**57.7 P-type or n-type silicon containing (e.g., silicon doped with a Group IIIa or a Group Va element):**

This subclass is indented under subclass 57. Subject matter .4 wherein the silicon is of p-type or n-type, e.g., doped with a Group IIIa (e.g., Boron, Aluminum, Gallium, etc.) or a Group Va (e.g., Nitrogen, Phosphorus, or Arsenic, etc.) element to give p (positive)-type or n (negative)-type conduction property.

**57.8 Inorganic selenium (Se) (e.g., elemental selenium, selenium alloy, or inorganic compound thereof):**

This subclass is indented under subclass 57.2. Subject matter wherein a charge generation layer contains selenium, e.g., elemental, alloyed, inorganic compound, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:

85, for single layer alloy containing compositions.

SEE OR SEARCH CLASS:

257, Active Solid-State Devices (e.g., Transistors, Solid-State Diodes), subclasses 53 through 56 and subclasses 431-466 for and subclasses 431 for light responsive semiconductor devices containing selenium or its alloys.

**58.05 Charge transport layer:**

This subclass is indented under subclass 57.1. Subject matter having an identified layer facilitating transport of a charge, e.g., hole or electron movement.

**58.1 Inorganic charge transport layer:**

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer consists of inorganic material (e.g. doped amorphous carbon, metallic alloy, etc.).

**58.15 Sulfur containing hetero ring in charge transport layer:**

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer has a sulfur hetero ring compound (e.g., thiophene, phenothiazine, thiazole, etc.).

**58.2 Organosilicon or organogermanium in charge transport layer:**

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer contains an organogermanium or an organosilicon compound, i.e., a compound wherein silicon or germanium is attached directly or indirectly by non-ionic bonding to carbon of an organic radical.

**58.25 Cyclic ketone, cyclodicyanomethylene, or cyclomethylenemalonate in charge transport layer:**

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer contains a cyclic ketone compound, e.g., quinones O=ring=O; a polycyclic ring ketone, e.g., O= condensed rings, etc.; a cyclodicyanomethylene, e.g., $(NC)_2C$=ring; or a cyclomethylenemalonate (ROCO)2C=ring wherein ring includes C to C unstauration (e.g., C=C) and R is alkyl or H.

**58.3 Containing at least three aryl groups bonded to a single carbon atom in charge transport layer:**

This subclass is indented under subclass 58.05. Subject matter wherein the charge transport layer contains a compound having at least three aryl rings bonded to a carbon atom, e.g., $R'_3CR$, wherein R' is an aryl group, and R is hydrogen or a carbon containing radical.

(1) Note. Aryl denotes an organic radical derived from an aromatic ring by removal of a hydrogen atom bonded to a ring carbon of the ring system.

**58.35 Organic nitrogen in charge transport layer:**

Subject matter under subclass QuickMark QuickMark 58.05 wherein the charge transport layer contains an organic nitrogen compound, e.g. amine ($RNR'_2$), cyano (RCN) or nitro ($RNO_2$), etc. wherein R is an organic radical and R' is H or an organic radical.

**58.4 Hydrazone compound:**

This subclass is indented under subclass 58.35. Subject matter wherein the organic nitrogen compound is a hydrazone compound, i.e., compound of the formula $R_2N\text{-}N{=}CR_2$, wherein: R is H, or an organic carbon containing radical

with at least one R being an organic carbon containing radical.

**58.45 Additional nitrogen attached indirectly to the hydrazone group by nonionic bonding:**
This subclass is indented under subclass 58.4. Subject matter wherein the hydrazone compound includes an additional nitrogen that is bonded indirectly (e.g., additional nitrogen may be in a hetero ring, an additional hydrazone group, etc.) to the hydrazone group by nonionic bonding.

**58.5 Nitrogen hetero ring compound:**
This subclass is indented under subclass 58.35. Subject matter wherein the charge transport layer contains a compound having a nitrogen-containing hetero ring (i.e. nitrogen is in a ring which may contain more than one hetero atom), e.g., oxazoles, oxadiazoles, triazoles, phthalocyanines, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
75-82, for compositions containing nitrogen containing hetero rings.

**58.55 Pyrazole containing (e.g., including hydrogenated pyrazole, etc.):**
This subclass is indented under subclass 58.5. Subject matter wherein the nitrogen containing hetero ring is a pyrazole or a hydrogenated pyrazole, i.e., five member hetero ring containing N-N in 1,2 positions of the hetero ring.

**58.6 Carbazole containing or derivative:**
This subclass is indented under subclass 58.5. Subject matter wherein the nitrogen containing hetero ring is a carbazole or a hydrogenated carbazole.

SEE OR SEARCH THIS CLASS, SUBCLASS:
79-82, for carbazole containing radiation conductive compositions.

**58.65 Arylamine compound:**
This subclass is indented under subclass 58.35. Subject matter wherein the charge transport layer contains a compound having an arylamine group, i.e., compounds of the formula $R_2NR'$ wherein: R' is an aryl group, and R is hydrogen, or a carbon containing radical.

(1) Note. Aryl denotes an organic radical derived from an aromatic hydrocarbon, which can be a five, six, or seven member ring system, by removal of one atom.

**58.7 Polymeric arylamine containing:**
This subclass is indented under subclass 58.65. Subject matter wherein the charge transport layer contains an arylamine polymer, i.e., a long chain structure with repeating units that include an arylamine grouping, e.g., included in this subclass are polymers having multiple arylamine side groups attached to a polymeric backbone, and polymers having arylamines in the backbone.

**58.75 Triamine, or diamine containing:**
This subclass is indented under subclass 58.65. Subject matter wherein the arylamine has two or three nitrogen, e.g., of the formula $R_2N$-R'-$NR_2$ wherein: R is an aromatic group R is hydrogen, or a carbon containing radical, etc.

**58.8 1,1'-biphenyl 4,4'-diamine containing (e.g., benzidine, etc.):**
This subclass is indented under subclass 58.75. Subject matter wherein the charge transport layer contains the diamine $R_2N$-Ph-Ph-$NR_2$, wherein: Ph-Ph is biphenylene R is hydrogen or a carbon containing radical.

**58.85 Charge transport layer containing alkenylarylamine:**
This subclass is indented under subclass 58.65. Subject matter wherein the charge transport layer containing arylamine compound having an alkenyl group bonded, directly or indirectly, to the nitrogen (e.g., compounds having the formula $R_2N$-R'-$CR=CR_2$, wherein: R' is an arylene group R is hydrogen or a carbon containing radical.

**59.1 And specified charge generator layer:**
This subclass is indented under subclass 58.05. Subject matter setting forth at least a component of the charge generator layer composition.

**59.2 Charge generator layer contains compound having an acyclic azo group (i.e., -N=N-):**
This subclass is indented under subclass 59.1. Subject matter wherein the charge generator layer contains a compound having an acyclic

azo group wherein the azo group is not part of a hetero ring, e.g., compounds of the formula R'-N=N-R', wherein: R' is an aryl group, etc.

**59.3 Compound having an acyclic azo group and having either an azomethine (i.e., -CH=N) or a stilbene group; or a compound having three or more azo groups in charge generator layer:**
This subclass is indented under subclass 59.2. Subject matter wherein the azo compound of the charge generator layer has at least three azo groups, or azomethine group, i.e., N=CH -, or a stilbene group (i.e.-Ph-CR=CR-Ph- wherein Ph is a phenylene group).

**59.4 Phthalocyanine or phthalocyanine derivative compound in charge generator layer:**
This subclass is indented under subclass 59.1. Subject matter wherein the charge generator layer contains a phthalocyanine or derivative, e.g., nonmetal or metal-containing phthalocyanine compound.

SEE OR SEARCH THIS CLASS, SUBCLASS:
78-82, for phthalocyanine containing radiation conductive charge generator compositions.

**59.5 Titanium (Ti) or vanadium (V) phthalocyanine containing:**
This subclass is indented under subclass 59.4. Subject matter wherein the phthalocyanine in the charge generator layer contains a titanium (Ti) or vanadium (V) as the central metal of the phthalocyanine.

**59.6 With specified binder resin in charge transport layer:**
This subclass is indented under subclass 58.05. Subject matter wherein the material holding the charge transport layer together is a natural or synthetic resin.

SEE OR SEARCH THIS CLASS, SUBCLASS:
96, when only a binder resin is specified.

**60 Product having layer between radiation-conductive layer and base or support:**
This subclass is indented under subclass 56. Products wherein said specifically named or identified by chemical or physical product contains a layer between a radiationconductive layer and a base or support.

**61 Sensitizing layer:**
This subclass is indented under subclass 60. Products containing a layer specifically named or identified by chemical or physical structure which extends the range of the spectral response of a radiation-conductive layer or increases the radiation sensitivity of a radiation conducting layer in the spectral region of inherent sensitivity or regions to which said layer is spectrally sensitized between a radiation-conductive layer and a base or support.

**62 Conductive layer:**
This subclass is indented under subclass 60. Products containing a conductive layer specifically named or identified by chemical or physical structure between a radiation-conductive layer and a base or support.

**63 Inorganic containing:**
This subclass is indented under subclass 62. Products wherein the conductive layer is nonorganic or contains nonorganic material.

**64 Blocking or barrier layer:**
This subclass is indented under subclass 60. Products containing a blocking or barrier layer, e.g., a layer which retards dark decay, specifically named or identified by chemical or physical structure between a radiation-conductive layer and a base or support.

**65 Inorganic containing:**
This subclass is indented under subclass 64. Products wherein the blocking or barrier layer is nonorganic or contains nonorganic material.

**66 Product having overlayer on radiation-conductive layer:**
This subclass is indented under subclass 56. Products containing an over-layer, i.e., a top coat layer, specifically named or identified by chemical or physical structure on a radiation-conductive layer relative to the position of a radiation-conductive layer and a base or support.

**67 Electrically insulating overlayer:**
This subclass is indented under subclass 66. Products containing an electrically insulating overlayer specifically named or identified by chemical or physical structure.

**68 Including radiation-conductive screen:**
This subclass is indented under subclass 56. Products having grid or screen portions and interstices with the radiation-conductive layer on the grid or screen portions only.

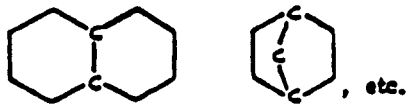
SEE OR SEARCH THIS CLASS, SUBCLASS:
6+, for screens, per se, and method of making the same.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, subclasses 168+ for charging, and subclasses 177+ for exposure, particularly subclass 181 for halftone image.

**69 Including conductive base or support:**
This subclass is indented under subclass 56. Products containing a substrate specifically named or defined by chemical or physical structure and is conductive.

**70 Radiation-conductive composition contains carbocyclic ring only:**
This subclass is indented under subclass 56. Compositions containing an organic radiation-conductive material specifically named or identified by chemical structure and which is a compound, polymer, or resin, etc., having only homocyclic ring(s) in which all ring atoms are carbon.

**71 Polycyclo ring system:**
This subclass is indented under subclass 70. Compositions wherein the homocyclic ring containing compound, etc., is polycyclic with at least two rings having two carbon atoms in common, e.g.,




**72 Substituted:**
This subclass is indented under subclass 71. Compositions wherein the polycyclic ring containing compound, polymer, resin, etc., is substituted, i.e., has an atom replaced by another atom or radical, on the ring.

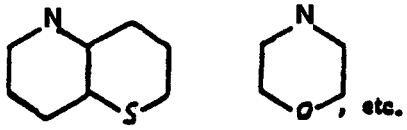
**73 Containing amino or substituted amino group:**
This subclass is indented under subclass 70. Compositions wherein the homocyclic ring containing compound, polymer, or resin, etc., includes an amino or substituted amino group.

**74 Alkyl amino group:**
This subclass is indented under subclass 73. Compositions wherein the amino or substituted amino group is an amine containing alkyl group attached to an amino nitrogen atom.

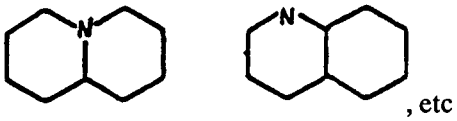
**75 Radiation-conductive composition contains hetero ring:**
This subclass is indented under subclass 56. Compositions containing an organic radiation-conductive material, e.g., compound, polymer, or resin, etc., having a ring which contains an atom other than carbon in its nucleus, i.e., a hetero atom.

**76 The hetero ring has at least nitrogen as a ring hetero atom:**
This subclass is indented under subclass 75. Compositions wherein at least one hetero atom present is N atom.

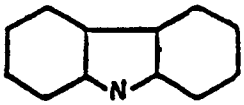
**77 Additional diverse ring hetero atom in the hetero ring:**
This subclass is indented under subclass 76. Compositions wherein the N-hetero atom ring containing compound, etc., contains a hetero atom other than nitrogen, e.g.,




**78** **Polycyclo ring system having the hetero ring as one of the cyclo systems:**
This subclass is indented under subclass 76. Compositions wherein the N-hetero atom containing compound, etc., are polycyclic with at least two rings having two atoms in common, e.g.,




**79** **Carbazole:**
This subclass is indented under subclass 78. Compositions wherein the polycyclic ring containing compound, etc., contains a carbazole moiety.




**80** **Polymer or synthetic resin only:**
This subclass is indented under subclass 79. Compositions wherein the carbazole moiety containing compound, etc., is part of a polymer or synthetic resin only.

**81** **Sensitized or doped:**
This subclass is indented under subclass 79. Compositions wherein the carbazole moiety containing compound, etc., contains a material which is specifically named or identified by chemical structure which extends the range of spectral response or increases the radiation sensitivity in the spectral region of inherent sensitivity or regions to which said compound, etc., is spectrally sensitized.

**82** **Dye or pigment:**
This subclass is indented under subclass 81. Compositions in the form of a dye or pigment.

**83** **Sensitized or doped organic radiation conductor:**
This subclass is indented under subclass 56. Compositions containing a material specifically named or identified by chemical structure which extends the range of spectral response or increases the radiation sensitivity in the region of inherent sensitivity or in regions to which said composition is spectrally sensitized.

**84** **Inorganic radiation conductive composition:**
This subclass is indented under subclass 56. Compositions containing an inorganic radiation-conductive material specifically named or identified by chemical structure.

**85** **Alloy:**
This subclass is indented under subclass 84. Compositions in the form of a mixture of two metallic or nonmetallic elements having a metallic appearance and being a molecular or colloidal mixture.

**86** **Having more than two constituents:**
This subclass is indented under subclass 85. Compositions containing more than two metallic or nonmetallic elements in the mixture.

**87** **Zinc containing:**
This subclass is indented under subclass 84. Compositions wherein a zinc material is the radiation conductor.

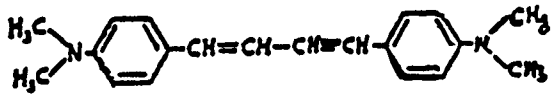
**88** **And other radiation-conductor material:**
This subclass is indented under subclass 87. Compositions containing a radiation-conductive material other than zinc material.

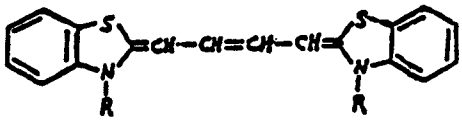
**89** **And nonsensitizing additive other than binder:**
This subclass is indented under subclass 87. Compositions containing a material, specifically named or identified by physical or chemical structure, which does not extend the range of spectral response of the zinc material other than a binder material.

**90 Sensitized or doped:**
This subclass is indented under subclass 87. Compositions containing a material specifically named or identified by chemical structure which extends the range of spectral response or increases the radiation sensitivity in the region of inherent sensitivity or in regions to which said composition is spectrally sensitized.

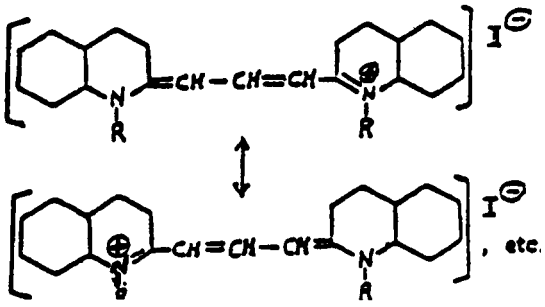
**91 Dye or pigment:**
This subclass is indented under subclass 90. Compositions in the form of a dye or pigment.

**92 Intercyclic-acyclic -CH= or Intercyclic-acyclic chain which contains -CH=:**
This subclass is indented under subclass 91. Compositions containing intercyclic-acyclic -CH= or intercyclic-acyclic chain which contains -CH=,





**93 Cyanine dye:**
This subclass is indented under subclass 92. Compositions in the form of a compound which contains two distinct heterocyclic rings, each individual heterocyclic ring containing at least one nitrogen atom, said nitrogen atoms of the individual rings being joined through a resonating acyclic carbon chain which contains -CH= or a conjugated chain which contains -CH=, e.g.,



**94 Cadmium containing:**
This subclass is indented under subclass 84. Compositions containing a cadmium material as the radiation conductor.

**95 Sensitized or doped:**
This subclass is indented under subclass 84. Compositions containing a material specifically named or identified by chemical structure which extends the range of spectral response or increases the radiation sensitivity, in the region of inherent sensitivity or in region to which said composition is spectrally sensitized.

**96 Binder for radiation-conductive composition:**
This subclass is indented under subclass 56. Compositions containing a material specifically named or identified by chemical structure and functioning to hold the composition together.

**97 Post imaging process, finishing or perfecting composition or product:**
This subclass is indented under subclass 31. Processes wherein the latent or visible image in or on a medium is subject to a finishing or perfecting procedure, and finishing or perfecting composition and products used in the process.

**100 Reversal development:**
This subclass is indented under subclass 97. Processes wherein the finishing procedure or the medium being imaged is modified to reverse the location of the developed image. Usually the developed image is a positive print.

**101 Impression development:**
This subclass is indented under subclass 97. Processes wherein the latent image is developed by direct surface-to-surface transfer of dry powder toner to the medium. Usually the toner need not carry an electrical charge. Such developing procedures as roller, contact, touchdown, donor, and transfer developing techniques are included.

**102 Selective toner release:**
This subclass is indented under subclass 97. Processes wherein a member carrying a uniform layer of a toner is selectively released to a separate donor member based upon differences in the amount of radiation received by the medium.

**103 Using development electrode:**
This subclass is indented under subclass 97. Processes wherein the image is developed using a separate electrode which is either electronically shortened to the image carrying medium or has an electrical potential different from the image during development.

**104 Finishing or perfecting composition or product:**
This subclass is indented under subclass 97. Compositions and products useful in finishing or perfecting an image medium. Includes such finishing and perfecting processes as developing, fixing, and transferring of the image.

**105 Developing composition or product:**
This subclass is indented under subclass 104. Compositions or products used to develop the image medium.

**106.1 Dry toner containing a chemically identified magnetic component:**
This subclass is indented under subclass 105. Subject matter containing chemically identified material, that is magnetized or has active magnetic susceptibility, in a toner (e.g., ferrite, etc.).

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

**106.2 Binary ferric or ferrous oxide containing magnetic component:**
This subclass is indented under subclass 106.1. Subject matter wherein the magnetic component contains trivalent (Fe +3) iron oxide ($Fe_20_3$), or divalent (Fe +2) iron oxide (Fe0).

**106.3 Elemental metal or alloy magnetic component:**
This subclass is indented under subclass 106.1. Subject matter wherein the magnetic component is a metal in elemental form or in form of an alloy.

**107.1 Dry multicolor toner (i.e., composition containing more than one colored toner, (e.g., cyan, magenta, and yellow toners, etc.)) with a chemically identified colorant or colorant identified by color:**
This subclass is indented under subclass 105. Subject matter wherein a plurality of differently colored dry toners, with a chemically identified colorant or with a colorant identified by its color, are in association.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:
45.1, through 45.56, for multicolor imaging processes with a named developing composition.

**108.1 Dry toner with chemically identified adjuvant (e.g. charge control agent, colorant, etc.):**
This subclass is indented under subclass 105. Subject matter wherein a chemically identified material specified to enhance toner effectiveness is present in or on the surface of a toner.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.1, for carrier particles mixed with toner.

**108.11 Fluorine compound adjuvant:**
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is a compound containing fluorine.

**108.14 Fluorophosphate salt or fluoroborate salt adjuvant:**
This subclass is indented under subclass 108.11. Subject Matter wherein the adjuvant is a salt containing a fluorophosphate or fluoroborate anion.

**108.15 Organic fluorine compound adjuvant containing either nitrogen or phosphorus:**
This subclass is indented under subclass 108.11. Subject matter wherein the adjuvant is an organic fluorine compound that also contains nitrogen or phosphorus.

**108.2 Organic nitrogen or organic phosphorus compound adjuvant:**
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an organic nitrogen or phosphorus-containing compound (e.g. $R_3P$, wherein R is an organic group, etc.).

**108.21 Plural nitrogen or phosphorus atoms attached directly or indirectly to each other by nonionic bonding in the adjuvant:**
This subclass is indented under subclass 108.2. Subject matter wherein the adjuvant contains more than one nitrogen or more than one phosphorus atom attached directly or indirectly to each other by non-ionic bonding.

**108.22 As a nitrogen- or phosphorus-containing polymer:**
This subclass is indented under subclass 108.21. Subject matter wherein the adjuvant is an organic polymer containing either nitrogen (N) or phosphorus (P).

**108.23 Azo containing adjuvant:**
This subclass is indented under subclass 108.21. Subject matter wherein the adjuvant has an azo group (-N=N-).

**108.24 Heavy metal, aluminum, or silicon in the nitrogen or phosphorus compound:**
This subclass is indented under subclass 108.2. Subject matter wherein the organic nitrogen or phosphorus compound adjuvant also contains a heavy metal, aluminum (Al), or silicon (Si) in the compound.

(1) Note. The term 'heavy metal' as used here means a metal having a specific gravity greater than four.

(2) Note. Chelate compounds are included in this subclass.

**108.3 Organic heavy metal, aluminum, or silicon compound adjuvant:**
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an organic compound having a heavy metal, aluminum (Al), or silicon (Si).

(1) Note. The term 'heavy metal' as used here means a metal having a specific gravity greater than four.

(2) Note. Chelate compounds are included in this subclass.

**108.4 Carboxylic acid or ester compound adjuvant:**
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an organic carboxylic acid, (i.e., an organic acid containing the COOH group), or an ester of a carboxylic acid.

**108.5 Organic sulfur compound adjuvant:**
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an organic sulfur compound (e.g., a thiol, a sulfone, a sulfonate ester, etc.).

**108.6 Metal oxide compound adjuvant (e.g., $Al_2O_3$, $TiO_2$, etc.):**
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is a metal oxide.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106.1, for toners with a magnetic component.

**108.7 Inorganic silicon compound adjuvant:**
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant is an inorganic silicon compound (e.g., silica, etc.).

**108.8 Hydrocarbon wax-containing adjuvant:**
This subclass is indented under subclass 108.1. Subject matter wherein the adjuvant contains a wax compound containing only hydrogen and carbon atoms.

SEE OR SEARCH THIS CLASS, SUBCLASS:
108.4, for adjuvants that are waxes having carboxylic acid or ester groups.

**108.9 Identified carbon black adjuvant:**
This subclass is indented under subclass 108.1. Subject matter wherein the chemically identified material enhancing the toner is an identified carbon black (e.g., lamp black, grafted carbon black, carbon black with a certain property, etc.).

(1) Note. The mere recitation of 'carbon black', without further limitation, is not sufficient to be classified here. Any further qualification of "carbon black" will be sufficient to render it "identified".

(1) Note. The carbon black frequently serves as a colorant.

**109.1 Dry toner having chemically identified binder:**
This subclass is indented under subclass 105. Subject matter wherein a chemically identified material is specified to hold together toner materials (e.g., colorant and charge control agent, etc.).

(1) Note. Binders are usually polymeric compounds.

(2) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:
110.1, for specified toner binder structure (e.g., domain-matrix structure, etc.).
110.2, for toners having a specified core or shell polymer.

**109.2 Epoxy or oxirane compound (e.g., glycidyl, etc.) binder:**
This subclass is indented under subclass 109.1. Subject matter wherein the binder is a compound containing an epoxy or oxirane groups.

**109.3 Vinyl addition binder (e.g., methacrylate, styrene, vinyl chloride addition products, etc.):**
This subclass is indented under subclass 109.1. Subject matter wherein the binder is a vinyl addition product.

(1) Note. A vinyl addition product is a product formed by the reaction of plural same or different olefinically unsaturated monomer molecules by addition across their olefinic double bonds.

**109.31 Covalent nitrogen in the vinyl addition binder:**
This subclass is indented under subclass 109.3. Subject matter where the vinyl addition binder contains covalently bonded nitrogen (e.g., acrylamide, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
110.2, for toner shell polymers made from nitrogen-containing polymers.

**109.4 Polyester backbone binder (e.g., condensation reaction product, etc.):**
This subclass is indented under subclass 109.1. Subject matter wherein the binder contains ester groups in the polymeric backbone (e.g., bisphenol-A polyester, polycaprolactone, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
109.1, for polycarbonate binders.
109.3, for poly(meth)acrylic-type binders.

**109.5 Organic nitrogen containing binder (e.g., polyamide, etc.):**
This subclass is indented under subclass 109.1. Subject matter wherein a binder has an organic nitrogen-containing moiety (e.g., polyimine, polyamide, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
108.22, for a toner containing an adjuvant which is an organic polymer containing nitrogen.
109.31, for a toner having a nitrogen-containing vinyl-addition binder.
110.2, for toner shell polymer made from nitrogen-containing polymer.

