

CLASS 534, ORGANIC COMPOUNDS -- PART OF THE CLASS 532-570 SERIES

SUBCLASSES

7 This subclass is indented under subclass 1. Compounds under Class 532, ... which contain a noble metal (i.e., helium, neon, argon, krypton, xenon or radon).

10 This subclass is indented under subclass 1. Compound under Class 532, ... , which contains a metal which exhibits spontaneous nuclear disintegration with emission of radioactive particles, either as (1) the naturally unstable metal which has as atomic number of (43, 61 or at least 84), or (2) a metal which has been treated to render an isotope thereof radioactive.

11 This subclass is indented under subclass 10. Compound which contain metals having an atomic number of 89 or higher.

(1) Note. Compounds of the transactinide elements, i.e., those having atomic numbers greater than 103 will be found in this group of subclasses.

12 This subclass is indented under subclass 11. Compounds which contain a $-C(=X)-$ group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

13 This subclass is indented under subclass 12. Compounds in which the $-C(=X)-$ is part of a $-C(=X)X-$ group, wherein the X's are the same or diverse chalcogens.

(1) Note. An example of a compound provided for herein is:

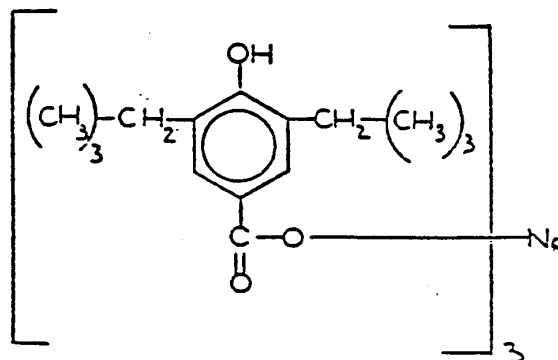
14 This subclass is indented under subclass 10. Compounds which contain technetium.

15 This subclass is indented under subclass 1. Compounds under Class 532, ... , which contain a metal having an atomic number of (21, 39, 57 - 60 or 62 - 71).

16 This subclass is indented under subclass 15. Compounds which contain a $-C(=X)X-$ group, wherein the X's are the same or diverse chalcogens (i.e., oxygen, sulfur, selenium, or tellurium).

(i.e., oxygen, sulfur, selenium, or tellurium).

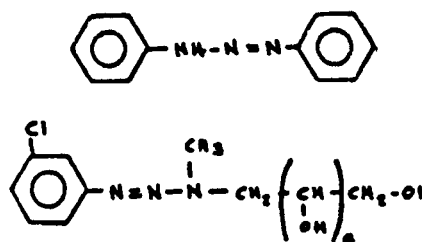
(1) Note. An example of a compound provided for herein is:



550 This subclass is indented under subclass 1. Compounds under Class 532, ... in which nitrogen is attached directly to an acyclic $-N=N-$ group by nonionic bonding, i.e., $N-N=N-$.

(1) Note. Structures in which the entire diazoino configuration is contained in a ring are classified in the appropriate heterocyclic class.

(2) Note. Examples of compounds provided for herein are:

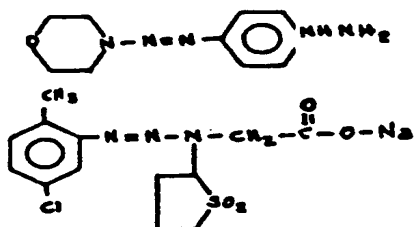


SEE OR SEARCH THIS CLASS, SUBCLASS:

551, for those compounds in which the amino nitrogen is part of a ring.

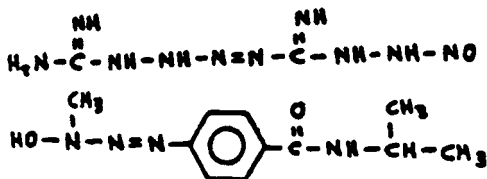
551 This subclass is indented under subclass 550. Compounds which contain a hetero ring.

