemistry: Analytical and Immunological Testing, subclasses 1+ for miscellaneous methods of chemical analysis. (Other Processes.)
- 449, Bee Culture, appropriate subclasses for a bee hive or appliance therefor containing a biocide to protect be or honey, particularly subclasses 9+ for a bee hive having feeding provision, and subclass 48 for a free standing be feeder. (See Lines With Other Classes and Within This Class, Apparatus and Articles, Bio-Affecting.)
- 452, Butchering, for methods of killing and dressing animals for use as food. See Lines With Other Classes and Within This Class, (Other Processes.)
- 504, Plant Protecting and Regulating Compositions, for a plant growth regulating composition; subclass 100 for seeds coated with Class 424 biocidal compositions; subclasses 101+ for a fertilizer composition containing an insecticide, fungicide, or deodorant; subclasses 150+ for an algicide composition. (Apparatus and Articles, Bio-Affecting.) (Compounds and Compositions.) (Also see the Class 504 reference in Lines With Related Composition Classes above)
- 508, Solid Antifriction Devices, Materials Therefor, Lubricant and Separant Compositions for Moving Solid Surfaces, and Miscellaneous Mineral Oil Compositions, particularly subclasses 110+ for a lubricant composition protected against biological attack. Subclasses 110+ provide for a mineral oil containing a nonmineral oil preservative when the composition is disclosed to be useful as a lubricant. (Compounds and Compositions.)
- 510, Cleaning Compositions for Solid Surfaces, Auxiliary Compositions Therefor, or Processes of Preparing the Compositions, subclasses 131+, 319, 382+, and other appropriate subclasses for cleaning compositions containing a biocide, insecticide, or antiseptic component, which may function as a preservative for the

- cleaning composition or serve to perfect the cleaning process. These compositions may be disclosed or claimed as useful in cleaning a living body (e.g., human skin, hair, etc.). (Compounds and Compositions.)
- 512, Perfume Compositions, subclasses 1 through 27 for perfume compositions, per se. (Compounds and Compositions.)
- 520, Synthetic Resins or Natural Rubbers, for a synthetic resin or natural rubber, per se, which is disclosed or claimed as having a Class 424 utility. Also Class 523, subclasses 105+ for a non-medicated composition designed to come into contact with the body and which is other than apparel; and subclass 122 for a resin or natural rubber composition preserved against deterioration by bacteria, fungi, or other organisms. (Compounds and Compositions.)
- 536, Organic Compounds, appropriate subclasses for saccharides, polysaccharides, nucleosides, nucleotides, and polynucleotides like RNA and DNA compounds as well as chemical methods of synthesizing these compounds. Search specifically subclasses 23.1+ for fragments of RNA or DNA and subclasses 26.4+ for vitamin B-12 and its derivative. (Compounds and Compositions.)
- 549, Organic Compounds, subclasses 523+ for a preservative fat, fatty oil, ester-type wax or fatty acid. (Compounds and Compositions.)
- 585, Chemistry of Hydrocarbon Compounds, subclasses 1+ provides for a composition which is a blend of hydrocarbon compounds only and for a blend of a hydrocarbon with a nonhydrocarbon preservative. (Compounds and Compositions.)
- 623, Prosthesis (i.e., Artificial Body Members), Parts Thereof, or Aids and Accessories Therefor, for the subject matter of that class title. (Apparatus and Articles, Bio-Affecting.)
- ACTIVE**
- Denotes a physiological, pharmacological, or biological affect.
- AMINE**
- Denotes a compound in which one or more of the valences of a nitrogen atom have been satisfied by a covalently bonded carbon atom.
- AROMATIC**
- Denotes a compound which contains a benzene nucleus whether or not it is condensed with other rings.
- CARBOXYLIC**
- Denotes the presence of a moiety.
- $$\left[ \begin{array}{c} \text{O} \\ || \\ -\text{C}-\text{O}- \end{array} \right]$$
- FERMENTATE**
- Denotes the final chemical compound, or compounds, that are produced by a fermentation process and includes compounds which are of known as well as unknown structure.
- HEAVY METAL**
- Denotes any metal having a specific gravity greater than 4 and as employed herein includes arsenic and antimony.
- HETEROCYCLIC**
- Denotes the presence of one or more carbon atoms covalently bonded in a closed ring with at least one atom of oxygen, nitrogen, sulfur, selenium or tellurium and having no other atoms in the ring.
- ORGANIC**
- Denotes compounds containing carbon, which are further characterized by the presence in a molecule thereof of two carbon atoms bonded together; or one atom of carbon bonded to at least one atom of hydrogen or halo-

#### SECTION IV - GLOSSARY

The meaning to be given to the various "art" terms appearing in this class, but which have not been included in the glossary below, is the same as that generally accepted or is in common usage. However, certain terms employed in this class, which are included below, have been assigned definitions tailored to meet the needs of this class and therefore these may be more restricted or less limited or even altogether different from those in common usage.

gen; or one atom of carbon bonded to at least one atom of nitrogen by a single or double bond.

