

**CLASS 514, DRUG, BIO-AFFECTING AND BODY TREATING COMPOSITIONS****SECTION I - CLASS DEFINITION**

Class 514 is an integral part of Class 424. It incorporates all the definitions and rules as to subject matter of Class 424.

**SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS****A. GENERAL STATEMENT OF CLASS SUBJECT MATTER**

(1) Official subclasses 1-789 do not provide for cross-reference patents which are originally classified in Class 260 (Compound area) or in the Class 530-570 series or in Class 585. Cross-reference patents that are originally classified in the Class 520 series are allowed.

(2) The cross-reference rule elaborated above means that a specific compound having a disclosed or even specifically claimed utility (i.e., compound X useful as an anti-cancer drug) will be classifiable only in Class 260 or in the Class 530-570 series or in class 585.

**B. OFFICIAL CROSS-REFERENCE ART COLLECTIONS:**

(1) Peptide and protein art collections (subclasses 800-809).

(2) Specifically disclosed disease condition and pharmaceutical effect (subclasses 810-935).

The official cross-reference art collections subclasses 800-935 take patents dating from Jan.1, 1965. These collections provide for data from all classes including Classes 260, 530-570, and Class 585.

**C. OFFICIAL CROSS-REFERENCE ART COLLECTIONS:**

Subclasses 936-975 provide for specifically disclosed carrier specified nonbioactive ingredient (subclasses 936-975).

This art collection provides (1) data from Class 260 (Compounds ) and Classes 530-570 series and Class 585 dating from Jan. 1, 1965, and (2) data from all other classes regardless of date.

Class 514 and Class 424 differ in scope as to cross-referencing procedure. Those subclasses identified as Class 424 will accept cross-references from all classes including 424, 260, Classes 530-570 series and Class 585 as has been done in the past. An exception within Class 424 are subclasses 1.11+ wherein the 514 rule is respected and therefore cross-referencing is not accepted.

**SCHEDULE OUTLINE OF CLASS 514**

The schedule is divided into a number of parts, each of which is distinct and provides for different types of subject matter. The following is a breakdown of the major areas and indicates the type of subject matter provided therein.

(A) Subclasses 1-768 provide for the subject matter proper under Class 424 containing a designated organic active ingredient (DOAI), methods of making such compositions and methods of using such compositions. Also included herein are method of using a specified DOAI.

(B) Subclasses 769-771 provide for subject matter relating to a designated inorganic nonactive ingredient (See Glossary below) other than water or designated elemental nonactive material (See Glossary). These subclasses provide for compositions which may have an organic active material and which active material does not qualify as a DOAI as well as to methods of preparing or using such compositions. These subclasses also provide for compositions containing a designated inorganic nonactive material other than water or designated elemental material and which composition qualifies as subject matter proper for Class 424 and is not provided higher in the classification schedule as well as to methods of preparing or using such compositions.

(C) Subclasses 772-788 provide for subject matter relating to a designated organic nonactive ingredient (See GLOSSARY) other than a hydrocarbon. These subclasses provide for compositions which may have an organic active material and which active material does not qualify as a DOAI as well as to methods of preparing or using such compositions.

(D) Subclass 789 is the miscellaneous subclass for subject matter proper in Class 424 or 514. This subclass provides for compositions, methods of preparing or using same.

(E) Subclasses 800-809 are art collections pertaining to

protein and peptide and relate to subject matter only in Class 514.

(F) Subclasses 810-935 are art collections pertaining to specifically disclosed disease condition and pharmaceutical effect and relate to subject matter only in Class 514.

(G) Subclasses 936-975 are art collections pertaining to specifically disclosed carrier system; physical form or specified nonbioactive ingredient and relate to subject matter only in Class 514.

#### DESIGNATED ORGANIC ACTIVE INGREDIENT (DOAI)

DOAI is when (a) the active ingredient is identified by at least one chemical atom, e.g., organic phosphorus compound, etc. or (b) the active ingredient is identified as a generic type of chemical compound, e.g., alcohol, ether, etc.

The term active denotes a physiological, pharmacological or biological effect.

For purposes of this class organic active ingredient although inherently reciting the presence of a carbon atom is considered to be too broad and therefore will not be considered as DOAI's as follows: chalcogen, carboxylic acid, phosphorus containing, organic alkali or earth metal compound, hydrocarbon, halogenated hydrocarbon, etc.