- (1) Note. The amino nitrogen of the diazoamino group may be a cyclic or an acyclic atom.
- (2) Note. Examples of compounds provided for herein are:



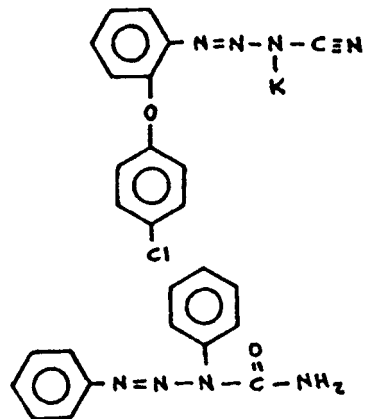
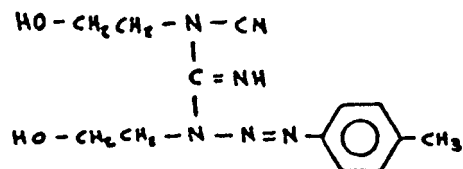
- 552 This subclass is indented under subclass 550. Compounds in which chalcogen (i.e., oxygen, sulfur, selenium or tellurium) or additional nitrogen are bonded directly to the diazoamino group.

- (1) Note. Examples of compounds provided for herein are:



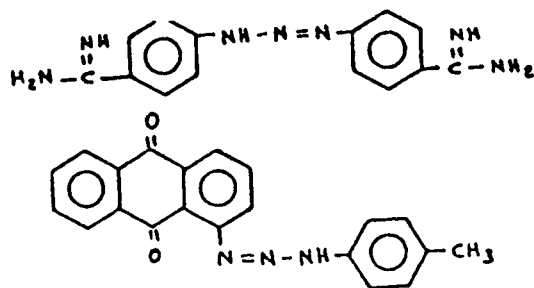
- 553 This subclass is indented under subclass 550. Compounds in which the diazoamino group is bonded directly to an acyclic carbon to which a noncarbon atom is attached directly by a double or triple bond.

- (1) Note. Examples of compounds provided for herein are:

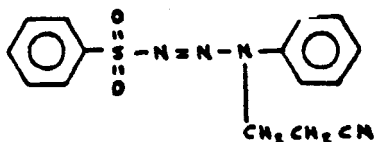


- 554 This subclass is indented under subclass 550. Compounds in which at least two benzene rings are bonded directly to the diazoamino group.

- (1) Note. Examples of compounds provided for herein are:

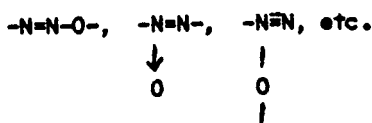


- 555 This subclass is indented under subclass 550. Processes for producing, purifying or recovering a compound containing a diazoamino group.

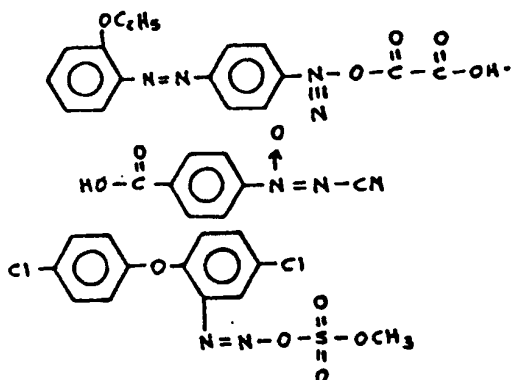


- 556 This subclass is indented under subclass 1. Compounds under Class 532, in which oxygen is bonded directly to an acyclic -N=N- or group, which group is attached directly to carbon by nonionic bonding.