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

#### OXO

Denotes the presence of a carbonyl (C=O) bonded to hydrogen and/or carbon and is a term limited to ketones and aldehydes.

#### OXY

Denotes the presence of oxygen singly bonded to a carbon, which is not the carbon of a carbonyl group, and is further bonded to hydrogen, metal or an organic radical. The term is generic to alcohols, phenols, alcoholates, phenolates, ethers and esters thereof.

#### POTENTIATOR OR SYNERGIST

Denotes an agent (A) which will cooperatively act with an active ingredient for this class (B) to the extent that the total effect (A+B) will be greater than the sum of the two effects taken independently.

#### UNITARY DOSAGE FORM

Denotes that form of medication supplied in a manner requiring no further weighing or measuring to provide the dosage; e.g., tablet, capsule, etc. Medicines in bulk form; e.g., powder, syrup, etc., are not included.

#### SUBCLASSES

##### **1.11 RADIONUCLIDE OR INTENDED RADIONUCLIDE CONTAINING; ADJUVANT OR CARRIER COMPOSITIONS; INTERMEDIATE OR PREPARATORY COMPOSITIONS:**

This subclass is indented under the class definition. Compositions containing a radionuclide or an element intended to be converted to a radionuclide (such as Boron-10 which may be neutron-activated for radio-therapy); methods of making such compositions; class defined methods of using such compositions; class defined methods of using compounds, per se, containing a radionuclide or an element

intended to be converted to a radionuclide; adjuvant or carrier compositions for perfecting compositions of this class; and intermediate or preparatory compositions for compounds or compositions proper for Class 424.

- (1) Note. Radionuclide is an unstable isotope, capable of emitting radiant energy through a process termed decay. Commonly used terms which are substantially synonymous include: radiolabeled, radioactive, and radioisotope.

- (2) Note. An intended radionuclide is an element which is by disclosure or common knowledge intended to be converted to a radionuclide to take advantage of the property or properties exhibited by a radionuclide. This subclass and indented subclasses should be read as incorporating the intended radionuclide embodiment in every instance.

- (3) Note. All elements have multiple isotopes; some radioactive, some not; some naturally occurring; and some man-made. The recitation of a radionuclide will inherently encompass a mixture of isotopes; however, this is not sufficient for placement in Class 424. For placement in Class 424, an intentional mixture of different compounds or different elements or one (or more) of each is required.

- (4) Note. Class 424 takes compounds mixed with a preserving agent when disclosed or claimed for a Class 424 function or utility. Further, Class 424 provides for a solution of a compound when disclosed or claimed for a Class 424 function or utility.

- (5) Note. The intermediate and preparatory compositions are provided for in this subclass and indented subclasses, even though the radionuclide or intended radionuclide may not be present in the claim. The adjuvant and carrier compositions are provided for in this and indented subclasses, even though the radionuclide or intended radionuclide may not be present in the claim. When there are also

disclosed or claimed non-radionuclide uses of the intermediate, preparatory, adjuvant, or carrier composition, appropriate cross-references are necessary elsewhere in Classes 424 and 514.

- (6) Note. Subclass 1.11 is the appropriate residual location for those compositions, and the appropriate class defined uses, containing a per se radionuclide element or a per se intended radionuclide element (i.e., the elemental material). For example, compositions and methods comprising radioactive Radon baths are found here. Any indication of a compound; i.e., attachment (e.g., recitation of an ion), dictates that proper placement is in an indented subclass, even in the absence of a specifically disclosed compound. In the case of an indicated, but not specifically disclosed compound, the original would be placed in subclass 1.61 and a cross placed in: subclass 1.65 for metal radionuclide or intended metal radionuclide; subclasses 1.81+ for nonmetal radionuclide or intended nonmetal radionuclide; or both.
- (7) Note. The following rule adheres to the rule set forth in Class 514, which statement in Class 514: (A) this and indented subclasses do not provide for cross-reference patents which are originally classified in Class 260, compound areas, or in the Class 530-570 series or in Class 585. Cross-reference patents that are originally classified in the Class 520 series are permitted; (B) the cross-reference rule elaborated above means that a specific compound having a disclosed or even specifically claimed utility (i.e., compound X having an attached radionuclide useful as an anti-cancer diagnostic or treatment agent) will be classifiable only in Class 260 or the Class 530-570 series or Class 585.
- (8) Note. The terminology “derivative thereof” means that the compound retains the biological activity of the compound from which the subclass provides and from which it is derived, or that the compound retains the structural characteristic that places it in the subclass.
- (9) Note. Kits. Claims and disclosures to in vivo kits are classified according to the following guidelines. The use of nominal terms to identify the kit such as “kit,” “vial,” “container,” etc., are disregarded and placement is premised on the radiolabeled product intended for placement in the body even if the ingredients actually recited do not include all the necessary components to form the radiolabeled product (e.g., intermediate). The presence of an accessory such as “instructions,” “syringe,” “filter,” etc., have no effect on this aspect of placement. Claiming of significant packaging or container structure will result in placement in Class 206 when the packaging requirements of that class definition is satisfied.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 2+, for in vivo diagnostic compositions not comprising a radionuclide or intended radionuclide.