The following list below is not exhaustive and merely enumerates certain materials that will not be considered as DOAI's, e.g., organic compound, solvent, biocide, pharmaceutically active, medicine, preservative, diabetes active, pesticidal, active against rabies, antihistamine, anti-tussive, anti-caries, crystalline, antioxidant, etc.

It is important to remember that function of a material or even amount, e.g., pharmaceutical, etc., even if specific, e.g., diabetes active, etc., or 2% of a diabetes active ingredient, etc., does not meet any of the necessary criteria elaborated in 1 and 2 above. Function or amount therefore does not qualify as rendering an ingredient as "Designated".

#### RULES CONCERNING THE USE OF DOAI IN THE SCHEDULE

For purposes of Class 514, certain rules as to patent placement have been adopted. These rules pertain only

to the subject matter in Class 514 and are not to be extrapolated to areas in Class 424.

The rules adopted pertaining to the use of the term "DOAI" are as follows:

(A) In those subclasses which recite a designated organic active ingredient (DOAI) in the title, the indented subclasses merely pertain to a further elaboration of the DOAI and do not relate to any other ingredient. An example of this is (subclass 497 in Class 514) which recites nitrogen containing and is indented under (subclass 496) which recites mercury and which in turn is indented under (subclass 492) heavy metal containing DOAI. The meaning of (subclass 497) is that an active ingredient contains both nitrogen and mercury atoms as part of a single molecule.

(B) In those subclasses which recite "with" as in (subclass 168) under a specified DOAI, such use is consistent with the term as used in other classes in that, at least two separate materials must be present, one of which is the DOAI and the other "with" ingredient. The "with" ingredient need not have an active function for Class 514 unless the subclass specifically requires an "active with ingredient" as in subclass 154.

#### EXAMPLES OF PATENT PLACEMENT WITHIN THE CLASS

##### Patentee Claims

(A) A biocide and starch as a carrier. The original classification is with the starch in subclass 778, since a chemical atom of the biocide is not recited.

(B) 2% of a biocide and starch as a carrier. Same classification as in (A) above, since 2% is not considered sufficient to be DOAI.

(C) An organic phosphorus containing biocide and starch as carrier. Original classification is on the basis of the biocide since an atom is recited. Entirely proper to look at disclosure to see the type of phosphorus compound encompassed by the term "organic phosphorus".

(D) A synergistic mixture of two biocides at least one of which is formaldehyde classifiable in subclasses 694+. The disclosure recites that the other biocide can be a organic phosphorus compound classifiable in subclasses 75+. Since the claim has only one DOAI recited (i.e., formaldehyde) original classification is in the formaldehyde species.

(E) A synergistic mixture of two biocides one of which is formaldehyde and the other is malathion. Formaldehyde is classified in subclass 694 and malathion is classified in subclass 122. The original is classified with malathion in subclass 122 as per normal classification rules.

#### RULES CONCERNING PLACEMENT OF SALTS WITHIN CLASS 514 AND SEARCH THEREFOR

##### Classification Practice

(A) Inorganic salts of organic materials are considered as organic and classified with the organic materials only, even when the organic material is not a DOAI by definition (see Glossary). No weight in the classification system is given to the inorganic material. However, when the inorganic segment of the salt is specifically claimed or disclosed as the only active segment of the salt molecule original classification is proper on the basis of the inorganic segment and cross-referenced to the organic material.

Example 1. R--R. SO<sub>4</sub>

classified on the basis of

R--R

segment only

Example 2 Organic. SO<sub>4</sub>

or

Organic pesticide. SO<sub>4</sub> classified on the basis of the disclosed organic or organic pesticide material only.

Example 3. Organic. SO<sub>4</sub>

or

Amine. SO<sub>4</sub>

Wherein activity is recited only in the SO<sub>4</sub> segment, original classification is with SO<sub>4</sub> segment, cross-reference is highly desirable with the disclosed organic or amine material.

(B) When a nonsalt DOAI material (see section 2, Glossary) as well as a salt thereof are claimed a prima facie nonrebuttal presumption is established that only the

nonsalt active material is effective, even if the salt is specifically claimed and even if different 424 utility is noted for the specific salt. The claims are classified as original with the nonsalt DOAI material and a cross-reference to the salt area, even if higher in the classification schedule is unnecessary.