(1) Note. Among the radicals included herein are:

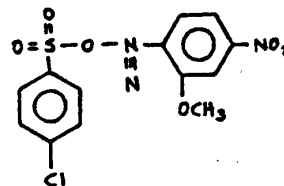
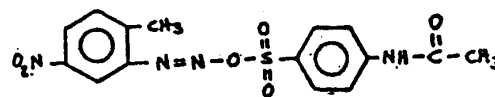


(2) Note. Examples of compounds provided for herein are:



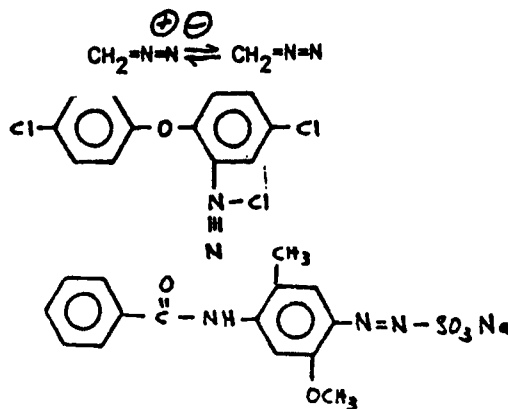
- 557 This subclass is indented under subclass 556. Compounds in which sulfur is attached directly to a ring by nonionic bonding.

(1) Note. Examples of compounds provided for herein are:



- 558 This subclass is indented under subclass 1. Compounds under Class 532, ... in which only one nitrogen of a diazo group is bonded directly to carbon; wherein if the remaining nitrogen is bonded to an additional atom or radical, that atom or radical is an anion.

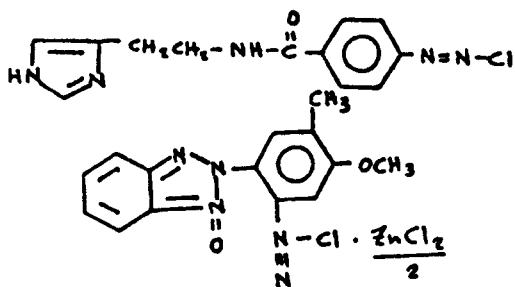
(1) Note. Examples of compounds provided for herein are:



- 559 This subclass is indented under subclass 558. Products which contain a diazo or diazonium compound in admixture with a preserving or stabilizing agent whose sole function is to prevent physical or chemical change.

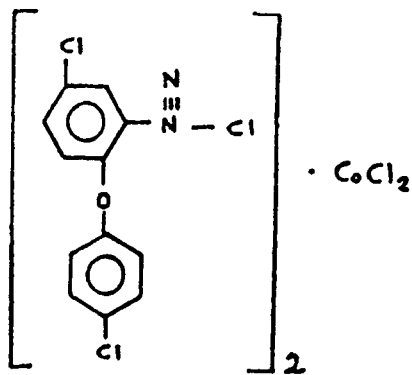
- 560 This subclass is indented under subclass 558. Compounds which contain a hetero ring.

- (1) Note. Examples of compounds provided for herein are:



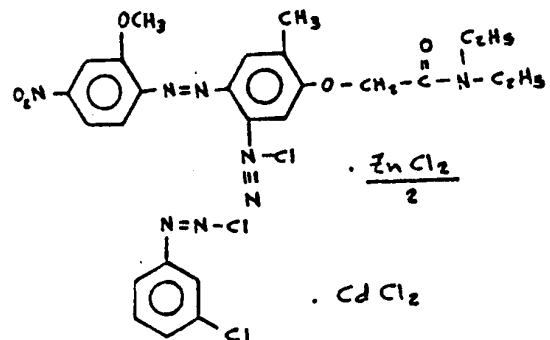
- 561** This subclass is indented under subclass 558. Compounds which contain at least two of the diazo or diazonium groups.

- (1) Note. An example of a compound provided for herein is:



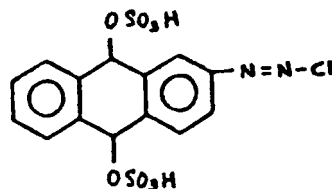
- 562** This subclass is indented under subclass 558. Compounds which include aluminum or metal with a specific gravity greater than four.