SEE OR SEARCH CLASS:

- 75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, appropriate subclasses for patents relative to the metallurgy of a radioactive metal element or alloy.
- 204, Chemistry: Electrical and Wave Energy, appropriate subclasses for a chemical process making a compound or element and involving the class defined use of electrical or wave energy.
- 206, Special Receptacle or Package, for kits which meet the class definition, particularly subclass 438 for a container for an object or substance adapted for use in wound or disease treatment of the body, subclasses 216+ for container which is for two or more diverse articles or materials or which is structured so that at least a portion thereof is capable of rearrangement for a secondary purpose (especially subclasses 568, 569, and 570) and subclasses 524.1+ for con-



- tainer wherein the cover or contents are specified in terms of chemical constituents.
- 250, Radiant Energy, subclasses 496.1+ for a radioactive source alone or with a shielded container to selectively shield or expose the source, subclass 432 for generators which also separate parent and daughter isotopes.
- 252, Compositions, subclasses 625+ for a radioactive composition and methods of making and disposal thereof, not provided for elsewhere.
- 376, Induced Nuclear Reactions: Processes, Systems, and Elements, appropriate subclasses for apparatus and processes for the production and/or utilization of a radioactive material or composition, especially subclasses 156+ for bombardment of a material to produce an induced nuclear reaction (other than that resulting in the splitting of a nucleus); e.g., transmutation, making radioactive material, producing isotopes of the same or different element.
- 420, Alloys or Metallic Compositions, subclasses 1+ for radioactive alloys.
- 422, Chemical Apparatus and Process Disinfecting, Deodorizing, Preserving or Sterilizing, subclasses 50+ for apparatus for in vitro quantitative or qualitative chemical analysis and laboratory devices, especially subclass 430 for in vitro test package or kit (e.g., radioassay).
- 423, Chemistry of Inorganic Compounds, subclasses 2+ and 249+ for radioactive elements or inorganic compounds and class defined methods of making same.
- 427, Coating Processes, subclasses 2.1+ for coating processes producing a medical or dental product (e.g., coated pills) and subclasses 5+ for coating a radioactive base or applying a radioactive coating.
- 435, Chemistry: Molecular Biology and Microbiology, see appropriate subclasses: for processes in which a material containing an enzyme or micro-organism is used to perform a qualitative or quantitative measurement or test; for compositions or test strips for either of the stated processes; for the processes of making such compositions or test strips; for processes of using micro-organisms or enzymes to synthesize a chemical product; for processes of treating a material with micro-organisms or enzymes to separate, liberate, or purify a preexisting substance or to destroy hazardous or toxic waste; for processes of propagating micro-organisms; for processes of genetically altering a micro-organism; for processes of tissue, organ, blood, sperm, or microbial maintenance; for processes of malting or mashing; for micro-organisms, per se, and subcellular parts thereof; for recombinant vectors and their preparation; for enzymes, per se, compositions containing enzymes not otherwise provided for and processes of preparing and purifying enzymes; for compositions for microbial propagation; for apparatus for any of the processes of the class; for composting apparatus; and subclasses 4+ for in vitro processes in which there is a direct or indirect, qualitative or quantitative, measurement or test, by or of a material which contains an enzyme or micro-organism (for the purposes of Class 435, micro-organism includes bacteria, actinomycetales, cyanobacteria (unicellular algae), fungi, protozoa, animal cells, plant cells, and virus). Class 424 definition contains controlling statements on the class lines.
- 436, Chemistry: Analytical and Immunological Testing, appropriate subclasses for processes which involve a chemical reaction for determining quantitatively or qualitatively the presence of a chemical element, a compound or a complex in a composition or a chemical compound, or an element or radical in a compound; for processes of measuring or testing the chemical properties of a sample, or chemically determining a physical property of a sample; for analytical compositions used in such processes (see Class 436, main definition, Lines

With Other Classes and Within This Class, for exceptions); for chemical test standards; and for combinations of tests or measurements with methods of regulating a chemical reaction not otherwise provided for in a chemical synthesis class or elsewhere. See especially, subclasses 57+ for processes or compositions where the testing or a chemical reaction includes measurement of radioactivity; subclasses 500-548 for processes of in vitro measuring or testing which involve antigen-antibody, immunological, or protein binding interactions other than those involving an enzyme or micro-organism. Class 436 provides for in vivo production (i.e., by treatment of a live animal with a virus or micro-organism) of immunological (e.g., anti-sera) material when intended for use in an in vitro test.

530, Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof, appropriate subclasses for, per se, compounds including those which have attached thereto a radionuclide, such as radiolabeled proteins, peptides, and polypeptides.

534, Organic Compounds, subclasses 10+ for an organic compound, per se, containing a radioactive metal.

600, Surgery, subclasses 1+ for a device or process applying radioactive substance to or into the body for a therapeutic purpose and wherein more than one nominal step or a series of nominal steps is recited, subclasses 431+ for diagnostic testing processes wherein the radioactive material is placed in the body, and subclass 436 for diagnostic testing processes involving nuclear radiation directed against and passing through or reflected from the body.

**1.13 In aerosol, fine spray, effervescent, pressurized fluid, vapor or gas, or complete composition therefor:**

This subclass is indented under subclass 1.11. Subject matter which is contained in or part of an aerosol, a fine spray, an effervescent, a pressurized fluid, a vapor, a gas, or a composition

intended for such use and not requiring any additional component to perfect it other than a pressurizing agent (e.g., heat).

(1) Note. Gaseous compositions and methods comprising radioactive Xenon for lung studies are found here.

**1.17 Attached to or within viable or inviable whole micro-organism, cell, virus, fungus or specified sub-cellular structure thereof (e.g., platelet, red blood cell):**

This subclass is indented under subclass 1.11. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to, or contained within, a whole microbial organism, cell, virus, fungus, or specified sub-cellular structure thereof.

(1) Note. Examples of materials intended for placement in this subclass include: platelet, red blood cell, mitochondria, and chloroplast.

(2) Note. This subclass is proper for cells, viruses, etc., which are live, attenuated, or dead.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.65+, for cellular extracts of undefined or unspecified composition.

SEE OR SEARCH CLASS:

435, Chemistry: Molecular Biology and Microbiology, subclasses 183+ for radiolabeled enzymes, per se, and processes of preparing them, subclasses 243+ for, radiolabeled micro-organisms, per se, and processes of preparing them, subclass 262.5 for processes of utilizing an enzyme or micro-organism to destroy a toxic or hazardous waste or to convert it into an environmentally safe substance, and subclass 317.1 for radiolabeled sub-cellular parts of micro-organisms.

**1.21 Molecular bilayer structure (e.g., vesicle, liposome):**

This subclass is indented under subclass 1.11. Subject matter which includes a structure typically characterized by molecules having a hydrophilic end or a hydrophobic end which

are organized into a bilayer so as to produce an enclosed volume, an organized layer, or a coating.

- (1) Note. The radionuclide or intended radionuclide may be attached to the wall structure or may be enclosed within it or may be exterior to it or any combination thereof.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 1.17, for cells and sub-cellular structures which may have bilayer structures forming a part thereof.  
 2+, for liposome intended for testing or measuring a condition or substance and not containing a radionuclide.  
 450, for liposomes containing compositions of this class other than radionuclide containing, and other than intended for testing or measuring a condition or substance.

SEE OR SEARCH CLASS:

- 264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclasses 4+ for generic, or not elsewhere provided for, processes of encapsulating a material which is a liquid (at ambient temperature and pressure) utilizing an emulsion or dispersion (e.g., making microsphere, liposome).  
 427, Coating Processes, subclasses 213.3+ for generic, or not elsewhere provided for, processes of encapsulating a solid material utilizing an emulsion or dispersion (e.g., making microcapsule, liposome).  
 428, Stock Material or Miscellaneous Articles, subclasses 402.2+ and 402.24 for generic, or not elsewhere provided for, liposomes, per se.  
 436, Chemistry: Analytical and Immunological Testing, subclass 829 for in vitro antigen-antibody testing involving liposomes.

**1.25 Dissolving or eluting from solid or gel matrix (e.g., capsule, tablet):**

This subclass is indented under subclass 1.11. Subject matter in which the composition comprises a physical form which includes a reticulated network of solid or gel material from

which the radionuclide or intended radionuclide is eluted, or is released by dissolution of the network.

- (1) Note. Proper for placement in this subclass are compositions in which the radionuclide or intended radionuclide component is entrapped and compositions in which the radionuclide or intended radionuclide component is attached (bonded, chelated, complexed) to the matrix.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 1.29+, for those particulate carriers which dissolve, bio-assimilate, or biodegrade (e.g., in the host) only after the diagnostic or therapeutic process has been accomplished.