**110.1 Identified dry toner physical structure:**
This subclass is indented under subclass 105. Subject matter wherein a dry toner has a specified physical structure (e.g., domain-matrix binder, etc.).

**110.2 Core-shell structure;**
This subclass is indented under subclass 110.1. Subject matter wherein a core material is encapsulated by a solid shell material.

(1) Note. The shell must differ chemically or physically from the core material e.g., liquid core with solid shell, etc.

**110.3 Identified toner shape (e.g., recited shape parameter, etc.):**
This subclass is indented under subclass 110.1. Subject matter wherein the toner has a numerically or descriptively identified shape (e.g., spherical toner, flat toner, etc.).

**110.4 Having specified toner particle size distribution:**
This subclass is indented under subclass 110.1. Subject matter wherein the toner s particle size distribution is numerically identified (e.g., toner size distribution = $D_v/D_n$ where $D_v$ and $D_n$ are respectively the volume average and the number average particle size of the toner).

(1) Note. Recitation of average particle size alone is not sufficient for classification here.

**111.1 Chemically identified carrier for dry toner:**
This subclass is indented under subclass 105. Subject matter wherein a particulate carrier composition has a chemically identified material which attaches to a dry toner material (i.e., triboelectrical attachment) for conveying or transporting the toner.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

**111.2 Glass-containing carrier:**
This subclass is indented under subclass 111.1. Subject matter wherein the carrier contains glass, e.g. contains borosilicate, etc.

**111.3 Magnetic carrier:**
This subclass is indented under subclass 111.1. Subject matter wherein the carrier is identified as being magnetic.

**111.31 Ferrite containing magnetic carrier:**
This subclass is indented under subclass 111.3. Subject matter wherein the magnetic carrier contains a ferrite compound.

(1) Note. Ferrites have the following formula: $(MO)_xFe_2O_3$, wherein MO is at least one metal oxide (e.g., FeO, $Li_2O$, TiO, etc.).

**111.32 Ferrite core-resin shell carrier:**
This subclass is indented under subclass 111.31. Subject matter wherein the ferrite carrier is encased by a solid outer resin covering.

**111.33 The ferrite contains nonferrous metal oxide:**
This subclass is indented under subclass 111.32. Subject matter wherein the "MO" in the ferrite has been chemically identified as other than ferrous oxide.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.32, for a magnetite core with a resin shell.

**111.34 Chemically identified elemental magnetic metal or magnetic alloy carrier:**
This subclass is indented under subclass 111.3. Subject matter wherein the carrier contains an elemental magnetic metal (i.e. iron, nickel, or cobalt), or an alloy thereof (e.g. steel, AlNiCo, etc.).

**111.35 Chemically or physically identified binder or coating resin for magnetic carrier:**
This subclass is indented under subclass 111.3. Subject matter wherein a binder resin or coating resin for the magnetic carrier has been identified chemically or by physical property.

(1) Note. The expression "chemically identified" means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

**111.4 Identified physical parameter of carrier particle or dry toner particle, etc. (Tg, MW, coercivity, density, etc.):**
This subclass is indented under subclass 105. Subject matter wherein the carrier or dry toner particles (including adjuvants, e.g., $SiO_2$, etc.) contain an ingredient identified by a physical property.

**111.41 Electrical or magnetic parameter:**
This subclass is indented under subclass 111.4. Subject matter where the carrier or dry toner particle has a specified electrical or specified magnetic measure factor.

**112 Liquid:**
This subclass is indented under subclass 105. Compositions wherein material from a liquid medium is applied to develop the imaged medium.

**113 Multiple phase liquid carrier medium, i.e., emulsion:**
This subclass is indented under subclass 112. Compositions wherein the liquid carrier of the composition is in the form of more than one phase during development such as an emulsion.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**114 Identified toner, i.e., identified resin coated pigment, etc.:**
This subclass is indented under subclass 112. Compositions having a chemically identified ingredient that deposits upon the imaged medium during development, e.g., a novolak resin coated pigment.

**115 Identified adjuvant, i.e., surfactant, etc.:**
This subclass is indented under subclass 112. Compositions having an additional chemically identified ingredient that modifies the chemical, physical, or electrical properties of the developer composition, e.g., a surfactant.

**116 Identified liquid carrier:**
This subclass is indented under subclass 112. Compositions wherein the liquid ingredient (which usually electrically insulated, carries the toner, and is not deposited upon the imaged medium during development) is chemically identified.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, and subclasses 222+ for development, particularly subclasses 237+ for electrophotographic apparatus employing this type of subject matter.

**117.1 Liquid development:**
This subclass is indented under subclass 97. Process wherein the image is developed using a liquid developer.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 237 through 251 for electrophotographic liquid development apparatus.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/10, for developing using a liquid developer.

ECLA G03G 13/10, for developing using a liquid developer (e.g., liquid suspension, etc.).

**117.2 Postdeveloping step:**

This subclass is indented under subclass 117.1. Subject matter including treating the developed product (e.g., coating, etc.).

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 407 wherein a copy or copies receive further treatment, such as folding or punching, after copying is complete.

**117.3 Liquid developer removal step:**

This subclass is indented under subclass 117.2. Process wherein the liquid developer (i.e., toner particle or carrier liquid) is removed after forming developed image.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 249 for cleaning excessive toner from parts of the electrophotographic device.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/11, for removing excess liquid developer (e.g., by heat, etc.).

ECLA G03G 13/11, for removing excess liquid developer (e.g., by heat, etc.).

**117.31 Only liquid carrier removal:**

This subclass is indented under subclass 117.3. Process wherein only the liquid carrier is removed from the developed image.

**117.32 Liquid developer recycling:**

This subclass is indented under subclass 117.3. Process wherein the developer component previously used in the development process is reclaimed for reuse.

(1) Note. The developer component may be for reuse in the same or a different process.

**117.4 Developed image transfer:**

This subclass is indented under subclass 117.2. Process including transferring the developed image after imagewise developing.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 66 for condition-responsive control of transfer; subclass 101 for particle or contaminant control of toner on a transfer member; subclass 121 for transferring an image from one surface or medium to another; subclasses 297-319 for transferring a toner image, per se; subclasses 388-396 for feeding a copy to the transfer position; and subclasses 397-405 for delivering a copy from the transfer position.

**117.5 Fixing developed image:**

This subclass is indented under subclass 117.2. Process including step of making permanent the developed image.

SEE OR SEARCH CLASS:

355, Photocopying, subclass 405 for thermal fixing means.

399, Electrophotography, subclass 33 for over-temperature protection during fixing; subclasses 67-70 for condition-responsive control of fusing; subclass 122 for a fixing unit for permanently adhering toner to a copy medium; and subclasses 320-342 for fixing (e.g., fusing, etc.), per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/20, for fixing (e.g., by using heat, etc.).

ECLA G03G 13/20, for fixing (e.g., by using heat, etc.).

**118.1 Replenishing liquid developer during development:**
This subclass is indented under subclass 117.1.
Process wherein a portion of the liquid developer or some developer component is resupplied during the development.

**118.2 Prewetting image carrier immediately prior to development:**
This subclass is indented under subclass 117.1.
Process wherein prior to development the latent image carrier is in a wet or moist state.

**118.3 Identified development step (e.g., misting, etc.):**
This subclass is indented under subclass 117.1.
Process including an identified process in the development step.

(1) Note. The expression "identified" means the step is identified by greater specificity than "development step" or "developing."

**118.4 Applying electrical bias:**
This subclass is indented under subclass 117.1.
Process including use of electrical bias before, during, and after development.

SEE OR SEARCH CLASS:
399, Electrophotography, subclass 240 for liquid application member with applied bias and subclass 241 for liquid development with electrode influencing the attraction of liquid developer.

**118.5 Pretreatment of developer (e.g., agitating, etc.):**
This subclass is indented under subclass 117.1.
Process including treatment of the developing liquid prior to use as a developer.

**118.6 Identified developer (e.g., resin-coated pigment structure, etc.):**
This subclass is indented under subclass 117.1.
Process wherein the developer has a chemical or physical structure identified (e.g., spherical toner, flat toner, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
112, through 116, for compositions wherein material from a liquid medium is applied to develop the imaged medium.

**118.7 Having identified image carrier:**
This subclass is indented under subclass 118.6.
Process wherein an identified image carrier is chemically or physically identified.

(1) Note. The expression "identified" means that a substance is identified (e.g., by its chemical name or by its class of chemical compound, etc.). Greater specificity than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:
56, through 96, for radiation-sensitive compositions and products (e.g., photoreceptors, photoreceptor composition, etc.), per se.

**118.8 Toner particle size:**
This subclass is indented under subclass 118.6.
Process wherein the developer material is comprised of toner particle of identified dimension.

**119.1 Toner polymer composition:**
This subclass is indented under subclass 118.6.
Process wherein a developer material is composed of toner of identified polymer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
114, identified liquid toner compositions, per se.

**119.2 Block or graft polymer:**
This subclass is indented under subclass 119.1.
Process wherein a developer material is composed of toner of a block or graft polymer.

SEE OR SEARCH CLASS:
525, Synthetic Resins or Natural Rubbers, subclasses 7 through 540 for block or graft polymers derived from ethylenic monomers, per se.

**119.3 Silicon-containing polymer:**
This subclass is indented under subclass 119.1. Process wherein a developer toner is a polymer-containing silicon.

**119.4 Halogen-containing liquid carrier:**
This subclass is indented under subclass 118.6. Process wherein a carrier liquid contains a halogen-containing compound.

**119.5 Acid or salt adjuvant:**
This subclass is indented under subclass 118.6. Process wherein a liquid developer contains an acid or a salt.

**119.6 Identified image carrier:**
This subclass is indented under subclass 117.1. Process wherein the image carrier is chemically or physically identified.

(1) Note. The expression “chemically identified” means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity than “organic compound” or “inorganic compound” is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56, through 96, for radiation-sensitive compositions and products (e.g., photoreceptors, photoreceptor composition, etc.), per se.

**119.7 With subsequent imaging member cleaning:**
This subclass is indented under subclass 97. Processes wherein the image member is subjected to a procedure to remove undesired particles or other materials deposited during development from a surface of the imaging member.

(1) Note. Typically this process is conducted so that the imaging member may be reused.

(2) Note. At least a portion of the imaging member surface remains after the process.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51 and 1.52 for electrostatic cleaning, subclasses 256.5-256.6 for moving surface brush, and subclasses 300.1-422.2 for airblast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.

134, Cleaning and Liquid Contact With Solids, subclass 1 for cleaning applications of electric, wave, ray, or radiant energy.

399, Electrophotography, subclass 34 for analyzing the performance of a residual toner removal system; subclass 71 for control of cleaning during the electrophotography process; subclass 123 for particular structure of a cleaning unit; subclass 149 for combined development and cleaning by a single component; subclass 245 for self-cleaning, with electrodes, a liquid development application member; and subclasses 343-360 for cleaning an imaging surface (i.e., photoconductive member), including a cleaning member cyclically movable into and out of contact with the imaging surface.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 21/00, for arrangements not provided by groups 13/00-19/00 (e.g., cleaning, elimination of residual charge).

ECLA G03G 21/00B, for removing solid developer or debris from the electrographic recording medium.

**119.71 Identified radiation conductive surface:**
This subclass is indented under subclass 119.7. Processes wherein the composition or structure of the radiation-conductive surface of the imaging member is identified (e.g., composition, layer thickness, surface property, etc.).

(1) Note. The expression “chemically identified” means that a substance is identified by its chemical name or by its class of chemical compound. Greater specificity

than "organic compound" or "inorganic compound" is required.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56, through 96, for radiation-sensitive compositions and products (e.g., photoreceptors, photoreceptor composition, etc.), per se.

**119.72 Charge transport layer cleaning:**

This subclass is indented under subclass 119.71. Processes wherein a charge transport layer, as the surface layer of the imaging member, is cleaned.

SEE OR SEARCH THIS CLASS, SUBCLASS:

58.05, through 58.85, for specific charge transport layer, per se.

**119.8 Using identified cleaning element or material (e.g., brush, etc.):**

This subclass is indented under subclass 119.7. Processes wherein the surface of the imaging member is cleaned with an identified element or material such as brushes and solvents.

(1) Note. The expression "identified" means that a substance is identified by its structure. Greater specificity than "edge" is required.

SEE OR SEARCH CLASS:

134, Cleaning and Liquid Contact With Solids, subclasses 1 through 42 for cleaning of a toner image from a receiver, per se, without forming the toner image.

399, Electrophotography, subclasses 343 through 360 for an apparatus that removes developing material from an imaging surface after an image is transferred.

OTHER CLASSIFICATION SYSTEMS:

ECLA G03G 21/00B1-00B6, for removing solid developer or debris from the electrographic recording medium using a blade, a brush, a band, electrostatic or magnetic means, airflow, or a roller or a polygonal rotating cleaning member, respectively.

**119.81 Cleaning with particles (e.g., magnetic brush, etc.):**

This subclass is indented under subclass 119.8. Processes wherein particles cleaning the surface of the imaging member wherein the cleaning member aligns dry material by its magnetic field in the form of a brush-like configuration wherein particles in a brush-like configuration, which are attached to a magnet in the cleaning member by magnetic attraction, clean the surface of the imaging member.

**119.82 Cleaning with blade:**

This subclass is indented under subclass 119.8. Processes wherein the arrangement for cleaning is a blade used to scrape residual developer material off an imaging surface.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 350 and 351 for an apparatus having a blade used to scrape developer material off an imaging surface.

OTHER CLASSIFICATION SYSTEMS:

ECLA G03G 21/00B1, for removing solid developer or debris from the electrographic recording medium using a blade and details of cleaning blade (e.g., blade shape, layer forming, etc.).

**119.83 Identified blade movement (e.g., vibrated, oscillated, etc.):**

This subclass is indented under subclass 119.82. Processes wherein the cleaning blade is vibrated, oscillated, or moved in a manner usually to aid removal of the residual developer from the imaging member surface.

**119.84 Polyurethane blade (e.g., polyurethane binder, polyurethane spheres in matrix, etc.):**

This subclass is indented under subclass 119.82. Processes wherein the cleaning blade contains polyurethane as the sole constituent or as a component, such as polyurethane binder resin and polyurethane sphericals in a matrix.

SEE OR SEARCH CLASS:

428, Stock Material or Miscellaneous Articles, subclasses 423.1 through 425.9 for polyurethane structural laminates, per se.

**119.85 Cleaning with fibrous brush:**

This subclass is indented under subclass 119.8. Processes wherein the surface of the imaging member is cleaned with a fibrous brush.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51 and 1.52 for electrostatic cleaning, subclasses 256.5-256.6 for moving surface brush, and subclasses 300.1-422.2 for airblast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.

399, Electrophotography, subclass 353 wherein the cleaning arrangement is a fibrous brush used to brush off developer material from an imaging surface, subclass 354 wherein the fibrous brush includes an applied electrical potential or current, and subclass 355 for a fibrous brush including a forced airflow arrangement to capture developer material.

OTHER CLASSIFICATION SYSTEMS:

ECLA G03G 21/00B2, for using a brush and details of cleaning brushes (e.g., fiber density, etc.).

**119.86 Cleaning away identified component (e.g., toner, toner additive, etc.):**

This subclass is indented under subclass 119.7. Processes wherein an identified component, developer, or other identified component useful in developing (e.g., a toner, toner additive, carrier particle, etc.) is cleaned from the imaging member surface.

(1) Note. The expression "specific component" means that a substance is identified by its chemical name or by its chemical class. Greater specificity than "organic compound" or "inorganic compound" is required.

**119.87 With recycling of cleaned developer or developer component:**

This subclass is indented under subclass 119.86. Processes wherein the developer or component useful in developing is recycled or reused after cleaning the imaging member in the same or different development step or is returned to be reused (e.g., the component is returned to a developer sleeve, etc.).

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 359 for an apparatus having an arrangement for returning removed toner to a developing unit to be reused.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 21/10, for collecting and recycling waste developer.

ECLA G03G 21/10, for collecting and recycling waste developer.

**119.88 Recycling identified toner:**

This subclass is indented under subclass 119.87. Processes wherein an identified toner is cleaned from the imaging member surface and is reused in a subsequent development step or is returned to a position where it can be reused.

(1) Note. The expression "identified toner" means that the toner is identified by its chemical name, its class of chemical compound, or by its physical property. Greater specificity than "organic compound" or "inorganic compound" is required.

**120.1 Dry powder developing:**

This subclass is indented under subclass 97. Processes wherein dry developer powder or particle material is applied to render the latent electrostatic image visible.

(1) Note. Dry developer material may be toner particles (magnetic or nonmagnetic) mixed with magnetic particles that act as carriers under the influence of a magnetic field.

(2) Note. This subclass includes immersion of the latent image in dry toner.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 252 through 295 for dry development.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/08, for developing using a solid powder.
ECLA G03G 13/08, for developing using a solid powder (e.g., powder developer, etc.).

**120.2 To produce named article (e.g., semiconductor, etc.) by dry toner development:**
This subclass is indented under subclass 120.1.
Processes wherein the dry powder developing step results in making a specifically identified article.

(1) Note. The named article must be more than the recitation of an "image," a "pattern," or the like, but has an identified utility structure such as a semiconductor device.

(2) Note. The dry powder image need not be retained in the final named article.

**120.3 Magnetic ink character recognition (MICR) article (e.g., production of bank checks, etc.):**
This subclass is indented under subclass 120.2.
Processes wherein an MICR image is produced by the dry toner development process.

(1) Note. The MICR image has sufficient residual magnetization to be read by a suitable magnetic reader.

**120.4 Postimage processing to change developed image color:**
This subclass is indented under subclass 120.1.
Processes wherein after formation of the dry powder image, the image exhibits a change in color independently or as a result of an after-treatment (e.g., solvent contact, etc.).

(1) Note. The developed image need not be in powder form immediately before or after the color image is obtained (e.g., the toner may be fused in an imagewise pattern and then have color change affected, etc.).

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/24, for a process in which at least two steps are performed simultaneously.
ECLA G03G 13/24, for a process in which at least two steps are performed simultaneously.

**120.5 Simultaneous imaging and developing:**
This subclass is indented under subclass 120.1.
Processes wherein developable electric or magnetic image is formed on an imaging member at the same time the image is developed.

SEE OR SEARCH CLASS:
399, Electrophotography, subclass 152 for developing a latent image on a photoconductive member while it is being exposed in image configuration.

**121.1 Cascading powder developing:**
This subclass is indented under subclass 120.1.
Processes wherein a dry developer material falls, usually under the influence of gravity, to develop an image.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 294 and 295 for an apparatus where dry developer material poured or falls under the influence of gravity over a latent image.

**122.1 Magnetic brush developing:**
This subclass is indented under subclass 120.1.
Processes wherein the dry developer material is magnetically aligned by its magnetic field in the form of a brush-like configuration to develop an electrostatic latent image.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 267 through 278 for an apparatus having a magnetic brush for transporting dry developer material to a position where it is attracted to a latent image by an electrostatic force.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/09, for developing using magnetic brush.
ECLA G03G 13/09, for developing using magnetic brush.

**122.2 Using identified carrier:**
This subclass is indented under subclass 122.1. Processes of developing an image wherein the magnetic brush contains a carrier particle defined by its chemical composition, structure, or properties.

(1) Note. Nominal recitation of average particle size alone is not sufficient for classification in this subclass.

(2) Note. The expression "chemically identified" means that a developer carrier particle is identified by its chemical name or by its class of chemical compound (i.e., with greater specificity than "inorganic compound").

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.1, through 111.35, for carrier particles, per se.

**122.3 Hard magnetic (i.e., permanent magnetic) carrier:**
This subclass is indented under subclass 122.2. Processes of developing using a permanent magnetic carrier.

**122.4 Carrier particle conductivity or resistivity:**
This subclass is indented under subclass 122.2. Processes of developing with a carrier particle of identified conductivity or resistivity.

(1) Note. The electrical resistivity $\rho$ (rho) of a material is usually defined by $\rho = (RA)/l$, where $\rho$ is the electrical resistivity (measured in ohm meters), R is the electrical resistance of a uniform specimen of the material (measured in ohms), A is the cross-sectional area of the specimen (measured in square meters), and l is the length of the specimen (measured in meters). Electrical resistivity can also be defined as $\rho = E/J$, where E is the magnitude of the electric field (measured in volts per meter) and J is the magnitude of the current density (measured in amperes per square meter). Finally, electrical resistivity is also defined as the inverse of the conductivity $\sigma$ (sigma) of the material, or $\rho = 1/\sigma$.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.41, for carrier particles with electrical or magnetic parameters, per se.

**122.5 Identified magnetic toner:**
This subclass is indented under subclass 122.1. Processes of developing an image by use of a magnetic brush, where the magnetic brush contains a magnetic toner particle defined by its chemical composition, structure, or properties.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106.1, through 106.3, for dry toner containing a magnetic component, per se.

**122.51 Magnetic monocomponent developer (i.e., toner developer with no carrier):**
This subclass is indented under subclass 122.5. Processes of developing an image using a magnetic brush, where the magnetic brush is a single component magnetic developer.

(1) Note. Included in this subclass are magnetic toner developers defined by a chemical composition, structure, or property.

(2) Note. Toner surface additives (e.g., fluidity agents, charge control agents, etc.) may be present with the magnetic toner particle.

SEE OR SEARCH THIS CLASS, SUBCLASS:
106.1, through 106.3, for dry toner containing a magnetic component, per se.

**122.52 Magnetic toner conductivity or resistivity:**
This subclass is indented under subclass 122.5. Processes of developing an image using magnetic toner of identified conductivity or resistivity.

SEE OR SEARCH THIS CLASS, SUBCLASS:

111.41, for magnetic toner of specified conductivity or resistivity.

**122.6 Identified developer conductivity or resistivity (e.g., carrier, oxide in toner, etc.):**

This subclass is indented under subclass 122.1. Processes wherein the electrical conductivity of the developer or a component of the developer is identified.

SEE OR SEARCH THIS CLASS, SUBCLASS:

111.41, for toner or carrier particles, per se, having an explicit electrical parameter.

**122.7 Identified magnetic brush speed:**

This subclass is indented under subclass 122.1. Processes wherein the pace in which the magnetic brush moves is identified.

(1) Note. Included in this subclass is the speed of the magnetic brush components such as the magnetic sleeve.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 236 wherein a driving arrangement is provided that sets or regulates a velocity at which developer is applied to developing means.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13 /09, for using a magnetic brush.

ECLA G03G 13/09, for using a magnetic brush.

**122.8 Identified applied voltage:**

This subclass is indented under subclass 122.1. Processes wherein a voltage is applied to or between the imaging element and the magnetic brush.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 270 for an apparatus where the magnetic brush is maintained at a predetermined electrical potential to support development.

**122.9 Identified toner orientation:**

This subclass is indented under subclass 120.1. Processes wherein the toner has an identified direction or inclination with respect to a plane of about 90°.

**123.1 Using fur brush:**

This subclass is indented under subclass 120.1. Processes wherein a toner adhered to fur brush fibers, based upon triboelectric properties, develops the imaging member.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 287 for an apparatus having a fibrous brush for transporting dry developer material to a position where it is attracted to a latent image by an electrostatic force.

**123.2 Using powder cloud:**

This subclass is indented under subclass 120.1. Processes of developing an image with finely dispersed mass of toner particles in a gaseous medium (e.g., air, etc.).

(1) Note. Subject matter included in this subclass includes toner suspended in air.

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 266, 290, and 291 for an electrophotographic apparatus to develop an electrostatic image by a nebulous mass of toner particles finely dispersed in a body of gas.

**123.3 Using chemically identified application member (e.g., donor roll or sleeve, etc.):**

This subclass is indented under subclass 120.1. Processes of developing wherein the dry developer is transported, using a chemically identified application member, to a position where the dry developer is attracted to a latent image by electrostatic force.

(1) Note. The application members found in this subclass are identified by the composition of the members by the composition's chemical name or by the composition's class of chemical com-

pound (i.e., with greater specificity than "organic compound" or "inorganic compound").

SEE OR SEARCH CLASS:

399, Electrophotography, subclasses 279 through 286 for an apparatus having a rotatable cylinder application member and subclass 288 for an apparatus having a web or a belt application member.

428, Stock Material or Miscellaneous Articles, subclasses 34.1 through 36.92 for hollow article (e.g., tube, etc.), per se; subclasses 53-56 for rollers with specific composition, per se; subclass 98 for sheet containing structurally defined element, per se; and subclasses 411.1-704 for nonstructural laminates, per se.

**123.4 Developing image on identified imaging member:**

This subclass is indented under subclass 120.1.

Processes wherein the image is created and developed on an imaging member identified by its chemical composition, physical properties, or structure.

(1) Note. The identified imaging members found in this subclass are identified by the composition of the imaging member by the composition's chemical name or by the composition's class of chemical compounds with greater specificity than "organic compound" or "inorganic compound." Also, mere recitation of a "photoconductor," "photoreceptor," "electrophotographic imaging member," "electrostatic master," etc. in the process is not sufficient for classification here.

SEE OR SEARCH THIS CLASS, SUBCLASS:

56, through 96, for radiation-sensitive compositions and products (e.g., photoreceptors, photoreceptor compositions, etc.), per se.