- (1) Note. Arsenic is considered a metal for the purpose of this subclass.
- (2) Note. Examples of compounds provided for herein are:



- 563** This subclass is indented under subclass 558. Compounds which contain a polycyclic ring system having three or more cycles.

- (1) Note. An example of a compound provided for herein is:



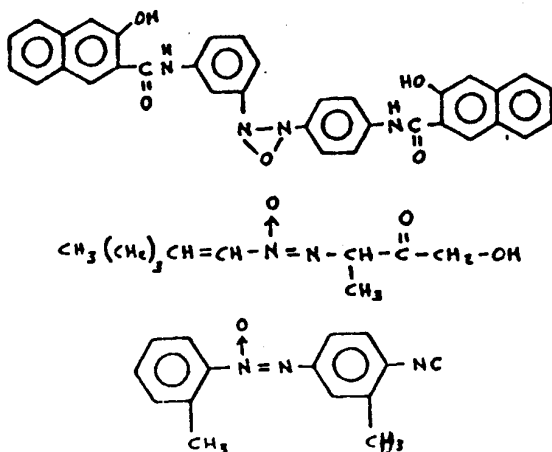
- 564** This subclass is indented under subclass 558. Compounds which contain an aldehyde or ketone group; i.e., wherein R is hydrogen or carbon.

- 565** This subclass is indented under subclass 558. Processes of forming the diazonium group.

- 566** This subclass is indented under subclass 1. Compounds under Class 532, ... in which an azoxy group; i.e., - or -NN-, is bonded directly to carbons of two discrete organic radicals.

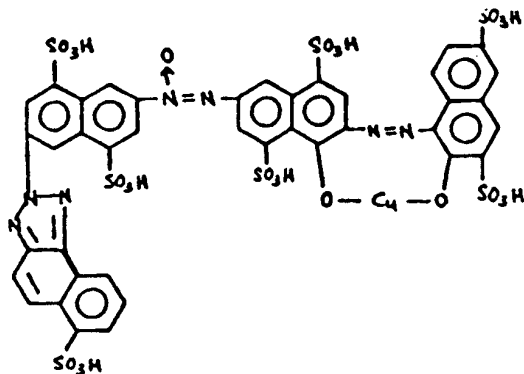
- (1) Note. Compounds which contain an azoxy group bonded directly to the same carbon or to two carbons of the same radical thereby forming a heterocyclic ring are classified in the appropriate heterocyclic class.

- (2) Note. Examples of compounds provided for herein are:

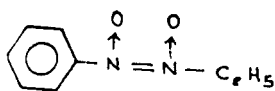


- 567** This subclass is indented under subclass 566. Compounds which contain a hetero ring.

- (1) Note. An example of a compound provided for herein is:



- 568** This subclass is indented under subclass 566. Compounds which contain an azodioxy group, i.e.,



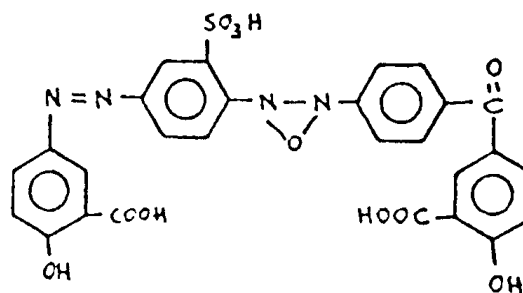
- (1) Note. An example of a compound provided for herein is:

- 569** This subclass is indented under subclass 566. Compounds which include aluminum or a metal with a specific gravity greater than four.

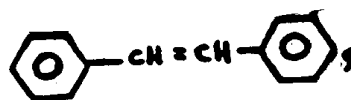
- (1) Note. Arsenic is considered a metal for the purpose of this subclass.