(C) When an organic salt of a DOAI is solely specifically claimed (i.e., nonsalt species of material is not claimed) the following classification rules will apply:

(1) Both segments of the solely claimed salt, i.e., anion and cation, are designated

(a) both segments are claimed or disclosed as active for the utility intended, or where no evidence is shown that a particular segment is active or inactive (both through claims or disclosure), the entire molecule will be considered a DOAI and classified on the basis of the first appearing segment in the schedule hierarchy, an example of this is the treatment of amine-citric acid: original classification with citric acid is proper since both segments of the molecule are active and since amine is classified lower in the 514 schedule hierarchy then citric acid or

(b) only one particular segment is claimed or disclosed as active, the original classification is to the designated active segment and cross-referenced to the nonactive segment area if said nonactive segment is higher in the classification schedule.

(2) Only one segment of the solely claimed salt, i.e., anion or cation, is designated, the original classification is with the active segment, even if the active segment is nondesignated, e.g., "an amine salt of an organic compound" wherein the pesticide or organic compound is specifically claimed or disclosed to be active for the utility intended. Classification is on the basis of the disclosed pesticide or the organic compound and cross-referenced to the amine area if the amine is higher in the schedule hierarchy than the disclosed species of the pesticide or organic compound. However, when the nondesignated segment is claimed as "a pharmaceutically acceptable acid (or base or equivalent thereof), e.g., "an amine salt of a therapeutically acceptable or compatible acid", no weight is given to the "acceptable or compatible acid" and classification is based only on the designated segment, i.e., the amine.

##### Examination Practice

Due to the nature of the system of classification elabo-

rated above a search to be complete must at times entail searching in a multiplicity of subclasses.

(A) Claims drawn to solely a salt. Claims are classified and searched as in Classification Practice, C, above.

(B) Claims drawn to a nonsalt DOAI and also to a salt thereof, either in a dependant claim or in a Markush group. Classified only with the nonsalt species but searched in all salt species which are classified higher in the classification schedule than the nonsalt species.

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

#### CLASS 514 TERMS

The following frequently used terms in Class 514 are referenced in References to The Current Class, below. These terms have also been entered into the Index of the U.S. Patent Classification.

#### A

Acronycines; Allantion; Amantadine; Amphetamine; Ampicillin; Amprotropine; Aspirin; Atropine

#### B

Barbituric acid; Benzocaine; Benzomorphans; Biotin

#### C

Capsaicin; Cephalocporins; Chlorpheniramine; Cholecalciferol; Chrysanthemic acid; Cobalamin; Codeine; Colchicine; Cortisone; Cupreine; Cycloheximide; Cyproheptadine; Cysteine ester

#### D

DDT; DDVP; Dextromethorphan; Dyphylline

#### E

Ephedrine; Estradiol;

#### F

Fluspirilene

#### G

Glaucine; Glucamine; Griseofulvin

#### H

Hexachlorophene; Hydrocortisone

#### I

Isoniazid

#### M

Malathion; Melatonin; Meperidine; Methadone; Methapyrilene; Methomyl; Morphinans; Morphine;

#### N

Nandrolone; Niacinamide; Nortestosterone

#### O

Oxolinic acid

#### P

Parathion; Pencillin G; Perimidines; Phenylephrine; Phenyltoloxamine; Pilocarpine; Pimozide; Piromidic acid; Perdnisolone; Procaine; Progesterone; Psoralen; Pteridine; Purines

#### Q

Quinicine; Quinidine; Quinine; Quinoxaline

#### R

Riboflavins

#### S

Salinomycin; Scopolamine

#### T

Tartaric acid; Tetracycline; Theophilline; Thiamines; Tocopherois; Tryptophan; Tyrosine; Tripeleennamine

#### U

Uracil

V

Vinblastine; Vincamine; Viquidil

### SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS

SEE OR SEARCH THIS CLASS, SUBCLASS:

52, Cobalamin  
 122, Malathion  
 132, Parathion  
 136, DDVP  
 152, Tetracycline  
 167, Cholecalciferol  
 165, Aspirin  
 178, Nortestosterone  
 179, Hydrocortisone  
 179, Cortisone  
 178+, Nandrolone  
 179, Perdnisolone  
 177, Progesterone  
 182, Estradiol  
 198, Ampicillin  
 199, Pencillin G  
 200+, Cephalocporins  
 249, Pteridine  
 249, Quinoxaline  
 251, Riboflavins  
 263.1 through 263.4, Purines  
 263.34, Theophylline  
 263.36, Dyphylline  
 269, Perimidines  
 270, Barbituric acid  
 274, Uracil  
 276, Thiamines  
 278, Fluspirilene  
 282, Codeine  
 283, Vincamine  
 283, Vinblastine  
 285, Acronycines  
 282, Morphine  
 284, Glaucine  
 289, Dextromethorphan  
 289, Morphinans  
 291, Oxolinic acid  
 291, Scopolamine  
 295, Benzomorphans  
 303, Piromidic acid  
 305, Cupreine  
 305, Quinidine