**123.41 Identified developer composition (e.g., toner, carrier, etc.):**

This subclass is indented under subclass 123.4.

Processes wherein the imaging member has an identified developer composition, identified in terms of their chemical composition, physical properties, or structure.

(1) Note. The patents in this subclass include a developer identified by its chemical name or by its class of chemical compound. Greater specificity than "organic compound" or "inorganic compound" is required.

**123.42 Identified imaging member outermost layer:**

This subclass is indented under subclass 123.4.

Processes wherein the outmost layer of the imaging element has a layer identified by chemical composition, structure, or physical property.

SEE OR SEARCH THIS CLASS, SUBCLASS:

66, and 67, for electrophotographic product having overlayer on radiation-conductive layer.

**123.43 Imaging member having both charge generation and charge transport layers:**

This subclass is indented under subclass 123.4.

Processes wherein the imaging element has a charge generation layer and a charge transport layer.

(1) Note. The patents in this subclass include both charge generation layer and charge transport layer in any order.

SEE OR SEARCH THIS CLASS, SUBCLASS:

58.05, through 59.6, for radiation-sensitive products having a charge transport layer and a charge generation layer.

**123.5 Using identified toner (e.g., identified colorant, toner property, etc.):**

This subclass is indented under subclass 120.1.

Processes using an identified developing toner (i.e., having identified toner chemical composition, physical properties, or toner structure).

**123.51 Toner having identified external additive on outside of toner particle (e.g., external fluidity agent, external charge control agent, etc.):**

This subclass is indented under subclass 123.5.

Processes wherein the dry toner developing the image includes a compound or element exter-

nally added to the toner particle to impart a desired property to the toner (e.g., fluidity, charge polarity, etc.).

**123.52 Identified melt property of toner or toner component (e.g., melt viscosity, melt index, etc.):**
This subclass is indented under subclass 123.5.
Processes wherein the toner or a component of the toner has a characteristic melt state (e.g., identified by melt viscosity of a binder resin, melting point of a wax, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.4, for toner having an identified physical parameter.

**123.53 Identified modulus of toner or toner component (e.g., elastic modulus, bulk modulus, Young's modulus, etc.):**
This subclass is indented under subclass 123.5.
Processes wherein the toner or a component of the toner has an identified modulus (e.g., elastic modulus of the toner or resin, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.4, for toner having an identified physical parameter.

**123.54 Identified glass transition temperature (Tg):**
This subclass is indented under subclass 123.5.
Processes wherein the toner or a component of the toner has an identified glass transition temperature (Tg).

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.4, for toner having an identified physical parameter.

**123.55 Identified softening point:**
This subclass is indented under subclass 123.5.
Processes wherein the toner or a component of the toner has an identified softening temperature.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.4, for toner having an identified physical parameter.

**123.56 Identified electrostatic property of toner (e.g., triboelectric charge value, etc.):**
This subclass is indented under subclass 123.5.
Processes wherein the toner or a component of the toner has an identified triboelectric characteristic charge (e.g., charge level, polarity, etc.).

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.41, for toner having an identified electrical or magnetic parameter.

**123.57 Identified toner colorant (e.g., dye, pigment, etc.):**
This subclass is indented under subclass 123.5.
Processes wherein the toner contains a chemical formula, composition, C.I. pigment number, or descriptive term for a colorant.

(1) Note. Mere recitation of a "colorant," "pigment," or "dye" is not sufficient for placement here.

SEE OR SEARCH THIS CLASS, SUBCLASS:
42.1, for multicolor reproduction processes wherein more than one color is used.

**123.58 Developing using identified particulate carrier:**
This subclass is indented under subclass 120.1.
Processes wherein the particles that charge the toner and/or transport the toner to the image are identified by composition, physical properties, or structure.

SEE OR SEARCH THIS CLASS, SUBCLASS:
111.1, through 111.35, for carrier particles, per se.

**124.1 Fixing toner image (i.e., fusing):**
This subclass is indented under subclass 97.
Processes wherein the image is made permanent on the imaging member or receiver by causing a toner image to be permanently attached to a copy medium or substrate.

SEE OR SEARCH CLASS:
118, Coating Apparatus, subclasses 621 through 638 for related apparatus used to fix electrophotographic coatings.

374, Thermal Measuring and Testing, subclasses 1 through 3 for calibration systems which may be used to test or calibrate the heat-fixing apparatus of electrophotographic devices.

399, Electrophotography, subclasses 67 through 70 for condition-responsive control of fusing, subclass 122 for fixing unit with particular modular or displaceable structure, and subclasses 320-342 for fixing means.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/20, for fixing.
ECLA G03G 13/20, for fixing.

**124.11 Simultaneous transferring and fixing:**
This subclass is indented under subclass 124.1. Processes wherein a toner image is transferred to a receiver and is fixed to the receiver at the same time.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 307 for electrophotographic apparatus where the toner image is permanently attached to the copy medium at the same time it is transferred.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/24, for processes involving combination of more than one step according to groups 13/02-20 whereby at least two steps are performed simultaneously.

ECLA G03G 13/24, for processes involving combination of more than one step according to groups 13/02-20 whereby at least two steps are performed simultaneously.

**124.12 Etching, sublimation, or dissolving receiver after fixing:**
This subclass is indented under subclass 124.1. Processes wherein the material bearing the fixed toner image is etched, sublimated, or dissolved.

(1) Note. The material bearing the fixed image may be a radiation-sensitive imaging member.

**124.13 Posttreating fixed image (e.g., smoothing, etc.):**
This subclass is indented under subclass 124.1. Processes wherein the fixed toner image is altered after fixing (e.g., by smoothing, roughening, or sintering the fixed image, etc.).

(1) Note. Included in this subclass are processes wherein the image is made different without changing the image into something else or destroying the image.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 341 and 342 for an electrophotographic apparatus treating the fixed image.

**124.14 Sintering fixed image:**
This subclass is indented under subclass 124.13. Processes wherein the fixed toner image is exposed to heat to sinter or fire the image on a receiver.

(1) Note. This process may result in loss of certain toner materials, such as through decomposition of the binder resin, or a change in physical state, such as through crystallization.

SEE OR SEARCH THIS CLASS, SUBCLASS:

44.1, for sintering in a multicolor imaging process.

**124.15 Removing fixed image from receiver:**
This subclass is indented under subclass 124.13. Processes wherein the fixed image is treated so that the image is removed from the receiver (e.g., by a solvent when recycling the receiver, etc.).

SEE OR SEARCH CLASS:

134, Cleaning and Liquid Contact With Solids, subclasses 1 through 42 for cleaning of a toner image from a receiver, per se, without forming the toner image.

**124.2 Plural fixing of single toner image:**
This subclass is indented under subclass 124.13. Processes wherein a single toner image undergoes more than one fixing process.

**124.21 Fluid (liquid or gas) contact fixing:**
This subclass is indented under subclass 124.1. Processes wherein the toner image is fixed by treatment with a material in liquid or gaseous form.

SEE OR SEARCH CLASS:
399, Electrophotography, subclass 340 for an electrophotographic apparatus that causes a toner image to be permanently attached to a copy medium or substrate by application of a solvent.

**124.22 Using liquid polymer or liquid metal:**
This subclass is indented under subclass 124.21. Processes wherein the toner image is fixed by treatment with a polymer or metal in liquid form (e.g., by immersing the toner image in a bath of liquid polymer or liquid metal, etc.).

**124.23 Fixing by pressure only (e.g., cold fixing, etc.):**
This subclass is indented under subclass 124.1. Processes wherein a toner image is permanently attached to a receiving medium or substrate by pressing.

SEE OR SEARCH CLASS:
399, Electrophotography, subclass 339 for an electrophotographic apparatus that fixes by pressure and without heat.

**124.3 Heat fixing using roller or belt (e.g., fuser member, etc.):**
This subclass is indented under subclass 124.1. Processes wherein a toner image is permanently attached to a receiving medium or substrate by contacting the toner image with a roller or belt.

(1) Note. Processes in this subclass include contacting the toner image, directly or indirectly with the roller or belt (e.g., an intermediate layer may be between the roller or belt and the toner image during the fixing, etc.).

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 329 through 334 for an electrophotographic apparatus provided with an arrangement to fix by means of a heater web or roller and subclass 400 for apparatus delivering a copy medium with a transferred toner image to a fuser position.

**124.31 Heated metal roller:**
This subclass is indented under subclass 124.3. Processes wherein the toner image is fixed or fused by a roller that contains at least an elemental metal or metal alloy layer that is heated by an internal or external heat source.

**124.32 Identified roller or belt composition or structure:**
This subclass is indented under subclass 124.3. Processes wherein the image is fixed by a roller or belt identified by its chemical composition or a roller or belt configuration.

(1) Note. The expression “chemical composition” means that a substance is identified by its chemical name or by its class of chemical compound with greater specificity than “organic compound” or “inorganic compound.”

SEE OR SEARCH CLASS:
399, Electrophotography, subclass 333 for an electrophotographic apparatus where the heated roller has a specific construction or surface property.

**124.33 Fluorine-containing resin in surface layer of belt or roller:**
This subclass is indented under subclass 124.32. Processes wherein the toner image is fixed by a roller or belt having a fluorine-containing resin in surface layer.

**124.34 Applying liquid to roller or belt surface (e.g., release oil applied, etc.):**
This subclass is indented under subclass 124.33. Processes wherein the toner image is fixed by a roller or belt having a fluorine-containing resin in the surface layer with a liquid applied to the surface layer of the roller or belt.

**124.35 Silicone-containing resin in surface of belt or roller:**
This subclass is indented under subclass 124.32. Processes wherein the toner image is fixed by a roller or belt having a silicone-containing resin in the surface layer.

**124.36 Applying liquid to roller or belt surface (e.g., release liquid applied, etc.):**
This subclass is indented under subclass 124.35. Processes wherein the toner image is fixed by a roller or belt surface having a silicone-containing resin in the surface layer with a liquid applied to the surface layer of the roller or belt.

**124.37 Silicone-containing liquid, powder, or solid-treating roller or belt surface layer (e.g., release agent applied to surface, etc.):**
This subclass is indented under subclass 124.32. Processes wherein the toner image is fixed by a roller or belt surface treated with a silicone-containing liquid, powder, or solid-treating roller or belt surface.

**124.38 Belt or roller has three or more solid layers on support or core:**
This subclass is indented under subclass 124.32. Processes wherein the toner image is fixed by a roller or belt having three or more solid layers on a support or core.

**124.4 Noncontact fixing (e.g., flash fusing, etc.):**
This subclass is indented under subclass 124.1. Processes wherein a toner image is fixed or fused without the use of a solid, liquid, or gas fixing material, such as fixing by the action of electromagnetic radiation, or microwave.

SEE OR SEARCH CLASS:
399, Electrophotography, subclass 337 for a fixing apparatus using radiant, infrared, or microwave fixing.

**124.5 Fixing to identified receiver:**
This subclass is indented under subclass 124.1. Processes wherein the toner image is fixed to a medium identified by composition, physical properties, or structure.

(1) Note. The expression “chemically identified” means a substance is identified by its chemical name or by its class of chemical compound with greater specificity than “organic compound” or “inorganic compound.”

SEE OR SEARCH CLASS:
428, Stock Material or Miscellaneous Articles, subclasses 98 through 220 for structurally defined web or sheet, per se.

**124.51 Identified receiver surface texture (e.g., fibrous, porous, etc.):**
This subclass is indented under subclass 124.5. Processes wherein the medium that the toner image is fixed to has an identified surface characteristic or shape, such as fibrous or porosity.

**124.52 Identified transparent receiver:**
This subclass is indented under subclass 124.5. Processes wherein a toner image is fixed to a transparent receiver.

**124.53 Polymer or wax receiver surface:**
This subclass is indented under subclass 124.5. Processes wherein the fixed toner image is formed to a receiver comprising a polymer or wax face.

**124.54 Polyester:**
This subclass is indented under subclass 124.53. Processes wherein the fixed toner image is formed to a receiver containing polyester.

(1) Note. The receiver may have polyester as its only component or as an additive to the receiver.

**125.1 Postdevelopment treatment of reusable imaging member to remove charges:**
This subclass is indented under subclass 97. Processes wherein an electrostatic charge pattern is removed or eliminated from a reusable imaging member (e.g., photoconductor, dielectric layer, etc.) in a postdevelopment step.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 21/06, for eliminating residual charges from a reusable imaging member.
ECLA G03G 21/06, for eliminating residual charges from a reusable imaging member.

**125.2 Optical radiation treatment:**
This subclass is indented under subclass 125.1. Processes wherein optical radiation is used in a

postdevelopment step to remove charges from the imaging member.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 21/08, for eliminating residual charges from a reusable imaging member using optical radiation.

ECLA G03G 21/08, for eliminating residual charges from a reusable imaging member using optical radiation.

**125.3 Toner image transfer:**

This subclass is indented under subclass 97. Processes wherein a developed image is transferred from one surface to another surface.

SEE OR SEARCH CLASS:

101, Printing, subclass 489 for electric or magnetic transfer process by using a difference in electrostatic or magnetic attraction.

399, Electrophotography, subclass 66 for condition-responsive control of transfer and subclasses 297-319 for transferring a toner image, per se.

OTHER CLASSIFICATION SYSTEMS:

IPC[8] G03G 13/16, for transfer of a toner pattern to a different base.

ECLA G03G 13/16, for transfer of a toner pattern to a different base.

**125.31 Removing toner image and layer from imaging member (i.e., with layer stripping or cover layer removal):**

This subclass is indented under subclass 125.3. Processes wherein a layer of the imaging member surface having the toner image with the developed image is transferred to a different surface.

**125.32 Identified intermediate transfer member:**

This subclass is indented under subclass 125.3. Processes wherein the developed image is transferred to an intermediate receiver prior to a final transfer step.

(1) Note. Included in this subclass are identified chemical composition, physical property, or structure of intermediate receiver.

SEE OR SEARCH CLASS:

399, Electrophotography, subclass 308 for intermediate transfer member of a developed noncolor image.

OTHER CLASSIFICATION SYSTEMS:

JPOFI G03G 15/01 114A, for use of characteristics related to the image transfer process using an intermediate recording medium.

**125.33 Containing silicone or siloxane transfer component:**

This subclass is indented under subclass 125.32. Processes wherein the intermediate transfer layer has a silicone or siloxane component.

**125.4 With intermediate transfer member cleaning:**

This subclass is indented under subclass 125.3. Processes including a step of removing residual material, such as toner, carrier, paper, and receiver, from the intermediate transfer member subsequent to transfer of the developed image to a receiver.

SEE OR SEARCH CLASS:

15, Brushing, Scrubbing, and General Cleaning, subclasses 1.51 and 1.52 for electrostatic cleaning and subclasses 300.1-422.2 for airblast or suction which may be used to clean electrophotographic, photoresponsive imaging surfaces.

134, Cleaning and Liquid Contact With Solids, subclasses 1 through 42 for cleaning applications of electric, wave, ray, or radiant energy.

**125.5 Electrostatic transfer of toner image:**

This subclass is indented under subclass 125.3. Processes wherein the transfer of the toner developed image includes utilizing an electrostatic force (e.g., corona charging, potential difference, etc.).

SEE OR SEARCH CLASS:
361, Electricity: Electrical Systems and Devices, subclass 214 for discharge of paper or paper handling machines.
399, Electrophotography, subclasses 310 through 317 for transfer induced by an electrical potential, voltage, or current.

**125.6 Identified final receptor:**
This subclass is indented under subclass 125.3. Processes wherein the developed image is transferred to a final receptor identified by the chemical composition, physical properties, or structure of the receptor identified.

(1) Note. The receptor has an identified chemical composition, physical properties, or structure, where "identified" means that a substance is identified with greater specificity than "organic compound" or "inorganic compound."

SEE OR SEARCH CLASS:
428, Stock Material or Miscellaneous Articles, subclass 29 for article having a latent image.

**126.1 Forming overlayer on developed image:**
This subclass is indented under subclass 97. Processes including forming an overlayer on the developed image on a final receptor with another material (e.g., to form a security document, etc.).

SEE OR SEARCH CLASS:
399, Electrophotography, subclass 342 for treatment of a fixed toner image by applying an overlayer of transparent material on the fixed image.

**126.2 Postimaging treatment of imaging member (e.g., applying lubricant, etc.):**
This subclass is indented under subclass 97. Processes comprised of treating an imaging member after toner image transfer.

**127 Processes of making radiation-sensitive product:**
This subclass is indented under subclass 31. Processes drawn to the manufacture of a radiation-sensitive product.

SEE OR SEARCH CLASS:
427, Coating Processes, particularly subclasses 74+ for coating methods which result in a photoconductive product.
438, Semiconductor Device Manufacturing: Process, for methods of making photoresponsive semiconductor barrier layer-type devices (i.e., photovoltaic devices).

**128 Coating by vacuum deposition:**
This subclass is indented under subclass 127. Processes wherein the radiation-sensitive product is manufactured using a vacuum deposition procedure.

**129 Extrusion coating:**
This subclass is indented under subclass 127. Processes wherein the radiation-sensitive product is made using an extrusion coating procedure.

**130 Thermal or energy treatment of radiation-sensitive layer, e.g, fusing annealing, or solvent aftertreatment of radiation-sensitive layer, etc.:**
This subclass is indented under subclass 127. Processes wherein the radiation-sensitive layer is made or modified by the use of heat, cold, or radiant or electrical energy.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 9+ for diagnostics, subclasses 38+ for controls, subclasses 130+ for image formation, and subclasses 177+ for exposure, particularly subclasses 218 through 221.

**131 Applying subbing layer:**
This subclass is indented under subclass 127. Processes wherein there is a specified procedure for producing a layer between the backing or base and the radiation-sensitive layer.

**132 Applying overlayer:**
This subclass is indented under subclass 127. Processes wherein there is a specified procedure for producing a layer upon the radiation-sensitive layer.

**133 Applying radiation-sensitive layer:**
This subclass is indented under subclass 127. Processes wherein there is a specified procedure for producing a radiation-sensitive layer upon a backing or base.

**134 Heterogeneous:**
This subclass is indented under subclass 133. Processes wherein the radiation-sensitive conductor ingredient is dispersed heterogeneously or nonhomo-generously throughout an insulating medium of the layer.

**135 Process of making radiation-sensitive composition:**
This subclass is indented under subclass 31. Processes drawn to the manufacture of radiation-sensitive compositions.

**136 Utilizing high temperature, e.g., by fusing, etc.:**
This subclass is indented under subclass 135. Processes wherein the radiation-sensitive compositions are made using a high temperature procedure, such as by fusing or annealing the ingredients of the compositions.

SEE OR SEARCH CLASS:
399, Electrophotography, subclasses 320+ for fixing, particularly subclasses 335+.

**137.1 Process of making developer composition:**
This subclass is indented under subclass 31. Process wherein a developing composition useful in developing image medium, is produced (e.g. which may include methods of making developer components, e.g., toner, carrier, etc.).

**137.11 By coating:**
This subclass is indented under subclass 137.10. Process wherein an outer covering of material is applied to form the developer component, e.g., solution coating, vapor coating.

SEE OR SEARCH CLASS:
427, Coating Processes; subclass 212 for coating particles, per se.

**137.12 In situ polymerization to form shell, followed by polymerization to form core:**
This subclass is indented under subclass 137.11. Process wherein a coating is formed by polymerizing an outer covering to encase a core material followed by core polymerization.

SEE OR SEARCH CLASS:
264, Plastic and Nonmetallic Article Shaping or Treating: Processes; subclass 4, for microcapsule making, per se.

**137.13 Carrier core coating:**
This subclass is indented under subclass 137.11. Process wherein a carrier core is encased with a coating material, e.g., resin coating, metal coating, etc.

**137.14 By coalescing or aggregating:**
This subclass is indented under subclass 137.10. Process wherein a resin is subjected to a process for associating material together to grow larger particles, usually in liquid.

**137.15 By polymerization:**
This subclass is indented under subclass 137.10. Process wherein the developer component composition formed by polymerizing monomer(s), i.e., reacting of plural molecules of the same monomer or of different monomers to form a polymer

**137.16 Chemical after treating of polymer:**
This subclass is indented under subclass 137.15. Process wherein the polymer is chemically treated subsequent to polymerization, e.g., grafting an additional monomer onto a preformed polymer, ion-exchanging of polyacrylates, etc.

SEE OR SEARCH CLASS:
525, Synthetic Resins or Natural Rubbers; subclass 242, for after treating polymers, per se.

**137.17 Two-phase polymerization (e.g., oil-water):**
This subclass is indented under subclass 137.15. Subject matter wherein polymerization takes place in a two phase system (e.g., oil-water, etc.) to form discrete particles of polymer, e.g., a monomer in the oil phase emulsified or suspended in a water phase containing a polymerization initiator, etc.

**137.18 By milling, grinding, crushing, or comminuting:**

This subclass is indented under subclass 137.10. Subject matter wherein a preformed material is mechanically crushed and broken up or pulverized by milling, grinding or comminuting to form a developer composition

SEE OR SEARCH CLASS:

241, Solid Material Comminution or Disintegration; for milling or pulverizing, per se.

**137.19 Milling, grinding, crushing or comminuting in liquid:**

This subclass is indented under subclass 137.18. Subject matter wherein the preformed material is subjected to milling, grinding, or comminuting in a liquid medium.

**137.2 Milling with subsequent classification:**

This subclass is indented under subclass 137.18. Process wherein the preformed material is ground, followed by particle classifying (i.e. sorting according to particle size).

**137.21 By dry blending developer components:**

This subclass is indented under subclass 137.10. Process wherein developer components are combined by dry mixing to prepare the developer composition.

**137.22 Making a liquid toner or concentrate:**

This subclass is indented under subclass 137.10. Process wherein constituents of a toner (e.g., resin, pigment or dye, charge director, carrier liquid, etc.) are mixed to prepare a liquid toner or a toner concentrate.

**138 MICROCAPSULE, PROCESS, COMPOSITION, OR PRODUCT:**

This subclass is indented under the class definition. Subject matter wherein a preformed microcapsule, which is made prior to the manufacture of the product useful in radiation chemistry imagery, is added to the product, process of making and using the product, composition, or product.

(1) Note. The definition of microcapsule for this subclass includes any gas liquid or solid material which is completely surrounded by a different solid material with its largest dimension size being less than a few microns.

(2) Note. The use of microporous containing composition useful in processes under the class definition such as spongelike microporous structures or molecular sieves (zeolite) with/without absorbed or adsorbed ingredient therein are not subject matter for the subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

31, for use of microcapsules in electric or magnetic imagery.

32, and 41, especially, for electrophoretic and migration imagery.

70, for radiation-conductive compositions in microcapsule form.

105, for developer compositions in microcapsule form; and appropriate product, process, and composition subclasses wherein (a) use of microcapsules is disclosed, but is an unclaimed feature; and (b) microporous compositions, products, and uses (see Note 2 above).

SEE OR SEARCH CLASS:

106, Compositions: Coating or Plastic, subclasses 601+ and 672+ for specialized micropore formation; and subclass 122 for general micropore formation for the class.

252, Compositions, subclass 62.51 for microcapsules for use in magnetic compositions.

260, Chemistry of Carbon Compounds, subclasses 722+ for micropore formation in natural rubber or natural rubber in a microporous form.

264, Plastic and Nonmetallic Article Shaping or Treating: Processes, subclass 4 for microencapsulation of normally liquid material; subclass 7 for formation of coated solid particulate material directly from molten or liquid mass.

427, Coating Processes, for nonimaging processes involving use of microcapsules, especially subclasses 212+ for the coating of microparticles.

428, Stock Material or Miscellaneous Articles, for nonimaging use of microcapsules in structurally defined products, especially subclasses 313.3+ for cellular or por ous component such as microcapsule combined with web or sheet; and subclasses 402 for structurally defined or coated small grains or bits of matter, e.g., microcapsule with liquid or solid core, coated particulate matter.

501, Compositions: Ceramic, subclasses 39 and 80+ for pore-forming compositions.

521, Synthetic Resins or Natural Rubbers, for processes of forming micropores in synthetic resins.

**139 LUMINESCENT IMAGING:**

This subclass is indented under the class definition. Processes whereby an image is obtained by reason of using material which emits light not due to incandescence and at a temperature below that of incandescent bodies. Included herein are phosphorescence, fluorescence, etc.

SEE OR SEARCH CLASS:

40, Card, Picture, or Sign Exhibiting, for indicia forming a display device including a fluorescent substance to cause illumination of the indicia.

250, Radiant Energy, subclasses 361+ (362 for method) for apparatus involving invisible radiant energy responsive to electric signalling with or including a luminophor; subclasses 458+ (459 for processes) for illuminophor irradiation devices; subclasses 483+ for an invisible radiation responsive non-electric signalling luminescent device.

252, Compositions, subclass 188.11 for chemical luminescent compositions; and subclasses 301.16+, 301.36, and 301.4+ for fluorescent and phosphorescent compositions.

313, Electric Lamp and Discharge Devices, subclasses 483+ for electroluminescent devices.

427, Coating Processes, subclasses 157+ for coating processes in general wherein a fluorescent or phosphorescent coating is used and where no radiation properties or multilayered luminescent coatings are claimed.

428, Stock Material or Miscellaneous Articles, appropriate subclasses for a stock material product in the form of a single or plural layer web or sheet which may have luminescent properties, and especially subclass 917 (a cross-reference art collection) for products which are electroluminescent.