- 570** This subclass is indented under subclass 566. Compounds which contain a --OH group bonded directly to carbon, wherein -H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for herein is:



- 571** This subclass is indented under subclass 570. Compounds which contain a stilbene group, i.e., as illustrated below, wherein any hydrogen may be replaced.



- (1) Note. An example of a compound provided for herein is:

- 572** This subclass is indented under subclass 566. Processes of forming the azoxy group.

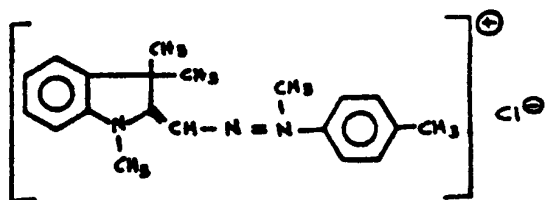
- 573** This subclass is indented under subclass 1. Compounds under Class 532, ... in which an acyclic -N=N- group is bonded directly to carbons of two discrete organic radicals.

- (1) Note. Compounds which contain a -N=N- group bonded directly to the same carbon or to two carbons of the same radical thereby forming a heterocyclic

ring are classified in the appropriate heterocyclic class.

574 This subclass is indented under subclass 573. Compounds wherein a nitrogen of the azo group is pentavalent (i.e., -NN-), with a bond to an additional carbon and a bond to an anion.

(1) Note. An example of a compound provided for herein is:



575 This subclass is indented under subclass 573. Compounds which are azo compounds having a specifically disclosed crystalline structure, form or modification.

576 This subclass is indented under subclass 573. Products which contain an azo compound in admixture with a preserving or stabilizing agent whose sole function is to prevent physical or chemical change.

577 This subclass is indented under subclass 573. Compounds which are azo dyes existing either in a semi-crystalline form or in a transition state between crystalline solid and normal liquid, i.e., having the appearance of being crystals while having the viscosities to behave mechanically as liquids, and which usually show different colors.

(1) Note. These dyes are utilized in display type devices.

578 This subclass is indented under subclass 573. Processes wherein the azo group is formed by oxidative coupling.

579 This subclass is indented under subclass 573. Processes wherein the azo group is formed by simultaneous diazotization and coupling.

580 This subclass is indented under subclass 573. Processes whereby the azo group is formed from a diazoamino group.

581 This subclass is indented under subclass 573. Processes wherein the azo group is formed by the coupling of a diazonium compound with a coupling component in the presence of an additional organic compound.

582 This subclass is indented under subclass 573. Processes wherein the azo group is formed by the coupling of a diazonium compound with a coupling component at a specified pH range.

(1) Note. Included herein are only those processes in which a pH range is specifically disclosed or claimed.

583 This subclass is indented under subclass 573. Processes wherein the azo group is formed by the coupling of a diazonium compound with a coupling component in the presence of ammonia, a Group IIA light metal hydroxide, or a Group IA or IIA light metal phosphate.

584 This subclass is indented under subclass 573. Processes wherein the azo group is formed by the coupling of a diazonium compound with a coupling component in proportions other than stoichiometric.

585 This subclass is indented under subclass 573. Processes wherein the azo group is formed by the reduction of a nitro group (i.e., -NO₂).

586 This subclass is indented under subclass 573. Processes whereby the azo group is formed from a group having nitrogen singly bonded to nitrogen, e.g., hydrazine group, hydrazone group, etc.

587 This subclass is indented under subclass 573. Processes wherein the azo group is formed from a nitrogen containing compound by some process other than diazotization and coupling.

588 This subclass is indented under subclass 573. Processes whereby an azo compound is utilized as a reactant in the preparation of a different azo compound.

589 This subclass is indented under subclass 588. Processes for the preparation of quaternary ammonium or quaternary hydrazinium compounds.