**1.29 Coated, impregnated, or colloidal particulate (e.g., microcapsule, microsphere, micro-aggregate, macro-aggregate):**

This subclass is indented under subclass 1.11. Subject matter in which the composition comprises a coated, impregnated, or colloidal particle wherein the radionuclide or intended radionuclide may be present in any part of the particle, coating, or impregnant (e.g., colloidal human serum albumin).

- (1) Note. The core of a coated particle may comprise a solid, liquid, or gas (e.g., gas-filled glass microsphere, liquid core microcapsule). However, solid or gel core particles from which the radionuclide or intended radionuclide is eluted or dissolved are classified in subclass 1.25 above.  
 (2) Note. A particle coated or impregnated with a composition provided for in this class and in which the composition functions only to preserve the particle from biological attack is generally classified with the particular particle protected, for example, a lyophilized radiolabeled monoclonal antibody impregnated or coated with a Class 424 biocide would be properly classified with the lyophilized radiolabeled monoclonal antibody, per se, in Class 530.

- (3) Note. The coating need not be continuous. The coating material may be adsorbed, chelated, complexed, covalently bonded, ionically bonded, or hydrogen bonded.
- (4) Note. An emulsion is not proper for this subclass based solely on the “attachment” of the emulsifying agent to form a coating.
- (5) Note. Particulate or particle encompasses a form of solid material of such small size that it behaves in a fluid manner (e.g., microcapsule, but not unit dose pills).

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1.21, for liposomes which may encapsulate or coat a particle.
- 1.25, for particulate material further comprising a reticulated network of solid or gel from which the radionuclide or intended radionuclide is eluted or is released by dissolution of the network.

**1.33 Delivery to active site involves particle dissolving, degrading, or otherwise releasing of radionuclide:**

This subclass is indented under subclass 1.29. Subject matter in which the particle dissolves, degrades, or otherwise releases the radionuclide or intended radionuclide in order to deliver it to the active site, such as a time release microcapsule.

- (1) Note. This subclass is intended to take those compositions which release the radionuclide at a location distant from the target location. Compositions which release the radionuclide within a target cell in the body would not be proper for placement here on that basis.
- (2) Note. A particle designed to dissolve, degrade, etc., (e.g., bio-degradable, bio-assimilable) after the diagnosis, treatment, etc., is not proper for placement here on that basis.

**1.37 Radionuclide or intended radionuclide in an organic compound:**

This subclass is indented under subclass 1.29. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to or a part of an organic compound.

- (1) Note. See (1) Note in subclass 1.65 for definition of an organic compound.

**1.41 Attached to lymphokine, cytokine, or other secreted growth regulatory factor, differentiation factor, or intercellular mediator specific for a hematopoietic cell (e.g., interferon, interleukin, macrophage factor, colony stimulating factor, erythropoietin); derivative thereof:**

This subclass is indented under subclass 1.11. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to a lymphokine, cytokine, or other secreted growth regulatory factor, differentiation factor, or intercellular mediator specific for any type of hematopoietic cell; and the derivatives thereof.

- (1) Note. The term “growth regulatory factor” is meant to encompass any secretory factor that is growth-stimulatory or growth-inhibitory (i.e., that will stimulate or inhibit cluneal expansion of cells).
- (2) Note. The term “differentiation factor” is meant to encompass any secretory factor that causes cells to progress from a relatively undifferentiated state to a more differentiated state, wherein said progression may include cluneal expansion.
- (3) Note. The term “intercellular mediator” is meant to encompass any secretory factor that affects cellular functions such as chemotaxis, etc.
- (4) Note. Included here are: interferon (IF), interleukin, monokines, macrophage factors, lymphokines, migration inhibitory factor (MIF), lymphotoxin (LT), leukocyte migration inhibitory factor (CIF), eosinophil chemotactic factor-precursor substance (ECFp), eosinophil stimula-

tion promoter, eosinophil chemotactic factor, monocyte tissue factor, mitogenic factor (MF), lymphocyte activity-factor (LAF), colony stimulating factor (CSF), skin reactive factor (SRF), macrophage cytotoxicity factor (MCF), leukocyte inhibition factor (LIF), vascular permeability factor (VPF), T cell growth factor (TCGF), B cell growth factor (BCGF), erythroid burst promoter, genetically related macrophage factor (GRF), fibroblast activating factor (FAF), tumor necrosis factor (TNF), and macrophage activating factor (MAF).

- (5) Note. Hematopoietic cells are considered to be bone marrow stem cells and cells derived from bone marrow stem cells, including cells at any stage of differentiation from progenitor cells to mature erythrocytes, granulocytes, lymphocytes, etc., both normal and neoplastic.