305, Quinine  
 314, Quinicine  
 314, Viquidil  
 323, Pimozide  
 325, Cyproheptadine  
 328, Cycloheximide  
 330, Meperidine  
 336, Methapyrilene  
 352, Tripelennamine  
 354, Isoniazid  
 355, Niacinamide  
 357, Chlorpheniramine  
 387, Biotin  
 390, Allantion  
 397, Pilocarpine  
 415, Melatonin  
 419, Tryptophan  
 455, Psoralen  
 458, Tocopherois  
 460, Salinomycin  
 462, Griseofulvin  
 477, Methomyl  
 534, Amprotropine  
 534, Atropine  
 535, Benzocaine  
 535, Procaine  
 550, Cysteine ester  
 567, Tyrosine  
 572, Chrysanthemic acid  
 574, Tartaric acid  
 627, Capsaicin  
 629, Colchicine  
 648, Methadone  
 651, Phenyltoloxamine  
 653, Ephedrine  
 653, Phenylephrine  
 654, Amphetamine  
 656, Amantadine  
 669, Glucamine  
 735, Hexachlorophene  
 748, DDT

### SECTION IV - GLOSSARY

The following terms have been used in a number of subclass titles throughout Class 514. For convenience, these often used terms have been arranged into a Glossary. When any of these terms is used in particular subclass titles in Class 514, their meaning is to be consistent with the meaning in this Glossary.

#### ACYCLIC

Denotes a compound devoid of any ring-containing moiety. Thus an acyclic chain may contain any atom as long as it is not a member of a ring.

#### ALCOHOL

Denotes an organic compound having the general structure C-OH wherein the carbon atom bound to the oxygen atom of the hydroxyl group cannot be double bonded to oxygen, sulfur, selenium, or tellurium or triple bonded to nitrogen. The terms as used herein includes phenols.

#### ALDEHYDE

Denotes an organic compound having the general structure  $\text{-C}[\text{C}(=\text{O})]_n\text{-H}$  or  $\text{H}[\text{C}(=\text{O})]_n\text{-H}$  (n is 1 or more and wherein the carbon atom bonded to the  $[\text{C}(=\text{O})]_n$  group is not double bonded to oxygen, sulfur, selenium, or tellurium, or triple bonded to nitrogen).

#### ALICYCLIC RING OR RING SYSTEM

This term denotes a carbocyclic ring which is not a benzene ring or a polycyclo carbocyclic ring system which does not have a benzene ring as one of the cyclos.

#### AMINE-

Denotes an organic compound having a nitrogen atom single or double bonded to a carbon atom and wherein the carbon atom bonded to the nitrogen atom is devoid of a double bond to oxygen, sulfur, selenium, or tellurium or triple bonded to nitrogen. In addition, those compounds wherein the same nitrogen atom is bonded to a  $\text{-C}(=\text{X})\text{-}$  group (X is O, S, Se, or Te) and to a carbon atom which is not double bonded to oxygen, sulfur, selenium, or tellurium, are not considered as being amines, e.g.,



Although amides may be considered chemically as amines, it has been found expedient for this class to exclude compounds containing only amide nitrogen herefrom. Therefore, as used throughout this area, the term amide is not to be confused as being an amine. A compound, however, which contains a nitrogen atom bonded to a non  $\text{-C}(=\text{X})\text{-}$  carbon atom and which contains either a nitrogen atom bonded to a  $\text{-C}(=\text{X})\text{-}$  group or an amide group, is considered as being an amine.

#### AMINO NITROGEN

Denotes any nitrogen in an organic compound other than a nitrogen in an inorganic ion of an addition salt, a nitro ( $\text{-NO}_2$ ) or nitroso ( $\text{-NO}$ ). Component parts of an "adduct" will be considered to be attached to each other ionically except if it is clear that the mode of attachment is nonionic.