590 This subclass is indented under subclass 588. Processes whereby a ring is formed.

591 This subclass is indented under subclass 588. Processes whereby a [Fig. 1] group is formed, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

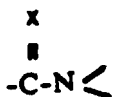
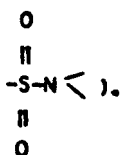


FIGURE 1

592 This subclass is indented under subclass 588. Processes whereby a sulphonamide group is formed (i.e.,



593 This subclass is indented under subclass 588. Processes which utilize a reactant which contains sulfur or phosphorus; said reactant is other than the azo reactant.

594 This subclass is indented under subclass 593. Processes whereby a $-\text{SO}_3\text{H}$ group is formed or added to the azo reactant producing a sulfonated azo compound (H of the SO_3H group may be replaced by a substituted or unsubstituted ammonium ion or a metal).

595 This subclass is indented under subclass 588. Processes whereby a $-\text{X}$ ester group is formed, wherein the X's may be the same or diverse chalcogens (i.e., oxygen, sulfur, selenium or tellurium).

596 This subclass is indented under subclass 588. Processes for etherifying hydroxy groups.

597 This subclass is indented under subclass 588. Processes wherein halogen is replaced by a cyano group.

598 This subclass is indented under subclass 588. Processes whereby halogen is replaced by an amino nitrogen.

599 This subclass is indented under subclass 588. Processes wherein azo compounds are reactants in hydrolysis reactions; i.e., decomposition reactions.

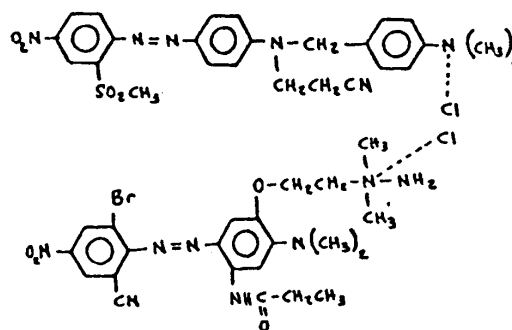
600 This subclass is indented under subclass 588. Processes whereby a nitro group or a nitrogen oxide group is reduced.

601 This subclass is indented under subclass 588. Processes for the nitration of azo compounds.

602 This subclass is indented under subclass 588. Processes for the preparation of a metallized azo compound by the reaction of an azo compound with a metal or a metallized compound in the presence of an additional organic compound.

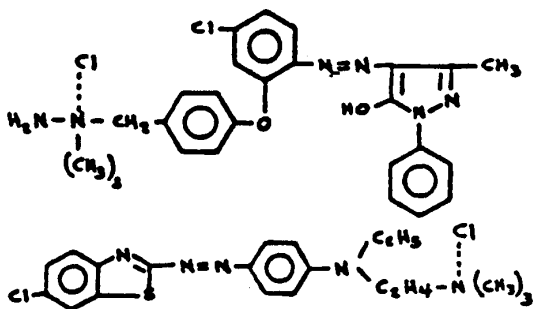
603 This subclass is indented under subclass 573. Compounds wherein a pentavalent nitrogen having four bonds to carbons or three bonds to carbons and one to an additional nitrogen is attached indirectly to an azo group by nonionic bonding.

(1) Note. Examples of compounds provided for herein are:



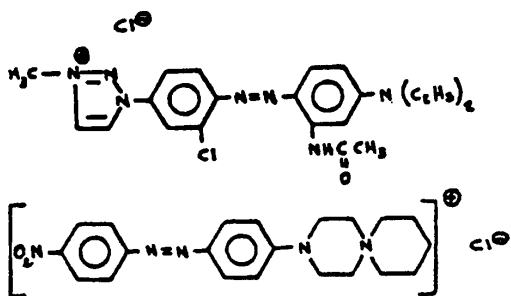
604 This subclass is indented under subclass 603. Compounds which contain a hetero ring.