**1.45 Attached to cyclopentano-hydrophenanthrene (e.g., cholesterol, bile acid, steroids, cholane), hormone, or neurotransmitter, or other secreted growth regulatory factor, differentiation factor, or intercellular mediator (e.g., T<sub>3</sub>, T<sub>4</sub>, insulin, human chorionic gonadotropin, intragonadal regulatory protein, Mullerian inhibiting substance, inhibin, epidermal growth factor, nerve growth factor, dopamine, norepinephrine); derivative thereof:**

This subclass is indented under subclass 1.11. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to a cyclopentano-hydrophenanthrene (e.g., cholesterol), hormone, or neurotransmitter, or any other secreted growth regulatory factor, differentiation factor or intercellular mediator, or derivative thereof, that targets cells other than hematopoietic cells; and the derivatives thereof.

- (1) Note. The term “growth regulatory factor” is meant to encompass any secretory factor that is growth-stimulatory or growth-inhibitory (i.e., that will stimulate or inhibit cluneal expansion of cells).

- (2) Note. The term “differentiation factor” is meant to encompass any secretory factor that causes cells to progress from a relatively undifferentiated state to a more differentiated state, wherein said progression may include cluneal expansion.

- (3) Note. The term “intercellular mediator” is meant to encompass any secretory factor that affects cellular functions such as chemotaxis, etc.

- (4) Note. Cyclopentano-hydrophenanthrene or a derivative thereof means those compounds which do not destroy the 17 carbon atoms forming the four-fused-ring structure. The four-fused-ring structure need not contain the same number of hydrogen atoms or double bonds to be proper for placement here. The necessary requirement is that the 17 carbons atoms retain the relationship exhibited in the base compound.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1.21, for liposomes containing cholesterol and derivatives within the liposome or liposome bilayer.

SEE OR SEARCH CLASS:

- 552, Organic Compounds, for per se cyclopentano-hydrophenanthrene and derivatives thereof.

**1.49 Attached to antibody or antibody fragment or immunoglobulin; derivative thereof:**

This subclass is indented under subclass 1.11. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to an antibody, or an antibody fragment, or immunoglobulin (e.g. monoclonal antibody); and the derivatives thereof.

- (1) Note. Antibodies, per se, including those having attached thereto a radionuclide, such as monoclonal and polyclonal antibodies, are considered to be compounds and are classified in Class 530, subclasses 387.1+.

- (2) Note. Proper for placement here are mixtures or compositions, such as an immune serum or an antiserum, which are disclosed or reasonably believed to have antibodies attached to radionuclide or intended radionuclide.

SEE OR SEARCH CLASS:

436, Chemistry: Analytical and Immunological Testing, appropriate subclasses for in vitro test methods including those methods which include injecting a host animal to produce an antibody or antisera if the virus or micro-organism injected is dead. Class 424 provides for such methods, when the virus or micro-organism is live.

530, Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof, particularly subclasses 391.3+ for the radio-labeled compound, per se.

**1.53 Attachment via an added element (e.g., bifunctional compound or coordinate, coupling agent, spacer compound, bridging compound, conjugated chelate):**

This subclass is indented under subclass 1.49. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to an antibody, antibody fragment, immunoglobulin, or derivative thereof via an added, interposed linking means, comprising at least one atom, between the radionuclide and the antibody, antibody fragment, immunoglobulin, or derivative thereof.

- (1) Note. Examples of terms used to describe the subject matter proper for placement in this subclass include: bifunctional compound or coordinate, spacer compound, bridging compound, conjugated chelate, chelating group, coordination complex, coupling agent, and conjugation agent.
- (2) Note. In the absence of a disclosure of an added attachment means the reference is not properly placed in this subclass, and is proper for subclass 1.49, above.

SEE OR SEARCH CLASS:

530, Chemistry: Natural Resins or Derivatives; Peptides or Proteins; Lignins or Reaction Products Thereof, particularly subclasses 391.3+ for the radio-labeled compound, per se.

**1.57 Attached to antigen or hapten; derivative thereof:**

This subclass is indented under subclass 1.11. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to an antigen or a hapten; and the derivatives thereof.

- (1) Note. An antigen is a compound which induces the formation of an antibody in the living body.
- (2) Note. A hapten is a compound that has little or no antigenicity unless coupled to a carrier molecule.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.49+, for radionuclide or intended radionuclide attached to antibody, antibody fragment, or immunoglobulin.

**1.61 In an inorganic compound:**

This subclass is indented under subclass 1.11. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to a part of an inorganic compound.

- (1) Note. See Note (1) in subclass 1.65 for a definition of organic compound. An inorganic compound is any compound that does not meet the definition of an organic compound.
- (2) Note. An inorganic compound does not mean the, per se, element, but does include homogenous compounds such as I2.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.11, through 1.37, as appropriate, for class defined compositions containing or methods using, an unattached radio-

nuclide or an unattached intended radionuclide.

**1.65 In an organic compound:**

This subclass is indented under subclass 1.11. Subject matter in which the radionuclide or intended radionuclide comprises an organic compound.