**140 PRODUCT HAVING SOUND RECORD OR PROCESS OF MAKING:**

This subclass is indented under the class definition. Products having in addition to an image a sound record and process of making same.

**141 DIAZO REPRODUCTION, PROCESS, COMPOSITION, OR PRODUCT:**

This subclass is indented under the class definition. Compositions and products having a radiation-sensitive diazo compound, i.e., a compound having at least two directly attached nitrogen atoms which are attached by double or triple bonds other than a chromophore group, e.g., diazonium, azide, quinone diazide, diazo sulfonate, or triazene compound, etc.; process wherein the radiation-sensitive diazo compound on or in a medium is imaged with radiation to produce a visible image being developed to produce a visible image of an original; process wherein the visible or latent image is not formed by the action of radiation is finished or perfected as by development, fixing, or transferring; process of making the composition and product, finishing or perfecting process such as development, or composition or product used in the finishing or perfecting process.

(1) Note. When the claimed radiation- sensitive compounds is defined functionally such as “light-decomposable agent”, and all the identified radiation-sensitive compound in the claimed disclosure are diazo compounds, the patent is classified in this subclass or indented subclass.

SEE OR SEARCH THIS CLASS, SUBCLASS:

269, for processes of using radiation-sensitive diazo material for nonvisible image formation wherein imaging affects physical property of the material.

302, especially, for making lithographic printing plates.
322, for forming a relief image.

**142 Process producing multiple image:**
This subclass is indented under subclass 141. Processes wherein more than one image is formed in a medium.

**143 Color proofing, colloid transfer, or pigment development:**
This subclass is indented under subclass 142. Processes wherein the multiple images are (a) separate monochrome images disclosed or claimed for use in color proofing, (b) formed by transferring a colloid or polymer image to a separate medium whereby a visible image is obtained, or (c) formed by contacting a pigment developer to develop latent multiple images.

**144 Powder development of tacky surface:**
This subclass is indented under subclass 141. Processes wherein a tacky latent image on the surface of a medium is developed with a powder or pigment developer.

**145 Photomechanical dye image prepared:**
This subclass is indented under subclass 141. Processes wherein a dye image is formed based upon solubility differences caused by the action of electromagnetic radiation upon the medium. The solubility differences may be caused by the removal of portions of the medium.

**146 Diazo-type process, i.e., producing dye image by reacting the diazo or the imaged reaction product of the diazo:**
This subclass is indented under subclass 141. Processes wherein a dye image is formed by the reaction of the diazo compound or the imaged reaction product of the diazo compound. Usually an azo or azomethioine dye image is formed.

**147 Negative image prepared:**
This subclass is indented under subclass 146. Processes wherein the image is formed in portions of the medium subject to electromagnetic radiation or in direct proportion to the amount of electromagnetic radiation received.

**148 To make diazo-type intermediate, black-line image, or continuous-tone image:**
This subclass is indented under subclass 146. Processes wherein the dye image is an intermediate to be used for subsequent imaging, is a black-line copy, or is a continuous tone reproduction.

**149 Liquid development, e.g., aqueous solution with coupler, etc.:**
This subclass is indented under subclass 146. Processes wherein the dye image is formed by contacting the imaged medium with a liquid. Usually a positive azo dye image is obtained by reaction of the diazo compound with a coupler which may be in the medium or in the liquid.

**150 Gaseous development, e.g., ammonia vapor, etc.:**
This subclass is indented under subclass 146. Processes wherein the dye image is formed by contacting the imaged medium with a gas or vapor such as ammonia vapor. Usually the coupler is in the medium and the vapor such as ammonia provides a pH which produces an azo dye image.

**151 Heat development:**
This subclass is indented under subclass 146. Processes wherein the dye image is formed by the application of heat. Usually the dye components are brought together with the heat, or the heat catalyzes a dye forming reaction such as by producing a coupler or a basic ingredient such as ammonia.

**152 Vesicular process:**
This subclass is indented under subclass 141. Processes wherein an image in the form of radiation scattering vesicles is produced by the decomposition of the diazo compound into a volatile product.

**153 Physical development:**
This subclass is indented under subclass 141. Processes wherein a metal image formed by reaction of the diazo compound or the product produced by radiation exposure of the diazo compound in a medium is modified by replacing a more chemically active latent metal or metal of the image with a less active metal or metal ion.

**154 Composition or product which contains radiation sensitive compound having moiety of nitrogen double or triple bonded directly to nitrogen other than chromophore moiety, e.g., triazene containing product, etc., process of making, and composition or product used to finish or develop a diazo reproduction:**

This subclass is indented under subclass 141. Compositions or products having a radiation-sensitive diazo compound, and processes of making same and composition or product used to finish or develop a diazo reproduction.

**155 Product with at least two named layers:**

This subclass is indented under subclass 154. Products having at least two named layers. The base is considered a layer for this subclass. The named layers are each significantly identified to exclude other layers. For example, a transparent or paper support having a diazo compound containing coating is considered a product. However, a support having a coating of a diazonium salt is not.

**156 At least two radiation-sensitive layers:**

This subclass is indented under subclass 155. Products having at least two radiation-sensitive layers or coatings, one of which contains a radiation-sensitive diazo compound.

**157 Diazonium compound containing layer:**

This subclass is indented under subclass 155. Products having a radiation-sensitive layer or coating containing a diazonium compound or salt.

**158 Including subbing layer:**

This subclass is indented under subclass 157. Products having a layer between base or support, and the radiation-sensitive layer.

**159 Silicon, nitrogen, or sulfur compound containing subbing layer:**

This subclass is indented under subclass 158. Products wherein the subbing layer contains a compound having a silicon, nitrogen, or sulfur atom.

**160 Polymer containing subbing layer:**

This subclass is indented under subclass 158. Products wherein the subbing layer contains a polymer. Often, the polymer is identified as a resin binder.

**161 Acid, salt, or ester moiety ingredient containing subbing layer:**

This subclass is indented under subclass 158. Products wherein the subbing layer contains a compound having an acid, salt, or ester moiety.

**162 Including overlayer or backing layer:**

This subclass is indented under subclass 157. Products having a layer or coating upon the radiation-sensitive layer, or a layer or coating on the side of the base or support opposite the side having the radiation-sensitive layer.

**163 Diazonium salt with anion specified:**

This subclass is indented under subclass 157. Products wherein the anion of the diazonium salt is named, for example, the zinc chloride double salt or the hexafluorophosphate salt.

**164 Diazo-N-sulfonate containing layer:**

This subclass is indented under subclass 155. Products having a radiation-sensitive layer or coating containing a diazo-N-sulfonate compound.

**165 Quinone diazide containing layer:**

This subclass is indented under subclass 155. Products having a radiation-sensitive layer or coating containing a quinone diazide compound. Quinone diazides are sometimes called diazo ketones or diazo oxides. Iminoquinone diazides are considered quinone diazides for the purpose of this subclass.

**166 Including additional layer:**

This subclass is indented under subclass 165. Products having a radiation-sensitive layer and an additional layer or coating.

**167 Azide containing layer:**

This subclass is indented under subclass 155. Products having a radiation-sensitive layer or coating containing an azide compound.

**168 Process of making diazo product:**
This subclass is indented under subclass 154. Products of making a diazo product having at least two named layers.

(1) Note. See subclass 155 for a more specific definition of a diazo product.

**169 Using specific adjuvant other than radiation-sensitive diazo compound:**
This subclass is indented under subclass 168. Processes wherein a specific ingredient other than the radiation-sensitive diazo compound is used in the manufacture of the diazo product or is used to finish or perfect the diazo product.

**170 Radiation-sensitive composition:**
This subclass is indented under subclass 154. Compositions which are sensitive to radiation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
914, for diazo compounds functioning as cationic or anionic initiators in radiation activated polymer forming reactions.
919 and 920, for diazo compound functioning as free-radical initiators in radiation activated polymer forming reactions.
927, for diazo compounds functioning as cross-linking agents in radiation activated polymer forming and modifying reactions.

**171 Diazonium compound containing:**
This subclass is indented under subclass 170. Compositions wherein the radiation-sensitive diazo compound is a diazonium compound or salt.

**172 At least two diverse diazonium compounds:**
This subclass is indented under subclass 171. Compositions containing at least two different radiation-sensitive diazonium compounds or salts.

**173 At least two couplers:**
This subclass is indented under subclass 171. Compositions containing at least two different compounds which function as couplers for dye formation. The coupler compounds have auxochromic groups or are capable of producing auxochromic groups. Often times, the auxochromic group is a hydroxy substituent directly attached to an aromatic nucleus.

**174 Includes additional adjuvant other than acidic stabilizer:**
This subclass is indented under subclass 173. Compositions wherein an additional ingredient is present in the composition other than an acidic stabilizer or a coupler which is used to finish or perfect the image.

(1) Note. Ingredients having an acid moiety or acid function are excluded from this subclass.

**175 Polymeric diazonium compound:**
This subclass is indented under subclass 171. Compositions wherein the diazonium radical is an integral part of a polymer, for example, a condensation product of a diazonium compound and an aldehyde or ketone, commonly referred to in the art as a diazo formaldehyde resin or a diazonium condensate resin.

**176 Polymeric mixture:**
This subclass is indented under subclass 171. Compositions wherein the radiation-sensitive diazonium compound and a polymer are present together in admixture, e.g., a diazonium salt and polyvinyl alcohol, etc.

**177 Processing ingredient other than coupler or carboxylic acid compound:**
This subclass is indented under subclass 171. Compositions which additionally contain a processing ingredient other than a coupler, which ingredient finishes or perfects the image.

**178 Metal salt ingredient:**
This subclass is indented under subclass 177. Compositions wherein the processing ingredient is a metal salt.

**179 Nitrogen atom containing organic ingredient:**
This subclass is indented under subclass 177. Compositions wherein the process ingredient is a nitrogen atom containing organic compound.

**180 Naphthol coupler included:**
This subclass is indented under subclass 171. Compositions which additionally contain a compound, having a hydroxy substituent

directly attached to a naphthalene nucleus, which functions as a coupler for dye formation.

**181 Phenol coupler included:**
This subclass is indented under subclass 171. Compositions which additionally contain a compound, having a hydroxy substituent directly attached to a benzene nucleus, which functions as a coupler for dye formation.

**182 Aceto-aceto or heterocyclic coupler included:**
This subclass is indented under subclass 171. Compositions which additionally contain a compound, having an active methylene group between two carbonyl groups or a heterocyclic residue, which functions as a coupler for dye formation. Examples of the former are acetoacetanilide and cyclohexylacetoacetic acid amine, and of the latter are pyrazolones, hydroxy pyridones and thiobarbituric acid.

**183 P-amino or p-thio benzene diazonium compound:**
This subclass is indented under subclass 171. Compositions wherein the diazonium compound or salt has an amino or thio group attached to a benzene nucleus in the para position relative to the diazonium radical.

**184 2,3 substitution of benzene nucleus:**
This subclass is indented under subclass 183. Compositions wherein the diazonium compound or salt has additional substituents attached to the benzene nucleus in the 2 and 3 positions relative to the diazonium radical.

**185 Additional substituent on benzene nucleus:**
This subclass is indented under subclass 183. Compositions wherein the diazonium compound or salt additionally has only one other substituent on the benzene nucleus.

**186 P-substituent is p-heterocyclic amine:**
This subclass is indented under subclass 183. Compositions wherein the group attached to the para position of the benzene nucleus relative to the diazonium radical is a heterocyclic amino group, such as morpholino, piperadine, and piperazino group.

**187 2, 5 substitution of benzene nucleus:**
This subclass is indented under subclass 183. Compositions wherein the diazonium compound or salt additionally has substituents attached to the benzene nucleus in the 2 and 5 positions relative to the diazonium radical.

**188 Diazo-N-sulfonate containing:**
This subclass is indented under subclass 170. Compositions wherein the radiation-sensitive diazo compound is a diazo-N-sulfonate compound.

**189 Quinone diazide containing:**
This subclass is indented under subclass 170. Compositions wherein the radiation-sensitive diazo compound is a quinone diazide compound.

(1) Note. See subclass 165 for the definition of quinone diazides for the purposes of this class.

**190 Polymeric quinone diazide:**
This subclass is indented under subclass 189. Compositions wherein the quinone diazide moiety is an integral part of a polymer such as when the moiety is appended to a polymeric backbone with linking sulfonamide groups as in the reaction product of a p-aminostyrene polymer and an o-quinone diazide sulfonic acid.

**191 And monomeric processing ingredient:**
This subclass is indented under subclass 189. Compositions which additionally contain a monomeric processing ingredient that finishes or perfects the image.

**192 Polymeric mixture:**
This subclass is indented under subclass 189. Compositions wherein the radiation-sensitive quinone diazide compound and a polymer are present together in admixture, e.g., an o-naphthoquinone diazide compound, and a phenol-formaldehyde resin such as novolak resin.

**193 O-quinone diazide:**
This subclass is indented under subclass 189. Compositions wherein the radiation-sensitive quinone diazide is an ortho substituted quinone diazide.

**194 Azide containing:**
This subclass is indented under subclass 170. Compositions wherein the radiation-sensitive diazo compound is an azide moiety containing compound, such as aromatic compounds having the azide moiety attached directly to the aromatic nuclei.

**195 Polymeric azide:**
This subclass is indented under subclass 194. Compositions wherein the azide moiety is an integral part of a polymer such as when the moiety is linked to a polymeric backbone by linking aromatic nuclei as in vinyl polymers having azidostyrene units.

**196 And monomeric processing ingredient:**
This subclass is indented under subclass 194. Compositions which additionally contain a monomeric processing ingredient that finishes or perfects the image.

**197 Polymeric mixture:**
This subclass is indented under subclass 194. Compositions wherein the radiation-sensitive azide compound and a polymer are present together in admixture, e.g., an aromatic azide compound and synthetic rubbers such as isoprene.

**198 VISIBLE IMAGING INCLUDING STEP OF FIRING OR SINTERING:**
This subclass is indented under the class definition. Processes producing a visible image and including the step of applying heat to fuse or coalesce a material.

SEE OR SEARCH CLASS:
432, Heating, subclass 13 for process of heating or heating operation including melting, vaporizing, sintering, expanding, comminuting, or classifying work material.

**199 TRANSFER PROCEDURE BETWEEN IMAGE AND IMAGE LAYER, IMAGE RECEIVING LAYERS, OR ELEMENT CONTAINING AN IMAGE RECEIVING LAYER OR AN INGREDIENT FOR FORMING AN IMAGE RECEIVING LAYER:**
This subclass is indented under the class definition. Processes forming an image, including a latent image, in a first layer by imagewise exposure of the first layer to radiation and the formation of an image in and/or on image receiving record layer during and/or after the exposure of the first layer by transfer of a material from the first layer to the record layer as a function of the imagewise exposure. Elements for use in the above processes which contain the image record receiving layer or compositions for the same.

(1) Note. For purpose of this and indented subclasses, an element can be a single layer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
256, for the stripping of an entire layer containing an image from one layer and transferring it to another layer and product therefor.

SEE OR SEARCH CLASS:
360, Dynamic Magnetic Information Storage or Retrieval, subclasses 15+ for record copying involving contact transfer.
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions); subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**200 Imagewise heating, element or image receiving layers therefor or imagewise vapor and**

**gas transfer process, element or image receiving layer therefor:**
This subclass is indented under subclass 199. Processes wherein imagewise pattern of heat is applied to a layer to produce an image therein or to modify a previously formed image therein. Also, a process of imagewise vapor or gas transfer of the image to a receiving layer. Element or image receiving layer for use of any of the above processes are also included.

SEE OR SEARCH CLASS:
250, Radiant Energy, subclass 318 for non-chemical thermal recording involving image transfer.

**201 Imagewise vapor or gas transfer process, element or image receiving layer therefor:**
This subclass is indented under subclass 200. Processes wherein vapor or gas is transferred from the radiation-sensitive layer to an image receiving layer as a function of an exposure of the radiation-sensitive layer to an imagewise pattern of radiation and element or image receiving layer for use in the process.

**202 Diffusion transfer process, element, or identified image receiving layers therefor:**
This subclass is indented under subclass 199. Processes wherein the image is formed in and/or on the image receiving layer by permeation of a nongaseous material from a radiation-sensitive layer in conjunction with and during the processing, e.g., exposure, developing, fixing, etc., of the radiation-sensitive layer. Also included are the element and identified image receiving layers for the above process.

SEE OR SEARCH THIS CLASS, SUBCLASS:
200, for thermal recording processes and elements employing diffusion transfer of a material.

**203 By uniform application of heat, element, or image receiving layer therefor:**
This subclass is indented under subclass 202. Processes wherein heat is applied in a uniform manner to the radiation-sensitive layer and/or image receiving layer at a time intermediate or during the imagewise exposure of the radiation-sensitive layer and the development of the image in the image receiving layer. Also included are the element and the image receiving layers for the above process.

**204 Making printing plate:**
This subclass is indented under subclass 202. Processes for producing a printing surface in and/or on the image receiving layer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
300, for other processes for making printing plates, and see the search note thereunder.

**205 Including imagewise removal of image receiving layer or portion thereof:**
This subclass is indented under subclass 204. Processes wherein a portion or portions of the image receiving layer are removed as a function of the imagewise exposure of the radiation-sensitive layer.

(1) Note. Removal, e.g., diffusion, etc., of a material from a portion of the record layer without substantially changing the thickness of the record layer is not included herein.

**206 Web processing of radiation-sensitive layer or imbibition of image receiving layer or image receiving element with processing composition prior to contact with the radiation sensitive element or layer:**
This subclass is indented under subclass 202. Processes wherein (a) the exposed radiation-sensitive layer is processed by contacting it with a web containing a processing ingredient, or (b) the image receiving layer (or element) is imbibed with a processing composition for the radiation-sensitive layer prior to contacting the radiation-sensitive layer with the image receiving layer.

**207 Element structurally defined other than containing nominal processing composition container or trap, or containing processing composition container or trap made of identified material:**
This subclass is indented under subclass 202. Element having a specified structural feature other than layer arrangement or broadly defined processing composition container or trap for excess processing composition.

**208 Having specified processing composition retaining means:**
This subclass is indented under subclass 207. Element having more than a broadly recited container for retaining a processing composition prior to application of the composition.

**209 Having specified trap:**
This subclass is indented under subclass 107. Element having more than a broadly recited trap for retaining excess processing composition after application of the processing composition.

**210 Having separable carrier sheet with processing composition container or trap permanently attached thereto:**
This subclass is indented under subclass 207. Element wherein a carrier sheet having either a container or trap for the processing composition permanently attached thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:
256, for stripping process and element.

**211 Element or identified image receiving layers for dye image formation:**
This subclass is indented under subclass 202. Element or identified image receiving layers adapted for forming dye image, e.g., element containing a dye forming compound or dye mordant as a function of imagewise exposure of the radiation-sensitive layer.

(1) Note. The dye image may be formed in the image receiving layer or the radiation-sensitive layer.

**212 Element containing silver salt sensitizer or either element or image receiving layer for use therewith:**
This subclass is indented under subclass 211. Element or image receiving layers either containing radiation sensitive silver salt or a dye image receiving layer adapted to receive a diffusible dye or dye intermediate, transferred by diffusion from an element or layer comprising radiation sensitive silver salt.

**213 Having either an identified dye mordant or image receiving layer binder other than nominal gelatin:**
This subclass is indented under subclass 212. Element or receiving layers containing an identified dye mordant, i.e., ingredient which mordants diffusible dyes or dye precursor or an identified dye image receiving record layer binder other than nominal gelatin.

**214 Having either a nonradiation sensitive scavenger layer, or an ingredient for forming scavenger or barrier layer, or an identified developing agent scavenger:**
This subclass is indented under subclass 212. Element containing a nonradiation sensitive scavenger layer, other than the image receiving layer, which is not capable of preventing the diffusion therethrough of some diffusible ingredient, including water, hydrogen, and hydroxyl ions, present in the element during processing but is capable of preventing the through diffusion of at least one other diffusible ingredient present in the element before, during, or after processing, or containing an ingredient during the processing operation which forms a scavenger or barrier layer, other than the image receiving layer, or containing an identified ingredient, other than a dye image forming compound, which reacts with silver halide developing agent or derivatives thereof to scavenge or render radiant graphically innocuous excess or undesired developing agent.

(1) Note. Layers impermeable to water, hydrogen ions or hydroxyl ions prior to processing the element which contains the same are not considered to be scavenger layers and ingredients for forming same.

**215 Identified synthetic polymeric binder contained in nonradiation sensitive processing composition permeable layer other than an image receiving or neutralizing layer:**
This subclass is indented under subclass 212. Element which contains a nonradiation sensitive processing composition permeable layer having an identified synthetic polymeric binder therein and is not an image receiving or a neutralizing layer.

**216 Identified neutralizing layer or ingredient containing or dye stabilizer containing:**

This subclass is indented under subclass 212. Element containing an identified neutralizing layer or ingredient adapted to adjust the pH of the processing composition during processing to more neutral pH, or containing an ingredient which stabilizes a dye image.

**217 Silver halide identified-grain, identified emulsion binder other than nominal gelatin, or identified sensitizer or identified desensitizer containing:**

This subclass is indented under subclass 212. Element containing a silver halide identified grain of specified form, e.g., size, crystal habit, etc., or a silver halide identified binder other than a nominal gelatin or a silver halide identified ingredient which performs the function of, e.g., hypersensitizing, latensifying, optical sensitizing or desensitizing, etc.

SEE OR SEARCH CLASS:

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

**218 Identified nondye image forming developing agent, silver halide development accelerator or retarder, or dye image forming accelerator or retarder containing:**

This subclass is indented under subclass 212. Element containing a silver halide identified developing agent which is not an image forming dye or dye precursor, containing an identified ingredient functioning to accelerate, retard, or inhibit development of silver halide or containing an identified ingredient which effects the dye image density by accelerating or retarding the formation of a dye image forming compound or diffusion transfer rate of a diffusible dye image forming compound.

(1) Note. Included in this subclass are, e.g., auxiliary developing agents, antifoggants, silver halide development accelerators or retarders, dye solvents or gelatin softeners which accelerate dye transfer and color development accelerators.

**219 Silver halide developing retarder or antifoggant:**

This subclass is indented under subclass 218. Subject matter containing an ingredient functioning to retard the development of exposed silver halide or an ingredient which retards or prevents the formation of fog in a radiation-sensitive layer.

(1) Note. For purposes of this subclass, fog is defined as the formation of silver density in areas of the radiation sensitive silver halide layer not imagewise exposed to radiation.

**220 Identified light absorbing, whitening, brightening, or reflecting agent other than nominal $TiO_2$:**

This subclass is indented under subclass 212. Subject matter containing an identified ingredient which functions to absorb, filter, or reflect radiation and includes whiteners or brighteners and precursors thereof other than nominal $TiO_2$.

**221 pH sensitive:**

This subclass is indented under subclass 220. Subject matter wherein the ingredient is capable of substantially changing its radiation reflecting or absorbing properties with a change in the pH of its environment.

**222 Identified dye image forming compound other than colorless color developer or dye mordant containing or identified organic solvent for an incorporated ingredient:**

This subclass is indented under subclass 212. Subject matter containing an identified image forming compound which is a dye or a dye precursor compound, e.g., leuco dye or color coupler, other than a dye mordant or a compound consisting essentially of a silver halide developing moiety which is not a dye or leuco dye

moiety. Also containing an identified organic solvent for at least one ingredient incorporated into a layer of an element.

**223 Redox cleavable dye or dye precursor releaser:**
This subclass is indented under subclass 222. Subject matter wherein the dye image forming compound comprises a dye or dye precursor moiety and at lest one other moiety and which upon oxidation or reduction in a medium cleaves to separate the dye or dye precursor moiety from the other moiety and wherein the separated dye or dye precursor moiety has a degree of diffusibility in the element during processing substantially different from the degree of diffusibility of the uncleaved dye image forming compound in the element during processing.

(1) Note. Excluded from herein are elements containing, as the only redox cleavable dye or dye precursor releasing compound, dye image forming compound which may be oxidized during a condensation reaction with another compound and which cleaves off a dye or dye precursor moiety at their condensation reaction sites during the condensation reaction

**224 Dye developer or leuco dye developer:**
This subclass is indented under subclass 222. Subject matter wherein the dye image forming compound comprises both a silver halide developing moiety and a dye or leuco dye moiety as the same or distinct moieties.

(1) Note. A leuco dye moiety is considered to be a moiety which becomes a dye moiety after its oxidation or reduction.

**225 Azo:**
This subclass is indented under subclass 224. Subject matter wherein the dye image forming compound comprises an azo moiety (-N:N-).

**226 Coupler with coupling-off ballast, dye or dye precursor moiety:**
This subclass is indented under subclass 222. Subject matter wherein the dye image forming compound comprises a coupler moiety substituted at its coupling site with at least one other moiety selected from dye, dye precursor or ballast moieties and which is capable upon a coupling, i.e., condensation reaction, at its coupling site with another compound of cleaving the other moiety from the coupler moiety.

(1) Note. The coupler moiety need not be a color coupler moiety, i.e., a coupler moiety that forms a dye by a coupling reaction.

**227 Element or image receiving layers for silver salt or silver complex transfer:**
This subclass is indented under subclass 202. Subject matter comprising an image receiving layer adapted to receive an imagewise distribution of diffusible silver salt or diffusible silver complex transferred by diffusion from the radiation-sensitive layer.