#### ARYL RING OR RING SYSTEM

This term denotes a benzene ring or a polycyclo carbocyclic ring system having a benzene ring as one of the cyclos.

#### ATTACHED DIRECTLY OR BONDED DIRECTLY

These terms are used to show that specified moieties are connected by bonds only.

#### ATTACHED INDIRECTLY

This term denotes that at least one atom, as well as bond, connects specified moieties.

#### BENZENE RING

This term includes in all cases except where there are explicit limitations to the contrary, substituted benzene rings, including substitution in the form of an additional fused or bridged ring or ring system.

#### BICYCLO RING SYSTEM

This term denotes a polycyclo ring system which contains exactly two rings.

#### CARBOCYCLIC

This term denotes a ring or ring system where all ring members are carbons.

#### CHAIN

This term denotes a plurality of atoms which connect specified groups or atoms. The atoms of the chain must be nonionically attached to each other and to the specified groups or atoms. If the chain may not include any ring members it will be designated as acyclic. When the chain may include ring members the title will state that the chain may include a ring. The chain ends where it attaches to the specified groups or atoms and does not

include any part of them. The chain may have substituents but the substituents are not part of the chain.

#### DESIGNATED ELEMENTAL NONACTIVE INGREDIENT

Denotes an elemental material either metallic or nonmetallic and which is identified by its chemical nature, e.g., iron, silver, etc., or is identified in a generic manner, e.g., alkali metal atom, etc. The term nonactive as used herein denotes the absence of any physiological, pharmacological or biological affect attributed to the elemental material.

#### DESIGNATED INORGANIC NONACTIVE INGREDIENT

Denotes an inorganic compound which is identified by at least one chemical atom, e.g., sodium-containing, etc., or is identified as a generic type of inorganic chemical compound, e.g., alkali metal-containing, etc. The term nonactive as used herein denotes the absence of any physiological, pharmacological or biological affect attributed to the inorganic material.

#### DESIGNATED ORGANIC ACTIVE INGREDIENT (DOAI) DENOTES

(1) The active ingredient is identified by at least one chemical atom, e.g., organic phosphorus compound, etc., or (2) The active ingredient is identified as a generic type of chemical atom, e.g., alcohol, ether, etc. The term active denotes the presence of a physiological, pharmacological or biological affect.

#### DESIGNATED ORGANIC NONACTIVE INGREDIENT DENOTES

(1) A nonactive ingredient is identified by at least one chemical atom or (2) the nonactive ingredient is identified as a generic type of chemical compound, e.g., starch, etc. The term nonactive denotes the absence of any physiological, pharmacological or biological affect attributed to the organic material.

#### ETHER

Denotes an organic compound having oxygen bonded directly to two carbon atoms, which carbons cannot be double bonded to oxygen, sulfur, selenium, or tellurium, or triple bonded to nitrogen.

#### FATTY ACID

Denotes an aliphatic monocarboxylic acid having an unbroken chain of at least seven carbon atoms bonded to the carboxyl group.

#### FUSED OR BRIDGED RING SYSTEM

Denotes a ring system having at least two rings which (a) share with each other two adjacent ring atoms, or (b) share with each other three or more ring atoms and wherein each ring having shared atoms is either a heterocyclic ring or a carbocyclic ring.

#### HALOGENATED HYDROCARBON

Denotes a compound containing only carbon, hydrogen, and halogen, or only carbon and halogen.

#### HETERO RING

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.

#### INCLUDING HYDROGENATED

Denotes that a ring system which by definition has ring unsaturation possesses a degree of saturation which may be different than the ring system definition would normally indicate.

#### KETONE (INCLUDING KETENE)

Denotes an organic compound having the general structure  $-C-[C(=O)]_n-C-$  (n is 1 or more) and wherein the carbon atoms bonded to the  $-[C(=O)]_n$  group are not double bonded to oxygen, sulfur, selenium, or tellurium. Ketone as used throughout includes ketene.

#### NONIONIC BONDING

As used in regard to bonding or attachment of specified moieties denotes the absence of ionic bonding between the moieties. If the moieties are attached directly, the bonds between them must be covalent or coordinate. If the moieties are attached indirectly, each atom of the connecting chain must be attached by covalent or coordinate bonding to another atom of the connecting chain or to one of the moieties. However, the connecting chain may have substituents thereon which include ionic bonding. Some examples will be given of compounds which could be classified in a subclass having the fol-





























































































































































































































































































































