- (1) Note. An organic compound is defined by the following statement (which originated from the definition set forth in Class 260, Chemistry of Carbon Compounds, as qualified by Note (34)): Compounds containing carbon which are further characterized by the presence in a molecule thereof of two carbon atoms bonded together, or one atom of carbon bonded to at least one atom of hydrogen or halogen, or one atom of carbon bonded to at least one atom of nitrogen by a single or double bond; including dicyanamide, dicyandiamide and salts thereof, which compounds, per se, are classified in Class 260; and excluding hydrocyanic acid, cyanogen, isocyanic acid, cyanamide, cyanogen halides, isothiocyanic acid, fulminic acid and metal carbides, all of which compounds, per se, will be classified in Class 423.
- (2) Note. This subclass is the proper residual location for those class-appropriate compositions and uses having organic compounds not appropriate above or for a hereinunder indented subclass and having a radionuclide or an element intended to be converted to a radionuclide attached (bonded, chelated, complexed) thereto which is a metal. The analogous class-appropriate compositions and uses having organic compounds having attached thereto a nonmetal are proper for subclasses 1.81+, below.
- (3) Note. A metal is any element other than a nonmetal. The nonmetals are: Hydrogen, Boron, Carbon, Silicon, Nitrogen, Phosphorus, Oxygen, Sulfur, Selenium, Tellurium, Fluorine, Chlorine, Bromine, Iodine, Astatine, Helium, Neon, Argon, Krypton, Xenon, and Radon; (H, B, C,

Si, N, P, O, S, Se, Te, F, Cl, Br, I, As, He, Ne, Ar, Kr, Xe, and Rn.)

SEE OR SEARCH CLASS:

- 260, Chemistry of Carbon Compounds, see (1) Note above.
- 435, Chemistry: Molecular Biology and Microbiology, subclasses 174+ and 183+ for radiolabeled enzymes, per se.

**1.69 Attached to peptide or protein of 2+ amino acid units (e.g., dipeptide, folate, fibrinogen, transferrin, sp. enzymes); derivative thereof:**

This subclass is indented under subclass 1.65. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to a compound which contains one or more peptide bonds; and the derivatives thereof.

- (1) Note. The term peptide bond means an amide bond (the group N-C(=O)) between two alpha-amino acids or an alpha-amino acid and beta-alanine.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1.17, for proteinaceous cells or viruses and sub-cellular structures.
- 1.41, for proteins which are hematopoietic cell specific, secreted growth regulatory factor, differentiation factor, or intercellular mediator such as lymphokine.
- 1.45, for proteins which are secreted growth regulatory factor, differentiation factor, or intercellular mediator not specific to hematopoietic cells.
- 1.49+, for proteins which are antibodies.
- 1.57, for proteins which are intended to perform as antigens or haptens.

SEE OR SEARCH CLASS:

- 435, Chemistry: Molecular Biology and Microbiology, subclasses 174+ and 183+ for radiolabeled enzymes, per se.

**1.73 Attached to carbohydrate compound; derivative thereof (e.g., DNA, nucleotide, nucleoside, sugar, starch, tannin, saccharide,**

**polysaccharide, cellulose, O-, N- and S-glycoside, vitamin B<sub>12</sub>):**

This subclass is indented under subclass 1.65. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to a carbohydrate compound which is a saccharide and whose monomeric units are polyhydroxy mono-aldehydes or polyhydroxy mono-ketones, having the formula C<sub>n</sub>(H<sub>2</sub>O)<sub>n</sub>, 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 hemiacetal function of the saccharide unit are not destroyed; and the derivatives thereof.

- (1) Note. For proper placement here, the saccharide or the monomeric saccharide radical unit of a polysaccharide must contain at least five carbon atoms, and the derivatives or reaction products must not destroy the carbon skeleton of the saccharide or polysaccharide.

**1.77 Phosphorus-containing organic compound:**

This subclass is indented under subclass 1.65. Subject matter in which the radionuclide or intended radionuclide is attached (bonded, chelated, complexed) to, or a part of, an organic compound having a phosphorus atom.

- (1) Note. An organic compound having a radioactive phosphorus atom is proper for placement in this subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

1.61, for the inorganic phosphate, pyrophosphate, or polyphosphate.

**1.81 Nonmetal radionuclide or intended radionuclide (e.g., carbon):**

This subclass is indented under subclass 1.65. Subject matter in which the radionuclide or intended radionuclide is a nonmetal and is attached (bonded, chelated, complexed) to an organic compound.

- (1) Note. A nonmetal is a member of the group: Hydrogen, Boron, Carbon, Silicon, Nitrogen, Phosphorus, Oxygen, Sulfur, Selenium, Tellurium, Fluorine, Chlorine, Bromine, Iodine, Astatine,

Helium, Neon, Argon, Krypton, Xenon, and Radon (i.e., H, B, C, Si, N, P, O, S, Se, Te, F, Cl, Br, I, As, He, Ne, Ar, Kr, Xe, and Rn).