**228 Having lenticular or color screen:**
This subclass is indented under subclass 227. Subject matter containing a lenticular or color screen.

**229 Permanent laminate:**
This subclass is indented under subclass 227. Subject matter having a laminate adapted to be processed without delamination of the laminate intermediate the radiation-sensitive layer and image receiving layer and is adapted to form a transfer image in and/or on the image receiving layer which is viewable without delamination of the laminate intermediate the radiation-sensitive layer and the image receiving layer.

**230 Identified silver halide grain, silver halide emulsion, binder other than nominally defined gelatin, or silver halide sensitizer or desensitizer containing:**
This subclass is indented under subclass 227. Subject matter containing a radiation sensitive silver halide layer having silver halide grains of a specified form, e.g., size, crystal habit, etc., containing an identified silver halide binder other than broadly defined gelatin, or containing an identified sensitizing, e.g., optical, latensifying, or desensitizing ingredient.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g.,

foams, emulsions, suspensions, dispersions); subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents; in each instance, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**231 Identified precipitation nuclei or image receiving layer binder containing other than nominal gelatin:**

This subclass is indented under subclass 227. Subject matter containing an identified ingredient which causes, aids, or increases precipitation of silver from diffusible silver salts or diffusible silver complexes, or an identified binder other than a broadly defined gelatin, in an image receiving layer.

SEE OR SEARCH CLASS:

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

**232 Identified organic polymeric image receiving layer binder other than nominal gelatin:**

This subclass is indented under subclass 231. Subject matter containing an identified organic polymeric binder other than broadly defined gelatin.

SEE OR SEARCH CLASS:

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

**233 Identified toning or silver transfer image stabilizing ingredient containing:**

This subclass is indented under subclass 227. Subject matter containing an identified ingredient capable of reacting with a silver image to change the color of the image, including black, or containing an identified ingredient capable of stabilizing, e.g., preventing discoloration, etc., of an image formed in and/or on an image receiving layer by diffusion of a silver salt complex.

SEE OR SEARCH CLASS:

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

**234 Identified developing agent or silver salt complexing agent containing:**

This subclass is indented under subclass 227. Subject matter containing an identified silver halide developing agent or containing an identified ingredient capable of forming a diffusible complex or salt with silver or radiation sensitive silver salt.

**235 Dye image formation process:**
This subclass is indented under subclass 202. Processes for forming a dye image as a function of the imagewise exposure of the radiation-sensitive layer.

**236 Using silver salt sensitizer:**
This subclass is indented under subclass 235. Processes wherein a radiation sensitive silver salt is used in the radiation-sensitive layer.

**237 Using identified neutralization layer or ingredient or separate post transfer treatment of dye image:**
This subclass is indented under subclass 236. Processes employing an identified neutralization layer or ingredient which adjusts the pH of a processing composition used in forming the dye image to a substantially more neutral pH or treating a formed dye image.

**238 Using identified dye mordant or binder other than nominal gelatin:**
This subclass is indented under subclass 236. Processes employing an identified dye mordant or an identified dye image receiving layer binder other than a broadly defined gelatin.

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

**239 Using identified nondye image forming developing agent, silver development accelerator or retarder, or dye image formation accelerator or retarder:**
This subclass is indented under subclass 236. Processes using an identified developing agent which is not an image forming dye or dye precursor, using an identified ingredient which effects dye image density by accelerating or retarding the formation of a dye image forming compound or the diffusion transfer rate of a diffusible dye image forming compound or employing an identified ingredient which accelerates, retards, or inhibits development of a silver halide.

**240 Development retarder or antifoggant:**
This subclass is indented under subclass 239. Processes wherein an identified ingredient is used which retards development of silver halide including an antifoggant.

**241 Using identified dye forming compound other than colorless color developer or dye mordant or using identified organic solvent:**
This subclass is indented under subclass 236. Processes using an identified dye image forming compound which is a dye or dye precursor, e.g., leuco dye or coupler, etc., other than a dye mordant or a compound consisting essentially of a silver halide, developing moiety which is not a dye or leuco dye moiety or using an identified organic solvent.

**242 Redox cleavable dye or dye precursor releaser:**
This subclass is indented under subclass 241. Processes wherein the dye image forming compound comprises a dye or dye precursor moiety and at least one other moiety which after being oxidized or reduced in a medium is cleaved separating the dye or dye precursor moiety from the other moiety to form a dye or dye precursor moiety having a substantially different diffusibility from the uncleaved dye image forming compound.

**243 Dye developer or leuco dye developer:**
This subclass is indented under subclass 241. Processes wherein the dye image forming compound comprises both a silver halide developing moiety and a dye or leuco dye moiety either as the same moiety or distinct moieties.

**244 Silver salt transfer process:**
This subclass is indented under subclass 202. Processes forming an image in or on the image receiving layer by imagewise transferring, by diffusion, a silver salt, or a silver complex from the radiation-sensitive layer to a second receiving layer.

(1) Note. The layer receiving the diffusing silver salt or complex need not be the final image receiving layer in or on which the image is formed.

**245 Exposing through color filter element:**
This subclass is indented under subclass 244. Processes forming a multicolor image record by exposing the radiation-sensitive layer to radiation from at least one color filter element.

**246 Processing permanent laminate:**
This subclass is indented under subclass 244. Processes comprising the processing of a permanent laminate.

SEE OR SEARCH THIS CLASS, SUBCLASS:
229, for definition of permanent laminate.

**247 Using identified precipitation nuclei or identified image receiving binder other than nominal gelatin:**
This subclass is indented under subclass 244. Processes employing an identified ingredient functioning to cause, aid, or increase precipitation of silver, etc., from diffusible salts or diffusible complexes or using an identified binder, other than a broadly defined gelatin, for the image receiving layer.

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

**248 Including silver transfer image toning or stabilizing, or separate post transfer treatment of element or layer containing silver image:**
This subclass is indented under subclass 244. Processes employing an identified ingredient which reacts with a silver image formed during processing to stabilize the silver image or to change the color of the silver image, including changing it to black, of treating a layer containing a formed silver image.

**249 Developing with an identified silver halide developing agent:**
This subclass is indented under subclass 244. Processes employing an identified silver halide developing agent.

**250 Hydroxylamine:**
This subclass is indented under subclass 249. Processes employing hydroxylamine to include substituted analogs as the developing agent.

**251 Processing with identified silver or silver salt complexing agent:**
This subclass is indented under subclass 244. Processes employing an identified ingredient which forms a diffusible salt or diffusible complex when reacted with silver or radiation sensitive silver salt.

**252 Image layer portion transfer and element therefor:**
This subclass is indented under subclass 199. Processes wherein the image is formed in the radiation-sensitive layer and a substantial continuous or discontinuous portion of the radiation-sensitive layer containing the image is transferred to the image receiving layer and the elements for use in the process.

(1) Note. Processes wherein the thickness of the radiation-sensitive layer is not substantially reduced in either a continuous or discontinuous manner are not included herein.

**253 Separating exposed areas from unexposed or underexposed areas of image layer by transfer, element or receiving layer therefor:**
This subclass is indented under subclass 252. Processes wherein portions of the radiation-sensitive layer exposed to a first quantity of radiation are at least partially separated from portions of the radiation-sensitive layer not exposed to said quantity of radiation, e.g.,

unexposed or underexposed portions, by transferring at least a part of one of said portions to an image receiving layer. Elements or image receiving layers for the process are also included.

**254 Transfer process with uniform heat application and element therefor:**
This subclass is indented under subclass 253. Processes wherein heat is uniformly applied to the radiation-sensitive layer during transfer and the element used for the same.

**255 Using silver salt sensitizer and element therefor:**
This subclass is indented under subclass 253. Processes wherein a radiation sensitive silver salt is used in the radiation-sensitive layer, and the element used for the same.

**256 STRIPPING PROCESS OR ELEMENt:**
This subclass is indented under the class definition. Processes of forming an image in a strippable layer, e.g., a radiation-sensitive layer, and the removal of such layer(s) by stripping the same from another layer or element to which it is (directly or indirectly) adhered, or the stripping, per se. Also, an element adapted for use in the above process.

(1) Note. The image may be formed in the stripping layer after the layer has been stripped.

SEE OR SEARCH CLASS:
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, subclass 247 for process of direct contact transfer of adhered lamina from carrier to base with stripping of adhered lamina.
428, Stock Material or Miscellaneous Articles, subclass 202 for structurally defined web or sheet having intermediate discontinuous or differential layer with an outer strippable or release layer.

**257 Forming composite image, e.g., multiple stripped image layer, etc.:**
This subclass is indented under subclass 256. Subject matter wherein plural strippable layers which have been stripped from layers or elements to which they were adhered are superimposed on each other.

(1) Note. This subclass includes the formation of multicolor images by the superimposition of stripped layers containing different color images.

**258 Forming nonplanar image:**
This subclass is indented under subclass 256. Processes for forming nonplanar image in the strippable layer either before or after the stripping operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
269, for process of forming a nonplanar surface.

**259 Element:**
This subclass is indented under subclass 256. An element.

**260 Stripping layer having radiation polymerizable or cross-linkable composition:**
This subclass is indented under subclass 259. Elements containing a radiation-sensitive composition which forms an image by polymerization or cross-linking which is a stripping layer.

**261 Strippable between two radiation-sensitive layers:**
This subclass is indented under subclass 259. Elements adapted to be stripped between two electromagnetic sensitive layers.

**262 Stripping layer containing specified synthetic nonradiation sensitive polymer:**
This subclass is indented under subclass 259. Element wherein the stripping layer, i.e., a layer adapted to be stripped at its interface with another layer, comprises a specified synthetic polymer.

**263 From ethylenically unsaturated monomer:**
This subclass is indented under subclass 262. Element wherein the polymer is derived from ethylenically unsaturated monomers, e.g., vinyl polymers, etc.

**264 SILVER HALIDE COLLOID TANNING PROCESS, COMPOSITION, OR PRODUCT:**

This subclass is indented under the class definition. Processes wherein a radiation sensitive silver halide and polymer containing medium is imaged with radiation to (a) decrease the solubility to a developing solvent in imaged areas, (b) increase the oleophilic property in imaged areas, or (c) to produce a high contrast, viz, gamma significantly above unit gamma such as a gamma of 2.0 silver image, in radiation exposed areas of the medium; radiation sensitive composition and product used in the process and used solely after image processing, as a printing plate or electrical device; also a finishing or perfecting composition and product used in the process.

(1) Note. Included herein are those processes wherein an oleophilic radiation insolubilized image is formed in radiation exposed areas of the medium.

**265 Process using lithographic infectious developer:**

This subclass is indented under subclass 264. Processes wherein the imaged radiation medium is finished or perfected with a composition having a reducing agent for a latent silver image which produces a silver image, a printing plate, or an electrical device, etc.

**266 And polymer or nonpolymer condensation reaction product:**

This subclass is indented under subclass 265. Processes wherein a polymer or nonpolymeric condensation reaction product is used during the finishing or perfecting procedures.

**267 And heterocyclic additive:**

This subclass is indented under subclass 265. Processes wherein a heterocyclic compound is used during the finishing or perfecting procedure.

**268 Infectious developer composition:**

This subclass is indented under subclass 264. Compositions having a reducing agent for latent silver image used to finish or perfect the imaged radiation sensitive medium by producing a silver image, a printing plate, or an electrical device, etc.

**269 IMAGING AFFECTING PHYSICAL PROPERTY OF RADIATION SENSITIVE MATERIAL, OR PRODUCING NONPLANAR OR PRINTING SURFACE - PROCESS, COMPOSITION, OR PRODUCT:**

This subclass is indented under the class definition. Processes wherein an image (a) is produced in an imaged medium based upon physical property (e.g., hardness, tackiness, solubility, swellability, vaporization, refractive index) difference in the medium caused by the amount of type or radiation received by the medium, and when the physical property difference in the medium is not caused by the amount or type of radiation received by the medium, the image is finished or perfected as by developing or fixing, (b) formed in a medium is a nonplanar image, i.e., image areas of the medium are elevated or lowered relative to the rest of the medium, or (c) formed in a medium and is used as or to form a printing surface; radiation-sensitive composition and product used in the process; process of making the radiation-sensitive composition and product; or finishing or perfecting composition or product used in the process.

SEE OR SEARCH THIS CLASS, SUBCLASS:

408, for photosolubilization processes involving a positive image.

SEE OR SEARCH CLASS:

520, Synthetic Resins or Natural Rubbers, appropriate subclasses, particularly Class 523, subclass 136 for a composition containing a synthetic resin which is resistant to, yet does not absorb, radioactive materials or cathode rays or to processes of preparing said composition.

**270.1 Radiation sensitive composition or product or process of making:**

This subclass is indented under subclass 269. Radiation sensitive composition or product and the process of making the composition or product.

**270.11 Optical recording nonstructural layered product having a radiation sensitive composition layer claimed or solely disclosed as**

**optically recordable and optically machine readable:**
This subclass is indented under subclass 270.1. Subject matter wherein a non-structural plural layered product having a radiation sensitive composition containing layer is claimed or solely disclosed for use as a carrier of optically recorded and optically machine readable information.

(1) Note. This subclass expressly excludes products designated as resists or printing plates.

SEE OR SEARCH THIS CLASS, SUBCLASS:
945, a cross-reference art collection for materials recorded upon using a laser.

SEE OR SEARCH CLASS:
346, Recorders, particularly, subclasses 134+ for a single or plural layer web or sheet which is disclosed as a record receiver solely for use with apparatus provided for in (1) and (2) of the definition of that class.

(1) Note. A web or sheet which has chart graduations (e.g., graph, etc.) thereon is assigned to Class 346, subclass 135.1, regardless of its disclosure.

365, Static Information Storage and Retrieval, for apparatus or corresponding processes for the static storage and retrieval of information, particularly subclasses 106+ for radiation altering of a condition or state of a memory material or element in accordance with the information stored.

369, Dynamic Information Storage or Retrieval, particularly subclasses 272.1+, for a record carrier, per se, having specific information storage structure.

(1) Note. The characteristic variation is one which must be retrievable by a transducer. Such variation producing only a directly perceptible indication (e.g., a graph) is classified in Class 346.

428, Stock Material or Miscellaneous Articles, provides for stock-liquid crystal, an article having a latent or developable image formed other than by use of radiation, and nonradiation sensitive stock material disclosed for use in radiation imagery.

(1) Note. A web or sheet disclosed as a record receiver of general utility, or for multiple uses, at least one of which is other than for a recorder apparatus provided for in Class 346, is classified in the appropriate subclass in Class 428, with a cross-reference to Class 346, if appropriate.

(2) Note. A disc with or without grooves which does not include recorded information is classified in Class 428, subclasses 64.1+.

**270.12 Having read-write layer of 100 percent inorganic composition:**
This subclass is indented under subclass 270.11. Subject matter wherein the radiation sensitive composition containing layer contains only inorganic material.

**270.13 Which changes phase during recording:**
This subclass is indented under subclass 270.12. Subject matter wherein at least some of the inorganic material is capable of undergoing a phase change upon optical recording (e.g., crystalline to amorphous, etc.).

**270.14 Having read-write layer of 100 percent organic or organometallic composition or mixtures thereof:**
This subclass is indented under subclass 270.11. Subject matter wherein the radiation sensitive composition containing layer contains only organic material or a metal complex of organic material or mixtures thereof.

(1) Note. The term “organic material” as used herein means a material within the main Class definition of Class 260, Chemistry of Carbon Compounds.

**270.15 Containing non-polymeric chromophore:**
This subclass is indented under subclass 270.14. Subject matter wherein the radiation sensitive composition containing layer contains a chromophore which is not attached to a polymer.

**270.16 Organometallic containing:**
This subclass is indented under subclass 270.15. Subject matter wherein the non-polymeric chromophore is a metal complex of an organic material.

**270.17 Naphthalocyanine:**
This subclass is indented under subclass 270.16. Subject matter wherein the organometallic is a metal complex of naphthalocyanine (i.e., a compound containing four isobenzoindole rings linked in a sixteen membered ring of alternating carbon atoms and nitrogen atoms around a central metal atom).

**270.18 Having methine linkage:**
This subclass is indented under subclass 270.15. Subject matter wherein the nonpolymeric chromophore has a methine linkage (i.e., -CH=).

**270.19 And containing quencher or stabilizer:**
This subclass is indented under subclass 270.18. Subject matter wherein, in addition to the non-polymeric chromophore, the radiation sensitive composition containing layer contains material which prevents fading or degradation thereof.

**270.2 Cyanine chromophore:**
This subclass is indented under subclass 270.18. Subject matter wherein the methine linkage containing non-polymeric chromophore is a compound which contains two distinct heterocyclic rings, each individual heterocyclic ring containing at least one nitrogen atom, said nitrogen atoms of the individual rings being joined through a resonating acyclic carbon chain which contains the methine linkage (i.e., -CH=) or a conjugated chain which contains the methine linkage (i.e.,-CH=).

**270.21 Indolenic cyanine chromophore:**
This subclass is indented under subclass 270.2. Subject matter wherein at least one of the heterocyclic rings of the cyanine is a substituted or unsubstituted indole moiety (i.e., 2,3-benzopyrrole).

**271.1 Identified backing or protective layercontaining:**
This subclass is indented under subclass 270.1. Subject matter wherein a backing or protective layer of the medium is specifically named.

**272.1 Silicon containing backing or protective layer:**
This subclass is indented under subclass 271.1. Subject matter wherein the backing layer or the protecting layer contains silicon.

**273.1 Identified overlayer on radiation-sensitive-layer:**
This subclass is indented under subclass 271.1. Subject matter wherein the radiation-sensitive layer is provided with an identified overlayer.

**274.1 And radiation-sensitive chromium compound:**
This subclass is indented under subclass 271.1. Subject matter wherein the medium includes a radiation-sensitive chromium compound.

**275.1 Metal as backing or protective layer:**
This subclass is indented under subclass 271.1. Subject matter wherein the backing or protective layer is metal.

**276.1 And another backing or protective layer other than aluminum oxide:**
This subclass is indented under subclass 275.1. Subject matter wherein a different layer is included in the medium other than a metal backing or protective layer.

(1) Note. See subclass 525 for a more specific definition of another backing layer.

SEE OR SEARCH THIS CLASS, SUBCLASS:
278.1, for aluminum oxide used in a backing layer.

**277.1 Copper:**
This subclass is indented under subclass 275.1. Subject matter wherein the metal is copper.

**278.1 Aluminum:**
This subclass is indented under subclass 275.1. Subject matter wherein the metal is aluminum.

(1) Note. Aluminum backing with aluminum oxide or oxide surface or layer are included herein.

**279.1 Zinc or magnesium:**
This subclass is indented under subclass 275.1. Subject matter wherein the metal is zinc or magnesium.

**280.1 Radiation sensitive composition comprising oxirane ring containing component:**
This subclass is indented under subclass 270.1. Subject matter wherein the radiation sensitive composition includes an ingredient containing a three membered ring having two carbons and one oxygen atom.

**281.1 Radiation sensitive composition comprising ethylenically unsaturated compound:**
This subclass is indented under subclass 270.1. Subject matter wherein the radiation sensitive composition includes an ethylenically unsaturated ingredient.

**282.1 N-vinylidene:**
This subclass is indented under subclass 281.1. Subject matter wherein the ethylenically unsaturated ingredient is an n-vinylidene compound (HC=C=).

**283.1 Amide:**
This subclass is indented under subclass 281.1. Subject matter wherein the ethylenically unsaturated ingredient has an amide moiety.

**284.1 Urethane:**
This subclass is indented under subclass 283.1. Subject matter wherein the ethylenically unsaturated ingredient has a urethane moiety.

**285.1 Polyester:**
This subclass is indented under subclass 281.1. Subject matter wherein the ethylenically unsaturated ingredient is a polyester.

**286.1 Resin or prepolymer containing ethylenical unsaturation:**
This subclass is indented under subclass 281.1. Subject matter wherein the ethylenically unsaturated ingredient is a resin or prepolymer with ethylenic unsaturation in the main chain of the resin or prepolymer (see (1) Note in subclass 287.1).

**287.1 Ethylenic unsaturation within the side chain component:**
This subclass is indented under subclass 286.1. Subject matter wherein the ethylenically unsaturated ingredient is a resin or prepolymer with ethylenic unsaturation in the side chain of the resin or prepolymer.

(1) Note. Prepolymer for this subclass definition excludes monomer compounds having no recurring units.

**288.1 Plural, terminal unsaturation:**
This subclass is indented under subclass 281.1. Subject matter wherein the ethylenically unsaturated ingredient has plural, terminal unsaturation.

**289.1 Radiation sensitive chromium compound:**
This subclass is indented under subclass 270.1. Subject matter wherein the radiation sensitive composition includes a radiation sensitive chromium compound.

**290 Light scattering or refractive index image formation:**
This subclass is indented under subclass 269. Processes wherein the image produced in the medium is light scattering or in the form of a refractive index differential in the medium.

**291 Post imaging treatment with particles:**
This subclass is indented under subclass 269. Processes wherein the image medium is contacted with a dry particulate material to form an image.

**292 Readily visible image formation:**
This subclass is indented under subclass 269. Processes wherein the image produced in the medium is readily discernible to the viewer.

(1) Note. Many images produced in processes under subclass 269 may be visible as disclosed in the patent specification such as lithographic or relief printing plate. However, unless the patent claims expressly pertain to including a visible color forming ingredient in the medium, a readily discernible image to the viewer is not obtained for classification purposes in this and indented subclasses.

SEE OR SEARCH THIS CLASS, SUBCLASS:

300+, for images that may be visible but the claimed image is specific to some use, such as printing plate use.

**293 Color proofing or multicolor image formation:**

This subclass is indented under subclass 292. Process wherein the image is used for color proofing or is a multicolor image.

(1) Note. A multicolor image is one in which the color-forming ingredient, layer, or element absorbs light in different areas of the visible light spectrum, e.g., absorbs magenta and cyan or red and green.

**294 By solvent removal:**

This subclass is indented under subclass 291. Process wherein the readily discernible image is produced by removing a portion of the imaged medium.

**295 Making ornamental design:**

This subclass is indented under subclass 292. Processes wherein the image is in the form of an ornamental design, such as an adornment placed on an article.

**296 Electron beam imaging:**

This subclass is indented under subclass 269. Processes wherein the radiation used for imaging the medium is in the form of an electron beam.

**297 Simultaneous radiation imaging and etching of substrate:**

This subclass is indented under subclass 269. Processes wherein radiation imaging of a radiation-sensitive layer of the medium is performed simultaneously with removal of portions of the medium beneath the imaged radiation-sensitive layer.

(1) Note. Simultaneously, for this subclass definition means that the radiation imaging and etching (removal) are performed concurrently in time.

**298 Simultaneous radiation imaging and deposition of material on substrate:**

This subclass is indented under subclass 269. Processes wherein radiation imaging of a radiation-sensitive layer of the medium is performed simultaneously with deposition of material on portions of the medium beneath the image radiation-sensitive layer.

(1) Note. Simultaneously, for this subclass definition means that the radiation imaging and deposition are performed concurrently in time.

**299 Simultaneous developing a resist image and etching a substrate:**

This subclass is indented under subclass 269. Processes wherein the image radiation-sensitive layer of the medium is developed to remove portions of the layer simultaneously with removal of portions of the medium beneath the imaged radiation-sensitive layer.

(1) Note. Simultaneously, for this subclass definition means that the developing and etching (removal) are performed concurrently in time.

**300 Making printing plates:**

This subclass is indented under subclass 269. Processes wherein the image is used as or to form a printing plate.

**301 Multicolor:**

This subclass is indented under subclass 300. Processes wherein the printing plate is used to produce a multicolor reproduction.

**302 Lithographic:**

This subclass is indented under subclass 300. Processes wherein ink adheres to the surface of the printing plate based upon oleophilic and oleophobic, or hydrophilic or hydrophobic differences at the surface of the plate which ink is capable of transfer onto a surface to be printed producing a reproduction.

**303 Driography:**

This subclass is indented under subclass 302. Processes wherein prior to adhering ink to the surface of the printing plate, a fountain solution is not used to increase the differences.

**304 Coating over colloid image and removal of colloid image to leave reversed image in coating, i.e., deep etch:**
This subclass is indented under subclass 302. Processes wherein the image is obtained by overcoating an imaged and developed radiation-sensitive layer with a material which remains after removal of the image and developed layer.

(1) Note. The processing procedure of this subclass produces a reversal of the location of the image used as or to form a printing plate.

**305 Continuous tone or collotype:**
This subclass is indented under subclass 302. Processes wherein the reproduction is a continuous tone image.

**306 Relief:**
This subclass is indented under subclass 300. Processes wherein the printing plate produces a reproduction based on ink transfer onto a surface to be printed from the heights of an imaged medium having raised areas.

**307 Intaglio or gravure:**
This subclass is indented under subclass 300. Processes wherein the printing plate produces a reproduction based on ink transfer onto a surface to be printed from the valleys of an imaged medium having lowered areas.

**308 Stencil:**
This subclass is indented under subclass 300. Processes wherein the printing plate produces a reproduction by forcing ink through an impervious perforated material onto a surface to be printed.

**309 Post imaging process:**
This subclass is indented under subclass 300. Processes wherein a process procedure after imaging is used to finish or perfect the printing plate.