**1.85 Halogen:**

This subclass is indented under subclass 1.81. Subject matter in which the radionuclide or intended radionuclide is a halogen (i.e., F, Cl, Br, I, and At) and is attached (bonded, chelated, complexed) to an organic compound.

**1.89 Fluorine:**

This subclass is indented under subclass 1.85. Subject matter in which the radionuclide or intended radionuclide is fluorine and is attached (bonded, chelated, complexed) to an organic compound.

**9.1 IN VIVO DIAGNOSIS OR IN VIVO TESTING:**

This subclass is indented under the class definition. Subject matter which includes compositions intended for use in in vivo testing or in vivo diagnosis and nominal methods of using compounds or compositions for in vivo testing or in vivo diagnosis.

- (1) Note. Claims which include in vivo diagnosis or in vivo tests as merely incidental to the treatment of a patient are classified in one of the appropriate treatment subclasses below.
- (2) Note. In vivo, for this and the indented subclasses, means the actual test or diagnosis step must occur in or on the living subject.
- (3) Note. In a plural step test procedure, if the actual analysis step takes place in vivo, the test method is classified in this or the indented subclasses. If the actual analysis step takes place in vitro, no matter how many other steps in the method involve in vivo treatment or administration, the test method will be classified in another class appropriate for such an in vitro test method.
- (4) Note. Included herein are methods of determining the efficacy of a bioaffecting compound or composition.



- (5) Note. These subclasses (424/9.1+) provide for plural step in vivo diagnostic procedures which utilize bioaffecting compounds or compositions wherein one of the steps is no more than a mere statement of nuclear magnetic imaging, X-ray imaging, ultrasound imaging, etc. of a living body. Class 128 provides for such tests if a more detailed manipulative step of nuclear magnetic or ultrasound imaging is included. Diagnostic X-ray imaging may be found in Classes 128 and 378 depending on the test details recited. A reading of the definitions for those classes is recommended for proper placement of the subject matter.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1.11+, for diagnostic radioactive compounds or compositions or nominal diagnostic methods of utilizing such radioactive compounds or compositions.

SEE OR SEARCH CLASS:

- 73, Measuring and Testing, which is the generic class for making a measurement or test of any kind not provided for in other classes.
- 250, Radiant Energy, for methods of detecting radiant energy
- 252, Compositions, subclass 408.1 for compositions which do not chemically react in use and are specialized and designed for use in physical analysis, testing or indicating, or as a warning agent.
- 324, Electricity: Measuring and Testing, as the residual home for measuring and testing electrical properties or the measuring, testing, or sensing of non-electric properties by electric means, but only when absent a significant chemical reaction.
- 356, Optics: Measuring and Testing, provides for analyzing light to measure or test its characteristics, determining the optical or nonoptical properties of materials or articles by noting the effect produced by the materials or articles on light associated therewith, etc.

- 378, X-Ray or Gamma Ray Systems or Devices, for apparatus and corresponding processes involving the generation or use of electromagnetic radiation within the X-ray spectrum. Mere use with or attachment to an X-ray device or recitation of an undefined X-ray test or analysis is not sufficient for classification in Class 378.
- 426, Food or Edible Material: Processes, Compositions, and Products, provides for processes where a condition in preparing an edible is sensed by other than subjective means.
- 435, Chemistry: Molecular Biology, and Microbiology, subclasses 4+ for in vitro measuring or testing involving enzymes or micro-organisms, subclasses 7.1+ for blood typing, protein binding, ligand-receptor binding, and immunological assays, subclasses 29+ for testing involving a viable micro-organism, and subclasses 40.5+ for testing involving fixed or stabilized, nonliving microorganism, cell, or tissue.
- 436, Chemistry: Analytical and Immunological Testing, subclasses 1+ for chemical test standards and their use and the qualitative or quantitative analysis of chemical compounds, complexes, and elements which at some point involve a chemical interaction (see Class 436, CLASS DEFINITION, I. for further explanation) and subclasses 500+ for in vitro immunological or protein binding assays other than those involving a micro-organism or enzyme.
- 506, Combinatorial Chemistry Technology: Method, Library, Apparatus, subclass 10 for a method of screening a library by measuring the effect on a living organism, tissue, or cell.
- 600, Surgery, subclasses 300+ for an appliance and its use to aid in the diagnosis of a disease or abnormal condition of the body and subclass 556 for skin allergy tests.
- 800, Multicellular Living Organisms and Unmodified Parts Thereof and Related Processes, subclass 3 for a method of using a transgenic nonhuman animal in an in vivo test method.





























































































































































































































