**310 Including etching of substrate:**
This subclass is indented under subclass 309. Processes wherein the process procedure is removal of portions of the medium beneath the imaged radiation-sensitive layer.

**311 Making electrical device:**
This subclass is indented under subclass 269. Processes wherein the image is used as or to form an electrical device.

SEE OR SEARCH CLASS:
438, Semiconductor Device Manufacturing: Process, appropriate subclass for methods of making semiconductor devices; see search notes therein.

**312 Including multiple resist image formation:**
This subclass is indented under subclass 311. Processes wherein the imaged medium is developed to form more than one resist image.

(1) Note. A resist image is an image formed by removal of portions of the imaged radiation-sensitive layer of the medium.

(2) Note. Processes found in this subclass include those wherein there are multiple imaging and developing steps; a single imaging and multiple developing step; or multiple imaging and single developing steps.

**313 With formation of resist image, and etching of substrate or material deposition:**
This subclass is indented under subclass 311. Processes wherein the image is developed to form a resist image in the medium, and portions of the medium not covered by the resist image are removed or have material deposited thereon.

(1) Note. See (1) Note in subclass 312 for the definition of resist image.

SEE OR SEARCH CLASS:
216, Etching a Substrate: Processes, for disclosure (nonclaimed) of forming an image by radiation imagery and involving a claimed post imaging etching process.

**314 Etching of substrate and material deposition:**
This subclass is indented under subclass 313. Processes wherein portions of the medium are removed and material is deposited on the medium.

**315 Material deposition only:**
This subclass is indented under subclass 313. Processes wherein only material is deposited on the medium not covered by the resist image.

**316 Multiple etching of substrate:**
This subclass is indented under subclass 313. Processes wherein portions of the medium are removed using more than one etching procedure.

**317 Insulative or nonmetallic dielectric etched:**
This subclass is indented under subclass 313. Processes wherein the portion of the medium being removed is an insulative or dielectric (nonmetal) material.

**318 Metal etched:**
This subclass is indented under subclass 313. Processes wherein the portion of the medium being removed is a metal.

**319 Named electrical device:**
This subclass is indented under subclass 311. Processes wherein the electrical device is specifically identified, e.g., a printed circuit or a mesa transistor, etc.

**320 Making named article:**
This subclass is indented under subclass 269. Processes wherein the imaged medium is used for making a specifically identified article.

**321 Optical device:**
This subclass is indented under subclass 320. Processes wherein the article is an optical device.

SEE OR SEARCH THIS CLASS, SUBCLASS:

4, for optical devices which are useful for imaging, such as a photo mask, and process of making those devices.

SEE OR SEARCH CLASS:

216, Etching a Substrate: Processes, for disclosure (nonclaimed) of forming an image by radiation imagery and involving a claimed post imaging etching process.

**322 Forming nonplanar surface:**
This subclass is indented under subclass 269. Processes wherein imaged areas of the medium are elevated or lowered relative to the rest of the medium.

**323 Including etching substrate:**
This subclass is indented under subclass 322. Processes wherein portions of the medium beneath an imaged layer in the medium are removed.

**324 Including material deposition:**
This subclass is indented under subclass 322. Processes wherein portions of the medium beneath an imaged layer in the medium have material deposited thereon.

**325 Post image treatment to produce elevated pattern:**
This subclass is indented under subclass 322. Processes wherein the imaged medium is treated to produce an image in the form of raised pattern, e.g., by removal of soluble material in radiation unexposed areas of a radiation layer, etc.

**326 Pattern elevated in radiation unexposed areas:**
This subclass is indented under subclass 325. Processes wherein the imaged medium is treated to produce an image in the form of an elevated pattern in radiation unexposed areas of the medium, i.e., by removal of soluble material in radiation exposed areas of a radiation-sensitive layer.

**327 Processing feature prior to imaging:**
This subclass is indented under subclass 269. Processes wherein there is a perfecting procedure prior to imaging the medium.

**328 Post imaging radiant energy exposure:**
This subclass is indented under subclass 269. Processes wherein there is a perfecting or finishing procedure subsequent to imaging the medium.

**329 Removal of imaged layers:**
This subclass is indented under subclass 269. Processes wherein the imaged and developed layer of the medium is removed subsequent to development.

**330 Including heating:**
This subclass is indented under subclass 269. Process wherein heat is used to image, perfect, or finish an image in the medium.

**331 Finishing or perfecting composition or product:**
This subclass is indented under subclass 269. Composition or product used to finish or perfect an image in the medium.

**332 DYE IMAGE FROM RADIATION SENSITIVE DYE OR DYE FORMER BY DRY PROCESSING, COMPOSITION, OR PRODUCT:**
This subclass is indented under the class definition. Subject matter wherein a radiation sensitive dye or dye former in a medium is imaged with electromagnetic radiation to produce a print out dye image, bleach out dye image, or latent image which is developed to a visible image by dye processing, e.g., photochromic dyestuff, print out dyestuffs, photo bleachable dyestuff, leuco dyestuffs, etc., also radiation sensitive composition and product used in the process, and process of making the same.

(1) Note. A dye for the purpose of this and indented subclasses is any colored (including black) organic compound.

**333 Multiple image formation, multiple image exposure, or simultaneous radiant energy exposure:**
This subclass is indented under subclass 332. Processes wherein more than one image is formed in the medium, more than one imaging exposure of the medium is employed, or the radiant energy utilized during the imaging exposure is from different portions of the electromagnetic spectrum.

**334 Positive image formation from radiation sensitive dye former:**
This subclass is indented under subclass 332. Processes wherein the image is formed in portions of the medium not subject to electromagnetic radiation or inversely proportional to the amount of electromagnetic radiation received.

**335 Pretreatment processing before imaging, e.g., overall radiant energy exposure, etc.:**
This subclass is indented under subclass 332. Processes wherein the medium to be imaged is subject to a processing procedure prior to imaging.

**336 Developing latent image using radiant energy or heat:**
This subclass is indented under subclass 332. Processes wherein the latent image is developed with radiant energy such as infrared radiation or heat such as by contact with a hot body.

**337 Fixing or stabilizing image:**
This subclass is indented under subclass 332. Processes wherein the image is made permanent or temporarily permanent, viz, only a special procedure would remove the image, etc.

**338 Composition or product:**
This subclass is indented under subclass 332. Composition and product made by the process of the class and the process of making the same not otherwise provided.

**339 Radiation sensitive bleachable dyestuff:**
This subclass is indented under subclass 338. Compositions containing a compound having a chromophore group such as an azo moiety, which upon exposure to electromagnetic radiation becomes colorless or less brightly colored.

**340 Identified sensitizer containing:**
This subclass is indented under subclass 338. Subject matter containing a radiation sensitizer which is itself not a dye or dye former.

**341 Metal salt or complex:**
This subclass is indented under subclass 340. Subject matter containing a radiation sensitive metal salt or complex.

**342 Sulfur compound:**
This subclass is indented under subclass 340. Compositions and products containing a radiation sensitive compound having a sulfur atom.

**343 Heterocyclic:**
This subclass is indented under subclass 340. Compositions and products containing a radiation sensitive compound having a heterocyclic ring.

**344 Halogen compound:**
This subclass is indented under subclass 340. Subject matter containing a radiation sensitive compound having a halogen atom.

**345 Spiropyran dye or dye former:**
This subclass is indented under subclass 338. Subject matter containing a radiation sensitive spiropyran compound, e.g., benzospiropyran, etc.

**346 VISIBLE IMAGING USING RADIATION ONLY OTHER THAN HEATING BY SURFACE CONTACT OR CONVECTION:**
This subclass is indented under the class definition. Processes using only radiation to produce a visual image by either forming the same or rendering a latent image visible (developing).

(1) Note. The term "heat" in a claim without further limitation will not place a patent in this subclass, but rather in subclass 348 below.

SEE OR SEARCH CLASS:
250, Radiant Energy, subclasses 330+ for nonchemical infrared to visible imaging.
346, Recorders, subclass 76.1 for pyrographic or thermochemical recorder for recording phenomenal information.
347, Incremental Printing of Symbolic Information, subclasses 224+ for radiation marking apparatus, and subclasses 129+ for electrostatic marking apparatus including photo scanning device.
427, Coating Processes, subclasses 542, 557+ and 595+ for infrared or radiant heat rendering a coating visible.

**347 COMBINED:**
Subject matter of this class not provided for below combined with subject matter of another class.

**348 THERMOGRAPHIC PROCESS:**
This subclass is indented under the class definition. Processes wherein radiant heat (heat applied by means which does not touch the radiant sensitive receiver) is used to form the image or heat is used in some phase of the process of image formation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
124.31, through 124.4, for fixing an electric or magnetic image by a heated metal roller.
151, for heat development of diazo-type process.
198, for visible imaging including firing or sintering.
203, for diffusion transfer process using heat.
330, for imaging affecting physical property of radiation sensitive material, or producing nonplanar or printing surface including heating.
346, for forming a visible image or rendering visible a latent image by use of radiation only.
363, for laser exposure in a color process.
616, for composition for visible imaging by radiation only.

SEE OR SEARCH CLASS:
250, Radiant Energy, subclasses 316.1+ for infrared or thermal pattern recording.
252, Compositions, subclass 70 for thermostatic or thermophoric compositions.
346, Recorders, subclass 76.1 for phenomenal recorders wherein heat is involved in the recording operation.
347, Incremental Printing of Symbolic Information, subclass 113 for electrostatic recorders in which a latent image is made visible by applying heat to cause a plastic deformation of a charged medium, subclass 114 for electrothermographic, subclasses 171+ and 224+ for thermal and radiation marking apparatus and processes.
360, Dynamic Magnetic Information Storage or Retrieval, subclass 59 for thermomagnetic recording.

427, Coating Processes, subclasses 542, 557+ and 595+ for infrared energy or radiant heating applied to a coating.

**349 Heat applied before imaging:**
This subclass is indented under subclass 348. Subject matter including the step of applying heat prior to imaging, e.g., for sensitizing, after coating, etc.

**350 Heat applied after imaging:**
This subclass is indented under subclass 348. Subject matter including the application of heat subsequent to imaging, e.g., sensitize or perfect the image, etc.

**351 Color development:**
This subclass is indented under subclass 350. Processes wherein an elevated temperature (includes gas or vapor treatment) is applied in the formation of a color image.

SEE OR SEARCH THIS CLASS, SUBCLASS:
357+, for the production of a colored image.

**352 During stabilization:**
This subclass is indented under subclass 350. Processes wherein an elevated temperature is applied to stabilize the image.

**353 During dry development:**
This subclass is indented under subclass 350. Processes wherein an elevated temperature is applied during development and no solutions are used. Radiation thermographic process systems are included herein.

**354 Including generation of vapor, moisture, etc.:**
This subclass is indented under subclass 353. Processes wherein a vapor, moisture, gas, etc., is produced during the development, but the final product is dry to touch after processing.

**355 During solvent development:**
This subclass is indented under subclass 350. Processes wherein an elevated temperature is applied during development in which solution is used.

**356 ACHROMATIC IMAGE PRODUCED FROM CHROMATIC REPRODUCTION IMAGE:**
This subclass is indented under the class definition. Processes for producing achromatic, i.e., black, white, or grey images from chromatic, i.e., color reproduction images, e.g., preparation of color separation records from multicolor reproduction materials.

SEE OR SEARCH THIS CLASS, SUBCLASS:
401, for achromatic image preparation wherein chromatic reproduction images are not used as an original.

**357 COLOR IMAGING PROCESS:**
This subclass is indented under the class definition. Processes for producing chromatic from nonspecified radiation sensitive material and either named or unnamed colorant or color producing material.

(1) Note. The image must be chromatic (colored) and not achromatic (black, white, or grey).

(2) Note. Free metal image, per se, as the final image is not included herein as a color image.

SEE OR SEARCH THIS CLASS, SUBCLASS:
1+, for holographic color process, composition, or element.
9+, for colored image product.
31+, for electric or magnetic imagery color process, composition, or product.
141+, for diazo color process, composition, or element.
211+, for transfer color process.
269+, for photopolymer color process, composition, or element.
332+, for radiation-sensitive dye and dye former process, composition, or element.
348+, for thermographic color process.
449+, for nonradiation-sensitive compositions used to form either chromatic or achromatic images or both.
495+, for radiation-sensitive color element.
541+, for named radiation-sensitive compositions.

**358 Color proofing:**
This subclass is indented under subclass 357. Processes for producing color proofs or colored facsimile of a colored print or design.

SEE OR SEARCH THIS CLASS, SUBCLASS:
22, for registering one or more images with the radiation sensitive medium to be imaged.
143, for color proofing of a diazo color image.

**359 Color correcting:**
This subclass is indented under subclass 357. Processes for correcting unwanted spectral absorption by color images, e.g., preventing color mixing in a reversal process, etc.

**360 Correcting by silver image:**
This subclass is indented under subclass 359. Processes for using a silver image to correct unwanted spectral adsorption.

SEE OR SEARCH THIS CLASS, SUBCLASS:
364, for the production of a final color and silver image where the silver image is not for the purpose of color correction.

**361 Correcting by color image produced by oxidizing bath treatment:**
This subclass is indented under subclass 359. Processes for using a colored image produced by treatment in an oxidizing medium, e.g., reaction of residual coupler with oxidized developer, etc., to correct unwanted spectral adsorption.

**362 Correcting by interimage effect:**
This subclass is indented under subclass 359. Processes for using an interimage effect, e.g., by adding a compound to an interlayer, etc., to correct unwanted spectral adsorption.

**363 Laser or radiation exposure other than visible light:**
This subclass is indented under subclass 357. Processes for exposing material with a laser or forms of radiation other than visible light.

SEE OR SEARCH THIS CLASS, SUBCLASS:
200, for imagewise heat exposure in a transfer process.
348+, for imagewise heat exposure.

**364 Forming combined chromatic and achromatic images:**
This subclass is indented under subclass 357. Processes for forming both a chromatic and achromatic image as the final image.

SEE OR SEARCH THIS CLASS, SUBCLASS:
356, for the production of achromatic images from chromatic reproduction images.
360, for the use of an achromatic image to correct a chromatic image.
367, 369 and 370, for the production of chromatic images from achromatic reproduction images.

**365 Forming multicolor image in a single layer:**
This subclass is indented under subclass 357. Processes for producing images having more than one color in a single layer.

(1) Note. Included herein is the production of color in a multilayered material wherein one or more layers contain two or more color images.

SEE OR SEARCH THIS CLASS, SUBCLASS:
383, for the production of a multicolor image from color couplers wherein the layers of a multicolor material contain only one color.
549, for silver compound radiation sensitive compositions containing two or more couplers.

**366 Resensitizing:**
This subclass is indented under subclass 357. Processes for producing second and subsequent color images from resensitized radiation sensitive materials, e.g., by rehalogenation or coating a radiation sensitive material onto an imaged layer, etc.

**367 Chromatic image produced from achromatic reproduction image:**
This subclass is indented under subclass 357. Processes for producing a colored image from a visible, finished achromatic image. This process may involve coloring of the achromatic image itself, e.g., by hand painting or the use of an achromatic image in a process of reproduction to yield a colored image.

(1) Note. Included herein is the production of color images by using metal images other than silver when used in the silver dye bleach or color reversal process.

**368 Blue or brown print forming:**
This subclass is indented under subclass 367. Processes wherein a radiation sensitive iron compound containing medium is imaged to produce a blue or blue-like image, or a brown or brown-like image.

**369 Viewing through either a colored filter or a colored light:**
This subclass is indented under subclass 367. Processes including the step of observing the achromatic image through either a colored filter or a colored light.

SEE OR SEARCH THIS CLASS, SUBCLASS:
245, for step exposing through filter to produce an achromatic image in the diffusion transfer process.

**370 Toning:**
This subclass is indented under subclass 367. Processes for producing the chromatic image by reacting a metal or metal salt achromatic image with an inorganic colorant.

SEE OR SEARCH THIS CLASS, SUBCLASS:
248, for toning a silver image formed by diffusion transfer.
367, for toning a metal image with an organic colorant.

**371 Mordanting:**
This subclass is indented under subclass 357. Processes for forming a final colored image by mordanting a dye to the image site.

SEE OR SEARCH THIS CLASS, SUBCLASS:
213, for dye mordanting in a diffusion transfer process.

**372 Stabilizing:**
This subclass is indented under subclass 357. Processes for stabilizing a dye image against the fogging or staining effect of heat ultraviolet, storage, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
216, for dye image stabilization in a diffusion transfer process.

**373 Intensifying:**
This subclass is indented under subclass 357. Processes wherein the density of the dye image is increased.

**374 Using identified radiation sensitive composition in the formation of color image:**
This subclass is indented under subclass 357. Processes for producing a colored image using identified radiation sensitive materials, e.g., titanium dioxide, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
357, for process using generic radiation sensitive materials.
541, for radiation sensitive compositions used in the process.

**375 Silver compound sensitizer:**
This subclass is indented under subclass 374. Processes using a silver compound radiation sensitive material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
542, for the silver compound radiation sensitive compositions.

**376 And coupler:**
This subclass is indented under subclass 375. Processes including the use of color coupler (which can be located in the composition, element, or processing medium).

(1) Note. Included herein are couplers which produce dyes wherein the color is

not named or dyes wherein the color is other than cyan, magenta, or yellow.

SEE OR SEARCH THIS CLASS, SUBCLASS:
402, for achromatic images from couplers.
543, for radiation sensitive compositions used in this process.

**377 And binder, coating aid, solvent, emulsifier, hardener, chemical sensitizer, or optical sensitizer:**

This subclass is indented under subclass 376. Processes using identified binder, coating aid, solvent, emulsifier, hardener, hypersensitizers or optical sensitizers.

SEE OR SEARCH THIS CLASS, SUBCLASS:
378, for process involving use of optical desensitizer in fogged silver halide emulsion.
382, for process using dye or development inhibitors.
543, for compositions used in this process.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**378 Direct positive process:**

This subclass is indented under subclass 376. Processes for producing a direct positive color image. Included herein are processes involving radiation sensitive silver compound compositions which form direct positive images on exposure and development which images are used in the formation of color images. The unexposed portions rather than the exposed portions are developed during initial development. Also, processes involving couplers which react with oxidized developer in the exposed areas to form colorless products and which are oxidized in unexposed regions to form color images.

SEE OR SEARCH THIS CLASS, SUBCLASS:
359, for the direct positive color image which is used for color correction.
379, for positive color images formed by reversal processing.
547, for compositions used in the process of this subclass.

**379 Reversal process:**

This subclass is indented under subclass 378. Processes wherein the radiation sensitive silver compound left after the first negative development is used for forming a positive color image.

(1) Note. The couplers used in the process can be in the emulsion layers or in the developing compositions.

SEE OR SEARCH THIS CLASS, SUBCLASS:
378, for production of direct positive color image.

**380 And developer other than or in addition to p-phenylenediamine or derivative thereof:**

This subclass is indented under subclass 376. Processes including the use of a developer other than or in addition to a compound containing the p-phenylenediamine or derivatives or combinations thereof.

SEE OR SEARCH THIS CLASS, SUBCLASS:
379, for use of plural developers in a reversal process.

**381 Polymeric or bis coupler:**

This subclass is indented under subclass 376. Processes wherein the coupler contains two or more coupling moieties or the coupler is a polymeric compound.

SEE OR SEARCH THIS CLASS, SUBCLASS:
548, for compositions used in this process.

**382 And either developing or dye inhibition:**
This subclass is indented under subclass 376. Processes wherein the coupler either functions as a developer or dye inhibitor or is combined with a noncolor image forming developing or dye inhibitor.

SEE OR SEARCH THIS CLASS, SUBCLASS:
374 and 375, for color image formation using noncolor image forming developing inhibitors and components other than couplers.
543, for compositions used in this process.

**383 Forming multicolor image:**
This subclass is indented under subclass 376. Processes for forming multicolor image with only one color image in any single layer of a multilayered material.

SEE OR SEARCH THIS CLASS, SUBCLASS:
365, for the formation of multicolor images wherein a single layer contains plural images.
378, for the formation of direct positive color images.
379, for the formation of multicolor images by the reversal process.

**384 Identified cyan dye color:**
This subclass is indented under subclass 376. Processes involving use of a cyan-dye forming coupler (usually phenolic or naphtholic compounds).

SEE OR SEARCH THIS CLASS, SUBCLASS:
376, for all other specified or nonspecified color image formation.
384 through 389, for specified cyan, magenta, or yellow color image formation.
552, for radiation sensitive compounds used in this subclass.

**385 Substituted at coupling position with other than hydrogen:**
This subclass is indented under subclass 384. Processes involving the use of couplers containing a group other than hydrogen attached to the coupling position which is removed during processing, usually two-equivalent couplers.

SEE OR SEARCH THIS CLASS, SUBCLASS:
553, for radiation sensitive compositions used in this process.

**386 Identified magenta dye color:**
This subclass is indented under subclass 376. Processes involving the use of magenta-dye forming coupler, usually a 2-pyrazolin-5-one compound.

SEE OR SEARCH THIS CLASS, SUBCLASS:
554, for radiation sensitive composition used in this process.

**387 Substituted at coupling position with other than hydrogen:**
This subclass is indented under subclass 386. Processes involving use of couplers containing a group attached to the coupling position which is removed during processing, usually two-equivalent couplers.

SEE OR SEARCH THIS CLASS, SUBCLASS:
555, for radiation sensitive compositions used in this process.

**388 Identified yellow dye color:**
This subclass is indented under subclass 376. Processes involving use of a yellow-dye forming coupler usually open chain ketomethylene type compounds, e.g., benzoylacetanilide.

SEE OR SEARCH THIS CLASS, SUBCLASS:
556, for radiation sensitive composition used in this process.

**389 Substituted at coupling position with other than hydrogen:**
This subclass is indented under subclass 388. Processes involving use of couplers containing a group other than hydrogen attached to the coupling position which is removed during processing, usually two-equivalent.

SEE OR SEARCH THIS CLASS, SUBCLASS:

557, for radiation sensitive compositions used in this process.

**390 And dye:**

This subclass is indented under subclass 375. Processes involving use of a radiation sensitive silver compound composition containing a preformed dye before exposure such dye usually being of the azo, anthraquinone, indigo, phthalocyanine, etc., type and the process usually is the dye-bleach process.

SEE OR SEARCH THIS CLASS, SUBCLASS:

199+, for process involving dye to developers in diffusion transfer process.

376, 385, 387, and 389, for processes involving two-equivalent couplers containing a dye moiety attached to the coupling position.

559, for radiation sensitive compositions used in this process.

**391 Forming multicolor image:**

This subclass is indented under subclass 390. Processes for forming multicolor image with only one color image in any single layer of a multilayered material.

SEE OR SEARCH THIS CLASS, SUBCLASS:

365, for the formation of multicolor images wherein any single layer contains plural images.

**392 And dye catalyst:**

This subclass is indented under subclass 390. Processes wherein a dye catalyst is used and may be located in the element or processing both.

SEE OR SEARCH THIS CLASS, SUBCLASS:

559, for radiation sensitive composition used in this process.

**393 Silver bleach or bleach-fix:**

This subclass is indented under subclass 375. Processes wherein in the formation of the color image a silver image is bleached or bleached and fixed.

SEE OR SEARCH THIS CLASS, SUBCLASS:

374, where a metal other than silver is bleached or bleached-fixed.

430, for silver bleach or bleach fix process in the formation of achromatic images.

461, for silver bleach compositions.

**394 PLURAL EXPOSURE STEPS:**

This subclass is indented under the class definition. Processes involving multiple imaging or treatments with radiation.

**395 USING REFLECTED RADIATION, E.G., REFLEX COPYING, ETC.:**

This subclass is indented under the class definition. Processes employing radiation cast back after having struck a surface.

**396 EFFECTING FRONTAL RADIATION MODIFICATION DURING EXPOSURE, E.G., SCREENING, MASKING, STENCILING, ETC.:**

This subclass is indented under the class definition. Processes employing some means interposed between the radiation source and the image receiver which changes the quantity or quality of radiation reaching the receiver, e.g., a mask, stencil, screening, vignetting, etc.

(1) Note. Use of a diaphragm or lens are so commonplace, they are not included herein.

**397 Involving motion during exposure, e.g., dodging, etc.:**

This subclass is indented under subclass 396. Processes wherein the radiation modification means is caused to move during exposure.

**398 REGENERATING IMAGE PROCESSING COMPOSITION:**

This subclass is indented under the class definition. Processes wherein spent radiation graphic processing composition is reconstituted or made in a better form for reuse.

(1) Note. Class 430 takes the above subject matter even when recovery of material is involved.

SEE OR SEARCH THIS CLASS, SUBCLASS:

449, for nonradiation sensitive processing compositions.

SEE OR SEARCH CLASS:

8, Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers, subclass 440 for dye recovery process.

75, Specialized Metallurgical Processes, Compositions for Use Therein, Consolidated Metal Powder Compositions, and Loose Metal Particulate Mixtures, for recovery of metal, especially subclasses 417, 635, and 713 for recovering metal from photographic materials.

423, Chemistry of Inorganic Compounds, for recovery of inorganic compounds or nonmetallic elements.

**399 Developer:**

This subclass is indented under subclass 398. Processes wherein developer composition is regenerated.

SEE OR SEARCH THIS CLASS, SUBCLASS:

464, for developer compositions.

**400 Bleach-fix:**

This subclass is indented under subclass 398. Processes wherein bleach-fix composition is regenerated.

**401 POST IMAGING PROCESSING:**

This subclass is indented under the class definition. Processes (a) of treating a radiation imaged radiation sensitive product to finish or perfect the image, or (b) treating an image by chemical processing to finish or perfect the image regardless of how the image was formed.

**402 Achromatic image from organic compound:**

This subclass is indented under subclass 401. Processes wherein a black organic compound is created in the product in an imagewise manner.

(1) Note. These patents generally form a black dye by a coupling reaction similar to that which is used to form a colored dye in color photography.

**403 With structural limitation:**

This subclass is indented under subclass 401. Processes wherein physical structure, e.g., thickness of a layer, particle size, etc., is recited.

**404 Using web or gel:**

This subclass is indented under subclass 401. Process involving use of a web, a nonpourable gel, or viscous material as a treating medium.

SEE OR SEARCH CLASS:

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

**405 Containing developer in element:**

This subclass is indented under subclass 401. Processes involving use of an element which has developer agent(s).

**406 Positive:**

This subclass is indented under subclass 401. Process for producing a positive image.

**407 Reversal:**

This subclass is indented under subclass 406. Processes wherein a negative image is produced which is treated (usually bleached away leaving undeveloped radiation sensitive material) to form a positive image.

**408 Photosolubilization:**

This subclass is indented under subclass 406. Processes wherein radiation sensitive material is dissolved leaving the unexposed material to be processed.

**409 Emulsions fogged during processing:**

This subclass is indented under subclass 406. Processes including the step of fogging.

**410 Identified nucleating or fogging agent:**
This subclass is indented under subclass 409. Processes involving use of a fogging or nucleating agent.

(1) Note. Fogging and nucleating are synonymous terms.

**411 Using fogged emulsion:**
This subclass is indented under subclass 406. Processes including use of a radiation sensitive product which has been fogged prior to imaging.

**412 Identified electron acceptor or desensitizer containing:**
This subclass is indented under subclass 411. Processes involving use of compound capable of receiving electrons. An electron acceptor is defined as a substance having a polarographic reduction potential less negative than minus 1.0 and a polarographic oxidation potential more positive than plus 0.4.

**413 Physical developing:**
This subclass is indented under subclass 401. Processes wherein the image produced by radiation on a radiation sensitive product is contacted with reducible metal ions and a reducing agent to cause reduction of the metal ions to free metal in image areas. The radiation sensitive material cannot itself be a significant source of metal ions and must be a material different in some way from the material which is the source of metal ions.

(1) Note. The source of reducible metal ions or reducing agent may be either in the product itself or in a post imaging composition used to treat the product.

SEE OR SEARCH THIS CLASS, SUBCLASS:
477, for physical developers.

**414 Amplifying:**
This subclass is indented under subclass 413. Processes including an additional deposition of metal from solution onto a previously developed image to increase the density of the image.

(1) Note. The first development step may be of any type and the developed image need not be visible.

**415 With processing ingredient in element:**
This subclass is indented under subclass 413. Processes involving use of a product having a component used in processing.

**416 Silver halide as radiation sensitive medium:**
This subclass is indented under subclass 413. Processes involving treatment of image formed by imaging a silver halide radiation sensitive medium.

**417 Radiation reducible metal compound directly produces catalytic metal nuclei in image area:**
This subclass is indented under subclass 413. Processes wherein the image treated is found by a radiation sensitive metal compound which is directly decomposed by radiation to yield free metal nuclei which catalyze the further deposition of metal in the image area by physical development as defined in subclass 413.

**418 Disparate function simultaneous process step:**
This subclass is indented under subclass 401. Processes wherein plural diverse processing functions are carried out at the same time.

**419 Develop-fix:**
This subclass is indented under subclass 418. Processes wherein the functions are the development and fixation of the image.

**420 Develop-harden:**
This subclass is indented under subclass 418. Processes wherein the functions are developing the image and hardening the product produced.

**421 Using plural sequential baths of same type:**
This subclass is indented under subclass 401. Processes involving use of multi-same function baths one after the other.

**422 Treating with processing composition prior to imaging and then developing:**
This subclass is indented under subclass 401. Processes including treating the radiation sensitive production with a composition for perfecting the post imaging processing before

exposure and subsequently developing the same after imaging.

**423 Treating with processing composition after imaging prior to developing:**
This subclass is indented under subclass 401. Processes involving treatment of a radiation sensitive product after imaging prior to developing the same.

**424 Desensitizing:**
This subclass is indented under subclass 423. Processes involving treating the imaged radiation sensitive medium with a composition to reduce its sensitivity to radiation prior to developing the same.

**425 Sensitizing:**
This subclass is indented under subclass 423. Processes involving increasing the sensitivity of the imaged radiation sensitive product to development.

(1) Note. In the art, this term is often called latensification.

**426 Prehardening:**
This subclass is indented under subclass 423. Processes wherein the post imaging step hardens the product.

**427 Treating with process composition between standard develop and fix-wash:**
This subclass is indented under subclass 401. Processes involving treating the imaged radiation sensitive product with a process composition after development and prior to the fix-wash operation, e.g., use of shortstop, buffer, etc.

**428 Stabilizing:**
This subclass is indented under subclass 401. Processes wherein the imaged radiation sensitive product is treated to render the same stable.

**429 Containing additive:**
This subclass is indented under subclass 428. Processes wherein an ingredient in addition to the stabilizing agent is used to treat the radiation sensitive product.

**430 Bleaching:**
This subclass is indented under subclass 401. Processes involving rendering the imaged radiation sensitive product white or colorless in whole or in part or reduces the density of the same.

**431 Using silver and dye bleach:**
This subclass is indented under subclass 430. Processes involving use of a silver and dye bleaching agents in a color process.

**432 Including post developing step:**
This subclass is indented under subclass 401. Processes involving treating the developed radiation sensitive product, e.g., toning, coating, etc.

**433 Developing in acid medium:**
This subclass is indented under subclass 401. Processes wherein the image in a radiation sensitive product is rendered visible in a medium having a pH of less than 7.

**434 Developing:**
This subclass is indented under subclass 401. Processes for rendering visible the image in the radiation sensitive product.

**435 Using identified developer:**
This subclass is indented under subclass 434. Processes wherein a specified developing agent is used.

**436 Plural identified developers:**
This subclass is indented under subclass 435. Processes involving use of multiple identified developers.

**437 Three or more identified developers:**
This subclass is indented under subclass 436. Processes wherein at least three developers are identified.

**438 Containing hydroquinone:**
This subclass is indented under subclass 436. Processes wherein one of the developers is hydroquinone or derivative thereof.

**439 And amino substituted carbocyclic compound:**
This subclass is indented under subclass 438. Processes wherein in addition to hydroquinone derivative thereof, an amino substituted carbocyclic compound is used, e.g, p-aminophenol, p-phenylenediamine, etc.

SEE OR SEARCH THIS CLASS, SUBCLASS:
380, for p-phenylenediamine + another developer used in color processes.

**440 Heterocyclic:**
This subclass is indented under subclass 435. Processes wherein the identified developer is of a heterocyclic nature, a ring structure containing at least one N, O, S, atom, etc., e.g., pyrazolidones, etc.

**441 Carbocyclic:**
This subclass is indented under subclass 435. Processes wherein the identified developer is of a carbocyclic nature, i.e., ring structure containing only carbon.

**442 Amino substituent on carbocyclic ring:**
This subclass is indented under subclass 441. Processes wherein the identified developer contains at least one amino substituent on the carbocyclic ring, e.g., p-aminophenol, p-phenylenediamine.

SEE OR SEARCH THIS CLASS, SUBCLASS:
374, for a p-phenylenediamine developer used in a color process.

**443 Having developer releasing compound:**
This subclass is indented under subclass 435. Processes involving use of an agent which releases during development a processing ingredient, e.g., block, restrained, or inactive developers, development inhibitor, etc.

**444 Using polymer or condensation reaction product:**
This subclass is indented under subclass 434. Processes including use of a relatively high molecular weight substance which is made from the combination of smaller molecules.

**445 Using mercapto or thione compound:**
This subclass is indented under subclass 434. Processes involving the use of a compound containing the SH, -, or the group.

**446 Using heterocyclic compound:**
This subclass is indented under subclass 434. Processes including treating the imaged radiation sensitive product with a ring compound which contains at least one carbon atom along with one or more atoms of N, O, S, Se, or Te.

**447 Using inorganic or organometallic complex:**
This subclass is indented under subclass 434. Processes involving use of an inorganic complex or an organometallic complex.

**448 Using processing ingredient in element:**
This subclass is indented under subclass 434. Processes involving use of an ingredient which aids in the post imaging processing, and is contained in the radiation sensitive product.

**449 NONRADIATION SENSITIVE IMAGE PROCESSING COMPOSITION OR PROCESS OF MAKING:**
This subclass is indented under the class definition. Compositions which are not reactive when exposed to radiation and are part of or applied to a radiation sensitive product. Also included is the process of making the compositions.

SEE OR SEARCH CLASS:
252, Compositions, for nonradiation sensitive compositions of general utility.
260, Chemistry of Carbon Compounds, for nonradiation sensitive organic compounds.
423, Chemistry of Inorganic Compounds, for inorganic nonradiation sensitive compounds.
428, Stock Material or Miscellaneous Articles, for nonradiation sensitive products, e.g., a coated nonradiation sensitive photographic stock material, etc.

**450 Process of preparing composition from plural preformed concentrates:**
This subclass is indented under subclass 449. Processes for making a composition wherein two or more concentrates are mixed and diluted to the desired concentration when used.

**451 Hardener:**
This subclass is indented under subclass 449. Compositions containing an ingredient intended to harden the radiation sensitive product.

SEE OR SEARCH CLASS:
260, Chemistry of Carbon Compounds, subclass 117 to harden gelatin, per se.

**452 Develop-harden:**
This subclass is indented under subclass 451. Compositions functioning to render visible the image and to harden the product.

**453 Fix-harden:**
This subclass is indented under subclass 451. Compositions which fix and harden the imaged product.

**454 Shortstop:**
This subclass is indented under subclass 449. Compositions which stop the developing process at the desired time.

**455 Fixer:**
This subclass is indented under subclass 449. Compositions which remove or otherwise inactivate the radiation sensitive material rendering the image permanent.

**456 And developer:**
This subclass is indented under subclass 455. Compositions for rendering the image visible and making same permanent.

**457 Forming dye image:**
This subclass is indented under subclass 456. Compositions wherein the ingredient which renders the latent image visible produces a dyed image which is usually a colored image.

**458 Dry or concentrated:**
This subclass is indented under subclass 455. Compositions in a form dry to the touch or in a solution stronger than ordinarily used in processing.

**459 Plural fixers:**
This subclass is indented under subclass 455. Compositions containing multifixing agents.

**460 And bleach:**
This subclass is indented under subclass 455. Compositions which reduce the density of the imaged product.

**461 Bleach or intensification:**
This subclass is indented under subclass 449. Compositions which either reduce or increase the density of the image.

SEE OR SEARCH CLASS:
252, Compositions, subclasses 186.1+ for oxidative bleaches; and subclasses 188.1+ for reductive bleaches of general utility.

**462 Dye bleach for color image:**
This subclass is indented under subclass 461. Compositions functioning to reduce the density of this dye image only.

**463 Wash or aftertreat:**
This subclass is indented under subclass 449. Compositions employed for washing or treating the radiation sensitive product after development and the other conventional, e.g., fix, harden, etc., steps.

**464 Developer:**
This subclass is indented under subclass 449. Compositions functioning to render visible a latent image in a radiation sensitive product.

**465 Solid or dry:**
This subclass is indented under subclass 464. Compositions which are in the form of a very dense material or dry to the touch.

**466 Concentrated or viscosity increasing agent containing:**
This subclass is indented under subclass 464. Compositions having ingredients either concentrating the same greater than in normal use or functioning to render the developer thick.

**467 Color developer:**
This subclass is indented under subclass 464. Compositions which renders visible a latent image in color.

than hydrogen which is removed during processing, usually two-equivalent.

SEE OR SEARCH THIS CLASS, SUBCLASS:

381, for process involving exposed compositions of this subclass.

**558 Heterocyclic coupler:**
This subclass is indented under subclass 543. Compositions containing a coupler having a ring structure composed of different type atoms.

SEE OR SEARCH THIS CLASS, SUBCLASS:

376, particularly 384, 385, 386, 387, 388, and 389 for process involving exposed compositions of this subclass.

449, for nonradiation sensitive compositions applied to exposed compositions of this subclass.

554, for compositions containing a heterocyclic coupler in the form of 2-pyrazolin-5-one.

**559 Dye containing:**
This subclass is indented under subclass 542. Compositions containing a preformed dye before exposure.

(1) Note. Such dyes are usually azo dyes, anthroquinone dyes, indigo dyes, phthalocyanine dyes, etc., and are usually used in a silver-dye-bleach process and in dye diffusion transfer process.

SEE OR SEARCH THIS CLASS, SUBCLASS:

199, for dye image diffusion transfer process.

390, for other processes involving exposed compositions of this subclass.

543, 553, 555, and 557, for compositions containing two-equivalent couplers containing a dye moiety attached to the coupling ring.

**560 And optical sensitizer:**
This subclass is indented under subclass 559. Compositions containing an optical sensitizing dye.

**561 Azo dye:**
This subclass is indented under subclass 559. Compositions containing a preformed azo dye.

**562 Monoazo:**
This subclass is indented under subclass 561. Subject matter wherein the azo dye is monoazo.

**563 Diazo:**
This subclass is indented under subclass 561. Compositions wherein the azo dye is diazo.

**564 Silver compound sensitizer containing:**
This subclass is indented under subclass 495.1. Subject matter having radiation sensitive silver compound or processes not otherwise provided for making such compositions.

**565 Achromatic image forming organic compound:**
This subclass is indented under subclass 564. Products containing an organic compound which reacts with suitable developing material to form a black organic compound in image areas.

(1) Note. These patents are usually to organic compounds which couple with a developer to form a black dye in a manner analogous to the reactions used to form cyan, magenta, or yellow dyes in color photography.

**566 Developing or fixing agents containing for liquid processing:**
This subclass is indented under subclass 564. Products containing an ingredient which develops a latent image or fixes the image against further change when the product is treated with a liquid. The developing or fixing agent may be, e.g., activated by the liquid or may cooperate or react with other ingredients in the liquid to develop or fix.

**567 Silver compound having specified crystal form, habit, particle size or particle size distribution:**
This subclass is indented under subclass 564. Subject matter wherein the silver compound has a specified crystal form, e.g., isometric, hexagonal, etc., crystal, e.g., presence or dispo-

sition of 100, 110, 111 planes, etc., or particle size and process of making.

**568 Having particle size of 100 millimicrons or less, e.g., lippmann type, etc.:**
This subclass is indented under subclass 567. Subject matter wherein the silver compound particles have an average grain size of less than 100 mm or process of making the composition.

**569 Including manipulative emulsification step:**
This subclass is indented under subclass 564. Processes including the step of preparing a dispersion of a solid radiation sensitive silver compound in a liquid medium. This includes, e.g., the reaction of silver nitrate with halogen ion in a medium to produce an AgX dispersion, or the dispersion of preformed AgX in a liquid.

(1) Note. Mere addition of an additive to an existing AgX dispersion is excluded and placed below on some other feature, such as the composition made.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 9+ for continuous liquid phase colloid systems (e.g., foams, emulsions, suspensions, dispersions) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**570 Spectral sensitizing:**
This subclass is indented under subclass 564. Subject matter containing a material, e.g., cyanine dye, etc., which imparts its radiation adsorption to the silver compound thereby increasing the radiation sensitivity of the silver compound containing emulsion to that portion of the spectrum absorbed by the dye.

(1) Note. A cyanine compound as herein included contains two distinct heterocyclic rings, each of which contains at least one nitrogen atom, with nitrogen atoms of the individual rings being joined through a conjugated acyclic chain of methine groups, the heterocyclic rings themselves being linked through an acyclic chain which contains at least one methine group.

(2) Note. Methine denotes a -C= group.

(3) Note. The term 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.

(4) Note. This and indented subclasses include a precursor which will later be reacted to produce an optical sensitizer.

**571 Mixed grain:**
This subclass is indented under subclass 570. Subject matter which includes a mixture of at least two groups of optically sensitized silver compound particles, which groups each have different spectral sensitivity.

**572 Multiple sensitizers or supersensitizing:**
This subclass is indented under subclass 570. Subject matter in which plural materials are added to an optically sensitive silver compound containing composition to increase the optical sensitivity thereof. The plural materials (a) being capable of sensitizing the silver compound individually, or (b) which cooperate with each other to the extent that the total optical sensitizing effect of the added materials is greater than the sum of the optical sensitizing effects of the added materials taken independently, i.e., there is a synergistic or potentiating effect.

**573 Polyheteronuclear sensitizer:**
This subclass is indented under subclass 572. Subject matter in which at least one of added materials is a compound having at least three distinct heterocyclic nuclei.

(1) Note. Heterocyclic groups which are fused together to form a multicyclic grouping are considered to be a single distinct heterocyclic nucleus. Thus and are each regarded as being a single heterocyclic nucleus.

**574** **Two or more cyanine sensitizers:**
This subclass is indented under subclass 572. Subject matter in which at least two of the added materials are cyanine compounds.

**575** **Inorganic material containing:**
This subclass is indented under subclass 572. Subject matter in which at least one of the added materials is an inorganic compound.

**576** **Cyanine sensitizer:**
This subclass is indented under subclass 572. Subject matter in which one of the added materials is an cyanine compound.

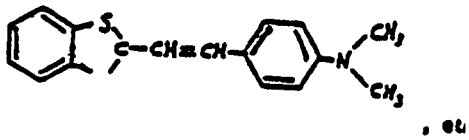
**577** **Merocyanine compound:**
This subclass is indented under subclass 576. Subject matter in which one of the added materials is a merocyanine, i.e., a compound having two cyclic nuclei joined through a straight chain linkage containing at least one methine group, which chain has an equal number of alternating single and double bonds, of which one terminal carbon atom is in a heterocyclic ring and attached to an extra cyclic carbonyl O, and the other terminal carbon atom is in another heterocyclic ring and is attached to a heterocyclic N.

**578** **Polyhetero nuclear containing at least three heteroCYCLIC nuclei:**
This subclass is indented under subclass 570. Subject matter wherein the added material contains at least three distinct heterocylic nuclei.

(1) Note. See the definition of subclass 573 for the definition of distinct heterocyclic nuclei.

**579** **Four or more distinct heterocyclic nuclei:**
This subclass is indented under subclass 578. Subject matter in which the added material contains at least four distinct heterocyclic nuclei.

**580** **Styryl sensitizer:**
This subclass is indented under subclass 570. Subject matter in which the added material comprises a compound containing a heterocyclic ring of five or more members including at least one nitrogen atom, said heterocyclic ring being joined through an unsaturated acyclic carbon chain to an aryl nucleus wherein one of the ring carbons of that nucleus is bonded to a nitrogen atom so that the nitrogen bonded to the aryl nucleus and the nitrogen of the heterocyclic group are linked to each other through a conjugated chain of carbon atoms, e.g.,



**581** **Cyanine sensitizer:**
This subclass is indented under subclass 570. Subject matter in which the added material comprises a cyanine compound.

(1) Note. See (1) Note under subclass 570 definition for the definition of a cyanine compound.

**582** **Methine linked six-membered heterocyclic rings:**
This subclass is indented under subclass 581. Subject matter in which each of the heterocyclic groups of the cyanine compound linked by the acyclic methine chain consists of six atoms.

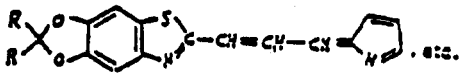
**583** **Containing odd number of methine groups:**
This subclass is indented under subclass 581. Subject matter in which the intercyclic acyclic methine chain linking the heterocyclic groups of the cyanine compound contains an add number of methine groups.

(1) Note. In view of the scope of indented subclasses 584 (five or more methines) and 585 (three methines), this subclass takes only those compositions in which the cyanine compound has a single methine in the intercyclic acyclic methine chain or broadly disclosed odd numbered chains not falling in any indented subclass.

**584** **Five or more methine groups:**
This subclass is indented under subclass 583. Subject matter in which the cyanine compound has five methine groups in the intercyclic acyclic methine chain, i.e., a dicarbocyanine, tricarbocycanine, etc., compound.

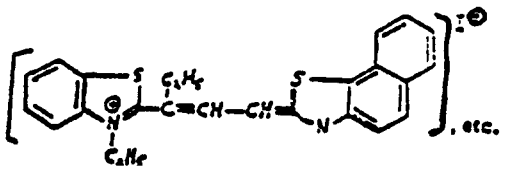
**585** **Three methine groups, i.e., carbocyanines:**
This subclass is indented under subclass 583. Subject matter in which the cyanine compound has three methine groups in the intercyclic methine chain.

**586** **Linking six-membered hetero to five-membered hetero:**
This subclass is indented under subclass 585. Subject matter in which the carbocyanine compound contains a six-membered heterocyclic group linked by an acyclic trimethine chain to a five-membered heterocyclic group.



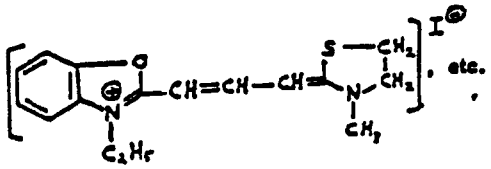
**587** **Hetero ring bridged or fused to hetero ring:**
This subclass is indented under subclass 585. Subject matter in which at least one of the nitrogen containing heterocyclic groups linked by the trimethine chain is bridged or fused to a second heterocyclic moiety which has its own hetero atom or which shares at least one of the hetero atoms of the trimethine linked heterocyclic ring, e.g.,

**588** **Hetero rings bridged or fused to carbocyclic rings:**
This subclass is indented under subclass 585. Subject matter in which both of the nitrogen containing heterocyclic rings linked by the trimethine chain are fused or bridged to carbocyclic rings, e.g.,



**589** **Direct positive:**
This subclass is indented under subclass 588. Subject matter which produces a positive image when subjected to a post-imaging development (finishing) process without the intermediate production of a separate negative image.

**590** **Only one hetero ring fused or bridged to carbocyclic ring:**
This subclass is indented under subclass 585. Subject matter in which one and only one of the two heterocyclic rings linked by the trimethine chain is fused or bridged to a carbocyclic ring, e.g.,

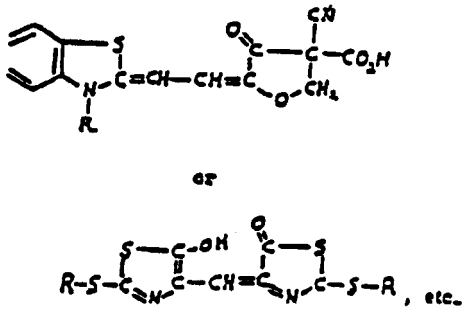


**591** **Two or more separate ring structures:**
This subclass is indented under subclass 570. Subject matter in which the added material comprises a compound containing at least two distinct cyclic nuclei, e.g.,

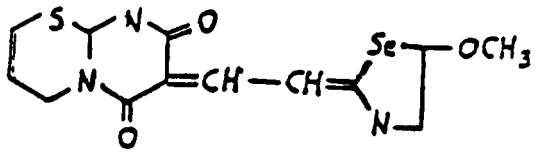
(1) Note. Many of the sensitizers in this and indented subclasses are merocyanines.

SEE OR SEARCH THIS CLASS, SUBCLASS:
577, for similar compositions containing with a cyanine compound and a merocyanine compound.

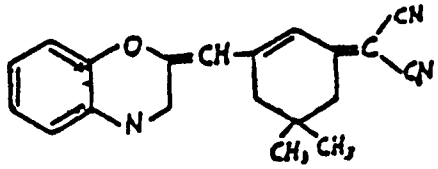
**592** **Intercyclic methine chain sensitizer:**
This subclass is indented under subclass 591. Products in which the two distinct cyclic nuclei are linked by an acyclic carbon chain which contains at least one methine group, e.g.,



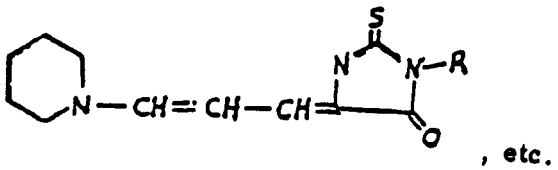
**593 Methine linked hetero ring with hetero group bridged or fused thereto:**
This subclass is indented under subclass 592. Subject matter in which at least one of the distinct cyclic nuclei is a heterocyclic nucleus which is fused or bridged to a second heterocyclic moiety which has its own hetero atom or which shares at least one of the hetero atoms of the methine-linked heterocyclic ring, e.g.,



**594 One or both methine linked rings carbocyclic:**
This subclass is indented under subclass 592. Subject matter in which at least one of the separate ring structures linked by the acyclic carbon chain is a carbocyclic ring, e.g,



**595 Odd number of carbons in acyclic methine chain:**
This subclass is indented under subclass 592. Subject matter in which the unsaturated acyclic chain linking the two cyclic nuclei contains an odd number of carbons e.g,



, etc.

**596 Fogged direct positive:**
This subclass is indented under subclass 564. Products which have been fogged by addition of a fogging agent or by overall exposure to radiation so that upon imagewise exposure to radiation the density of the fog is decreased by exposure thereby resulting in a positive image.

**597 Identified desensitizer or electron acceptor containing:**
This subclass is indented under subclass 596. Products containing a desensitizer or electron acceptor. Substances of this function are defined as having a polarographic reduction potential less negative than minus 1.0 and a polarographic oxidation potential more positive than plus 0.4.

**598 Fogging or nucleating agent containing:**
This subclass is indented under subclass 564. Products containing a substance disclosed as having a fogging or nucleating effect.

**599 Hypersensitizing or latensifying ingredient containing:**
This subclass is indented under subclass 564. Products wherein an ingredient or treatment other than mere digestion or ripening is applied to the composition to raise its general radiation sensitivity, or for intensifying the latent image produced therein or process of preparing such composition.

**600 Heterocyclic N, O, S, Se, or Te compound containing:**
This subclass is indented under subclass 599. Subject matter containing a heterocyclic compound containing in a hetero ring at least one atom of N, O, S, Se, or Te.

**601 Phosphorus compound:**
This subclass is indented under subclass 599. Subject matter containing a compound of phosphorus.

**602 Polyoxyalkylene compound:**
This subclass is indented under subclass 599. Subject matter containing a polyoxyalkylene compound.

**603 S, Se, or Te or compound thereof:**
This subclass is indented under subclass 599. Products wherein the hypersensitizing or latensifying ingredient includes elemental sulfur, selenium, or tellurium or a compound thereof.

**604 Heavy metal or compound thereof:**
This subclass is indented under subclass 599. Products wherein the hypersensitizing or latensifying ingredient includes an elemental metal with a density greater than 4 or a compound thereof.

**605 Noble metal or compound thereof:**
This subclass is indented under subclass 604. Products wherein the metal is Ru, Rh, Pd, Os, Ir, Pt, Au, or Ag.

**606 Desensitizing ingredient containing:**
This subclass is indented under subclass 564. Products containing an ingredient designed to reduce the sensitivity of the radiation sensitive composition to at least a portion of the spectrum by a chemical or combined chemical-optical action on the silver compound.

(1) Note. Mere light absorbing effects, e.g., use of filter dyes, etc., are not included herein.

SEE OR SEARCH THIS CLASS, SUBCLASS:
424, for processes in which a desensitization step is performed subsequent to exposure, but prior to development.

SEE OR SEARCH CLASS:
260, Chemistry of Carbon Compounds, subclasses 240+ for intercyclic acyclic methine linkage containing compounds, per se.

**607 Stabilizing or fog inhibiting ingredient containing:**
This subclass is indented under subclass 564. Subject matter containing an ingredient disclosed as having the effect of maintaining its characteristics constant during storage or for preventing adverse effects in post imaging processing or processes for making such compositions in which a step is performed which is disclosed as having such effect.

**608 Inorganic material:**
This subclass is indented under subclass 607. Subject matter containing an inorganic substance.

**609 Synthetic organic polymer:**
This subclass is indented under subclass 607. Subject matter containing a synthetic organic polymer.

**610 Phosphorus compound:**
This subclass is indented under subclass 607. Subject matter containing a compound of phosphorus.

**611 Mercaptan, thioether, thione, disulfide or organic bisulfite:**
This subclass is indented under subclass 607. Subject matter containing a compound which includes any of these groups: R-SH, R-S-R, R-S-S-R, R-$SO_3$ H, or water-soluble salt thereof.

(1) Note. R-S-R or R-S-S-R may be in the open chain form or may form part of a heterocyclic ring.

(2) Note. The salts contemplated are those wherein the H of an R-SH or R-$SO_3$ H has been replaced by a salt forming moiety such as an alkali metal radical.

**612 Organic metal compound:**
This subclass is indented under subclass 607. Subject matter containing an organic compound of a metal, e.g., an organometallic compound of a heavy metal, etc.

**613 Heterocyclic compound:**
This subclass is indented under subclass 607. Subject matter containing an organic heterocyclic compound.

**614 Polyhetero atom ring:**
This subclass is indented under subclass 613. Subject matter in which heterocyclic ring contains more than one atom other than carbon.

**615 Polyhetero atom ring fused to another ring having polyhetero atoms:**
This subclass is indented under subclass 614. Subject matter containing a compound in which two heterocyclic ring which each con-

tain more than one atom other than carbon are fused to each other, e.g., tetraaza-or pentaaza-indanes, etc.

**616 Composition for visible imaging by radiation only:**
This subclass is indented under subclass 564. Subject matter containing a radiation sensitive material for use in processes wherein exposure to radiation of the product results in a visible image without the necessity of a separate chemical development step.

(1) Note. Included are compositions which provide visible images directly upon imagewise exposure as well as compositions wherein a latent image is developed by further exposure to radiation.

SEE OR SEARCH THIS CLASS, SUBCLASS:
346+, for process of visible imaging using radiation only other than heating by surface contact or convection.
596+, for composition which yields a direct positive by radiation only.

**617 Silver compound other than halide, per se, or composition for thermographic process:**
This subclass is indented under subclass 564. Products containing a silver compound other than a silver halide, per se, i.e., a silver containing product other than a silver and a halogen atom, e.g., silver nitrate, silver chlorate, etc., or intended for use as the radiation sensitive composition or element in a thermographic process, i.e., a process classified in this class, subclass 198 or 348.

(1) Note. The classification of a composition which is prepared by the reaction of a nonhalide silver compound in greater than equimolar quantity with a halide containing salt to produce a composition containing light sensitive silver halide along with the unreacted nonhalide silver compound is as follows: If no mention is made as to the extent of reaction it is assumed that the patentee is primarily concerned with producing a silver halide rather than a mixture and that reaction is complete. In such a situation, classification is made on the basis of the halide. Classification in this subclass is proper when a statement is present in the disclosure as to the extent of reaction and/or it is apparent from the total disclosure that the patentee is concerned primarily with preparing a composition composed of a silver compound and a nonhalide silver containing compound.

(2) Note. The radiation sensitive product contains at least one radiation sensitive silver compound.

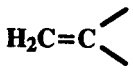
**618 Organic silver compound containing:**
This subclass is indented under subclass 617. Subject matter containing an organic compound of silver.

**619 And inorganic silver compound:**
This subclass is indented under subclass 618. Products containing an inorganic silver compound, e.g., a silver halide in addition to the organic silver compound.

**620 Silver salt of organic acid:**
This subclass is indented under subclass 618. Products in which the organic silver compound is a silver salt of an organic acid.

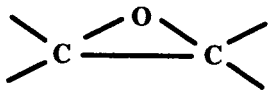
**621 Hardening ingredient containing:**
This subclass is indented under subclass 564. Subject matter containing an organic colloid and an agent which tans or hardens the colloid.

**622 Vinylidene compound:**
This subclass is indented under subclass 621. Products wherein the hardening ingredient contains the structure:



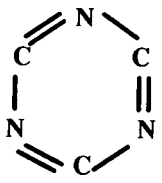
**623 Heterocyclic compound:**
This subclass is indented under subclass 621. Subject matter containing an organic heterocyclic compound.

**624 Epoxide, i.e., oxirane:**
This subclass is indented under subclass 623. Subject matter in which the heterocyclic compound contains the group:




**625 Aziridine:**
This subclass is indented under subclass 623. Subject matter in which the heterocyclic compound contains the group:

**626 Triazine including hydrogenated triazine:**
This subclass is indented under subclass 623. Subject matter in which the heterocyclic compound includes the group or its hydrogenates derivatives, as illustrated below:




**627 Resin or synthetic polymer containing:**
This subclass is indented under subclass 564. Subject matter containing a synthetic resin or polymer or a natural resin.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**628 Protein or other natural colloid or derivative containing:**
This subclass is indented under subclass 627. Subject matter containing a protein or carbohydrate or derivative thereof in addition to the natural or synthetic resin or polymer.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**629 Sulfur or sulfur compound containing:**
This subclass is indented under subclass 627. Subject matter including sulfur or a sulfur compound, other than a sulfur containing natural protein.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**630 Heterocyclic compound containing, e.g., heterocyclic monomer, etc.:**
This subclass is indented under subclass 627. Subject matter containing a heterocyclic compound, e.g., a synthetic resin or polymer made from a heterocyclic monomer.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or

agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**631 Film or film coating improvement ingredient containing, e.g., wetting agent, coating aid, plasticizer, antistatic agent, etc.:**

This subclass is indented under subclass 564. Subject matter containing an ingredient which aids in the application of the composition to the surface of a support (e.g., to enhance uniformity of coating, or freedom from streaks, bubbles, or other defects), reduces the tendency of a coated product from cracking or decreases a tendency to generate a static charge.

SEE OR SEARCH CLASS:

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

**632 Rosin acid or derivative:**

This subclass is indented under subclass 631. Subject matter containing any of the acids found in rosin, e.g., abietic or pimaric acid, or derivative thereof.

SEE OR SEARCH CLASS:

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

**633 Higher fatty acid or derivative:**

This subclass is indented under subclass 631. Subject matter containing a higher fatty acid or derivative thereof, e.g., a salt, ester, or amide of a higher fatty acid.

(1) Note. "Higher fatty acid" means a monocarboxylic acid containing an unbroken chain of at least 7 carbon atoms bonded to a carboxyl group. Where there are several unbroken chains of carbon atoms bonded to the carboxyl group, one of the chains must contain at least carbon atoms.

SEE OR SEARCH CLASS:

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

**634 Polycarboxylic or polysulfoxy acid or derivative:**

This subclass is indented under subclass 631. Subject matter containing an ingredient which includes plural carboxylic or sulfoxy acid groups or derivatives thereof, e.g., esters or amides of such acid groups.

SEE OR SEARCH CLASS:

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

**635 Carboxylic acid or derivative:**
This subclass is indented under subclass 631. Subject matter containing an ingredient which has a -COOH group or a derivative thereof, e.g., an ester, amide, or acid chloride, etc.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**636 Sulfoxy compound or derivative:**
This subclass is indented under subclass 631. Subject matter containing an ingredient in which oxygen is directly bonded to S, e.g., S=O, $SO_3X$, or $\_SO_4$, etc.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**637 Polyglycidol, polyglycol, polyoxyalkylene oxide, or ether or ester thereof:**
This subclass is indented under subclass 631. Subject matter containing an ingredient which is a polyglycidol, polyglycol, polyoxyalkylene oxide, or an ether or ester thereof.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**638 Alkyl or cycloalkyl alcohol or ether or ester thereof:**
This subclass is indented under subclass 631. Subject matter containing an alkyl alcohol, a cycloalkyl alcohol, or an ester or ether thereof.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**639 Carbohydrate or derivative containing:**
This subclass is indented under subclass 564. Subject matter containing a carbohydrate or its derivative.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**640 Gelatin or derivative containing:**
This subclass is indented under subclass 639. Subject matter containing gelatin or a gelatin derivative in addition to the carbohydrate or its derivative.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**641 Cellulose or derivative, e.g., regenerated cellulose, etc.:**
This subclass is indented under subclass 639. Subject matter which contains cellulose or its derivative, e.g., regenerated cellulose, etc.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**642 Gelatin or derivative containing:**
This subclass is indented under subclass 564. Subject matter containing gelatin or a gelatin derivative.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**643 Casein or derivative containing:**
This subclass is indented under subclass 564. Subject matter containing casein or a casein derivative.

SEE OR SEARCH CLASS:
516, Colloid Systems and Wetting Agents; Subcombinations Thereof; Processes of Making, Stabilizing, Breaking, or Inhibiting, subclasses 98+ for colloid systems of continuous or semicontinuous solid phase with discontinuous liquid phase (gels, pastes, flocs, coagulates) or agents for such systems or making or stabilizing such systems or agents, when generically claimed or when there is no hierarchically superior provision in the USPC for the specifically claimed art.

**644 MISCELLANEOUS:**
This subclass is indented under the class definition. Subject matter not otherwise specifically provided for.

CROSS-REFERENCE ART COLLECTIONS

**900 Donor-acceptor complex photoconductor:**
Art collection related to subclasses 31+ involving a radiation-conductor having a donor-acceptor complex.

**901 Photoconductor powder:**
Art collection relating to subclasses 31+ involving a radiation conductor in the form of a pulverized material.

**902 Electrically charging radiation-conductive surface:**
Art collection relating to subclasses 31+ involving the charging of a radiation-conductive surface with electricity.

SEE OR SEARCH THIS CLASS, SUBCLASS:

55, for process of charging simultaneously with imaging.

**903 One component toner:**
Art collection relating to subclasses 31+ involving a single coloring material.

**904 Polymer in developer:**
Art collection relating to subclasses 31+ involving a developing material containing a polymer.

**905 Binder containing:**
Art collection relating to subclasses 270.1+ involving a binder, i.e., a film forming substance which holds a composition together and adheres it to a substrate if any. The binder is not, per se, radiation sensitive, although it may react with other substances which have been rendered reactive by exposure to radiation.

**906 Polyamide or polyurethane:**
Art collection involving binder containing plural amide or urethane -0 groups in a polymeric chain.

**907 Polyolefin or halogen containing:**
Art collection involving a binder which is a polymer of an open chain aliphatic monoolefin or the binder molecule contains a halogen.

**908 Polyester:**
Art collection involving a binder containing recurring ester - - O groups.

**909 Vinyl alcohol polymer or derivative:**
Art collection involving a binder which is a polymer containing the vinyl alcohol unit in the polymer chain or OH derivative wherein the hydrogen of the -OH group is replaced by another substituent.

(1) Note. Since monomeric vinyl alcohol does not exist, per se, these polymers are generally prepared by hydrolysis of vinyl acetate polymers to give free -OH groups in the chain. The derivatives of this art collection must contain at least some free -OH groups in the vinyl alcohol polymer.

**910 Polymer of unsaturated acid or ester:**
Art collection involving a binder which is a polymer of an unsaturated acid or ester.

**911 Cellulosic:**
Art collection involving a binder which is cellulose or a derivative thereof wherein the cellulose polymer chain remains intact, e.g., regenerated cellulose, cellulose acetate, etc.

**912 With plasticizer:**
Art collection involving a binder containing an ingredient to increase flexibility.

**913 Initiator containing:**
Art collection relating to subclasses 270.1+ involving a substance or composition which upon radiation initiates the polymerization of a polymerizable substance in the subclasses 270.1+ product. The initiator may cause polymerization of a substance inactive in its absence or may increase the rate of a polymerization which would otherwise occur.

**914 Cationic or anionic:**
Art collection involving an initiator in the form of material having either positively or negatively charged atoms or radicals.

**915 Redox or dye sensitizer:**
Art collection involving an initiator which is a mixture of an oxidizing agent and a reducing agent which reacts under radiant energy to produce free radicals or a dye which absorbs radiant energy to activate the polymerization system.

**916 Free radical:**
Art collection involving an initiator which releases free radicals upon irradiation.

**917 With inhibitor or stabilizer:**
Art collection involving an initiator containing an ingredient functioning to inhibit polymerization or stabilize a composition in storage.

**918 Hydroxyl or carbonyl group containing as sole functional groups:**
Art collection involving an inhibitor or stabilizer which is a compound containing hydroxyl or carbonyl as the sole functioning group therein. The hydroxyl and carbonyl groups

may not be in such a relationship that they form carboxylic acid.

**919 Nitrogen compound containing:**
Art collection involving a free radical initiator containing a compound having nitrogen.

**920 Nitrogen in heterocyclic ring:**
Art collection involving a free radical initiator compound containing nitrogen as a part of a heterocyclic ring.

**921 Sulfur compound containing:**
Art collection involving a free radical initiator containing a compound having sulfur.

**922 Sulfur in heterocyclic ring:**
Art collection involving a free radical initiator containing sulfur as a part of a heterocyclic ring.

**923 Carbonyl compound containing:**
Art collection involving a free radical initiator containing a compound having a carbonyl group.

**924 Carbonyl in heterocyclic compound:**
Art collection involving a free radical initiator containing a compound having a carbonyl group as a part of a heterocyclic ring.

**925 Halogen compound containing:**
Art collection involving a free radical initiator containing a compound having a halogen atom.

**926 Spectral sensitizer containing:**
Art collection relating to subclasses 270.1+ involving a substance or compositions which are added to products to increase the sensitivity of the product to radiation of a portion of the electromagnetic spectrum as against other portions of the spectrum.

**927 Radiation-activated cross-linking agent containing:**
Art collection relating to subclasses 270.1+ involving substances or compositions which upon irradiation release materials which cause cross-linking of other materials present other than by reaction of ethylenic unsaturation.

**928 AERIAL FILMS OR PROCESSES SPECIFICALLY ADAPTED FOR AERIAL RADIATION IMAGERY:**
Art collection involving radiation sensitive receivers used to take aerial images and processes particularly adapted for such receivers.

**929 ANITBRONZE AGENT OR PROCESS:**
Art collection involving a material which prevents silver from turning to a red or copper color and the process of using such material.

**930 ANTICURL LAYER:**
Art collection involving the use of a layer to prevent coiling of the product.

**931 ANTI-ULTRAVIOLET FADING:**
Art collection involving the prevention of discoloration of the product or composition.

SEE OR SEARCH THIS CLASS, SUBCLASS:
512, for radiation sensitive product having a layer for filtering ultraviolet radiation.

**932 BINDER-FREE EMULSIONS:**
Art collection involving a composition or product containing an emulsion free of a binder.

**933 BRIGHTENER CONTAINING:**
Art collection involving a composition or product containing a material which tends to render the same lighter in color.

**934 CINE FILM:**
Art collection involving film used in cinematography, i.e., movies.

**935 COATING PROCESS MAKING RADIATION SENSITIVE ELEMENT:**
Art collection involving a coating procedure in making a radiation sensitive product.

**936 COBALT COMPLEX CONTAINING:**
Art collection involving a composition or product having a cobalt complex.

**937 CORONA DISCHARGE PROCESS:**
Art collection involving use of corona irradiation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

532, for subjecting a synthetic resin or cellulose derivative containing layer to a corona discharge.

**938 DEFECT COATING:**

Art collection involving the use of a coating material which minimizes defects in the product.

**939 DIMENSIONALLY STABLE MATERIAL:**

Art collection involving the use of a material which renders the product stable with respect to its dimensions.

**940 DIRECT POSITIVE MATERIAL:**

Art collection involving a composition or product having material used to make a direct positive image.

SEE OR SEARCH THIS CLASS, SUBCLASS:

596, for a fogged direct positive.

**941 DYE MORDANT:**

Art collection involving a dye mordant.

**942 ELECTRON BEAM:**

Art collection involving the use of an electron beam.

SEE OR SEARCH THIS CLASS, SUBCLASS:

296, for electron beam imaging.

**943 HYDROGEN PEROXIDE TREATMENT:**

Art collection involving the use of hydrogen peroxide.

**944 INFRARED:**

Art collection involving the use of infrared radiation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

346+, for visible imaging using radiation only.

348+, for thermographic process.

**945 LASER BEAM:**

Art collection involving use of a laser beam.

SEE OR SEARCH THIS CLASS, SUBCLASS:

363, for use of a laser beam in a color imaging process.

**946 LENTICULAR:**

Art collection involving the use of a lenticular surface.

**947 LIGHT SENSITIVE TITANIUM COMPOUND CONTAINING:**

Art collection involving the use of a radiation sensitive titanium compound.

**948 LIPPMANN:**

Art collection involving a lippmann composition or product.

SEE OR SEARCH THIS CLASS, SUBCLASS:

568, for product containing a sensitized silver compound having a particle size of 100 millimicrons or less.

**949 LITHOGRAPHIC EMULSION:**

Art collection involving emulsion used in lithographic-type process.

**950 MATTING OR OTHER SURFACE REFLECTIVITY ALTERING MATERIAL:**

Art collection involving the use of a material which modifies the surface reflectivity of the product.

**951 MAKING CAMERA COPY, E.G., MECHANICAL NEGATIVE, ETC.:**

Art collection involving making a negative other than by radiation imagery or art work type of preparing a make up, e.g., model, diagram, etc., to be imaged.

**952 MULTIPLE IMAGE PRODUCING ON SINGLE RECEIVER:**

Art collection involving the production of plural images on a single image receiver.

SEE OR SEARCH THIS CLASS, SUBCLASS:

54, 333 and 394, for plural image formation.

**953 NEUTRON BEAM:**
Art collection involving the use of a neutron beam.

**954 NONRESINOUS ADDITIVE TO PROMOTE INTERLAYER ADHESION IN ELEMENT:**
Art collection involving the use of a nonresinous additive to cause layers to adhere one to another.

**955 PRECURSOR COMPOUND:**
Art collection involving use of a substance which precedes the formation of another compound.

**956 Interlayer correction coupler (ICC):**
Art collection involving the use of an interlayer correction coupler precursor.

**957 Development inhibitor releaser (DIR):**
Art collection involving the use of a precursor functioning to release a development inhibitor.

**958 Development dye releaser (DDR):**
Art collection involving the use of a development dye releaser precursor.

**959 Blocked developers:**
Art collection involving the use of precursor functioning to block developing.

**960 Blocked restrainers:**
Art collection involving the use of precursor which restrains blocking.

**961 PROTECTIVE OR ANTIABRASION LAYER:**
Art collection involving a protective or antiabrasion layer.

**962 RADIATION-CHROMIC COMPOUND:**
Art collection involving compounds which change color upon being exposed to radiation.

**963 RAPID ACCESS PROCESSING:**
Art collection involving posting image processing in a time period much shorter than normal.

**964 THERMAL IMAGING COMPOSITION:**
Art collection involving composition wherein the image is produced by heat.

SEE OR SEARCH THIS CLASS, SUBCLASS:
141+, 338, 616, 617, 618, 619, and 620, for compositions affected by heat.

**965 TONER CONTAINING:**
Art collection involving product having a color altering substance.

**966 X-ray:**
Art collection involving the use of X-rays.

**967 X-ray exposure process:**
Art collection involving X-ray irradiation.

**970 Radiation sensitive composition or product containing specified antioxidant:**
Art collection relating to radiation sensitive composition or product having chemically identified antioxidant.

FOREIGN ART COLLECTIONS

The definitions below correspond to abolished subclasses from which these collections were formed. See the Foreign Art Collection schedule of this class for specific correspondences. [Note: The titles and definitions for *indented* art collections include all the details of the one(s) that are hierarchically superior.]

**FOR 100 To produce color reproduction (i.e., color named, or more than one color specified):**
Foreign art collection for processes wherein a color image in or on an image record is formed (e.g., a monochrome image such as a green image, or a multicolor such as made up of subtractive or additive colors, etc.).

**FOR 101 Color correction:**
Foreign art collection for processes wherein the color in the color image is modified by an aftertreatment step.

**FOR 102 Manipulation of color separation image to obtain multicolor image in registration:**
Foreign art collection for processes wherein the color separation images are physically manipulated to register them such that a multicolor image is produced (e.g., subtractive color images are manipulated to produce a full natural color image, etc.).

**FOR 103 Identified developing composition or identified developing feature:**
Foreign art collection for processes wherein a named developing composition or a named developing process feature is used to produce a color image.

**FOR 104 Identified radiation-conductive element or composition:**
Foreign art collection for processes wherein a named radiation-conductive element or composition is used to produce a color image.

**FOR 105 Identified receptor or named image transfer feature:**
Foreign art collection for processes wherein a named receptor element (i.e., for receiving transferred or induced charge, or transferred developing composition) or named image transfer process feature is used to produce a color image.

**FOR 106 To produce printing surface:**
Foreign art collection for processes wherein the imaged medium is used to form a member having a surface capable of accepting ink with intended use in a printing process wherein multiple copies are produced.

(1) Note. An additional step of applying ink to the surface or printing is in this subclass.

**FOR 107 Fixing image by pressure only:**
Foreign art collection for processes wherein the image is made permanent by only applied pressure.

**FOR 108 Fixing image by heated metal roller:**
Foreign art collection for processes wherein the image is made permanent by applying heated metal roller thereto.

**FOR 109 Liquid development:**
Foreign art collection for processes wherein the image is developed by a liquid medium.

**FOR 110 Wetting development:**
Foreign art collection for processes wherein the liquid medium only wets the image-carrying medium when an electric field is applied during development (i.e., surface tension forces are overcome by the electric field of the image).

**FOR 111 Charged solid particles deposited out of insulating liquid carrier:**
Foreign art collection for processes wherein electrically charged solid particles dispersed in an insulating liquid develops an image.

**FOR 112 Dry powder developing:**
Foreign art collection for processes wherein the application of dry powder to an image develops that image.

**FOR 113 Cascade:**
Foreign art collection for processes wherein a toner adhered to a carrier bead based upon triboelectricity properties develops the image by flowing or cascading it upon the image-carrying medium.

**FOR 114 Using magnetic brush:**
Foreign art collection for processes wherein a magnet in combination with a toner attached to the magnet by magnetic attraction develops the image.

**FOR 115 Using fur brush:**
Foreign art collection for processes wherein a toner adhered to brush fibers based upon triboelectric properties develops the image-carrying medium.

**FOR 116 Fixing image:**
Foreign art collection for processes wherein the image is made permanent.

**FOR 117 Cleaning radiation-conductive surface:**
Foreign art collection for processes wherein the procedure removes undesired particles from a radiation-conductive surface so that the radiation-conductive element may be reused.

**FOR 118 Transfer of image to different surface:**
Foreign art collection for processes wherein an image is transferred from one surface to another surface.

END