(1) Note. Examples of compounds provided for herein are:



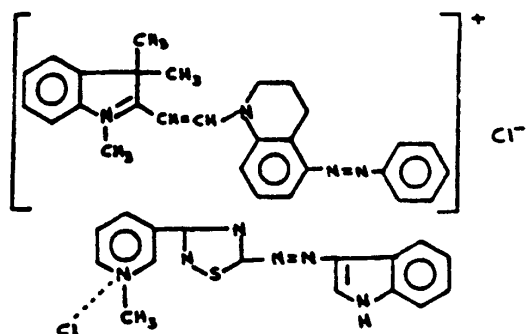
605 This subclass is indented under subclass 604. Compounds in which the pentavalent nitrogen is a ring member.

- (1) Note. Examples of compounds provided for herein are:



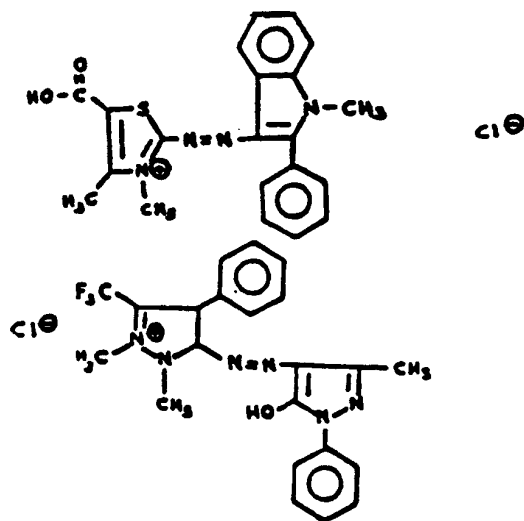
606 This subclass is indented under subclass 605. Compounds wherein an azo group is bonded directly to a hetero ring or to a polycyclic ring system which contains a hetero ring as one of the cycles.

- (1) Note. Examples of compounds provided for herein are:



607 This subclass is indented under subclass 606. Compounds wherein the pentavalent nitrogen is a member of the hetero ring or the polycyclic ring system to which the azo group is directly bonded.

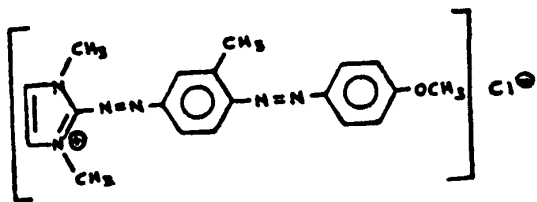
- (1) Note. Examples of compounds provided for herein are:



608 This subclass is indented under subclass 607. Compounds wherein at least two azo groups within the same azo moiety are attached indirectly to each other by nonionic bonding.

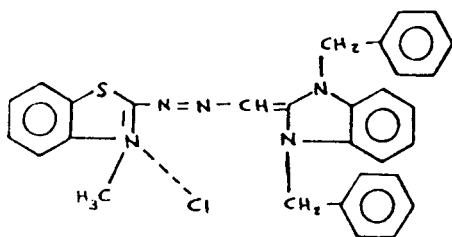
- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.

- (2) Note. An example of a compound provided for herein is:



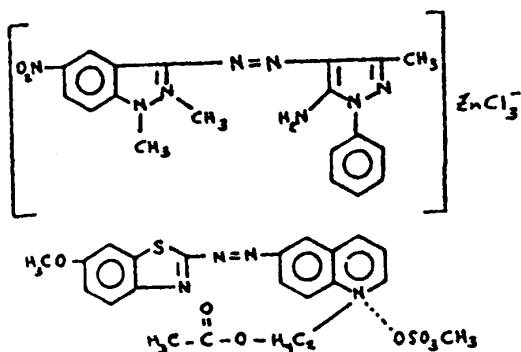
- 609** This subclass is indented under subclass 607. Compounds in which an acyclic carbon atom is bonded directly to the azo group.

- (1) Note. An example of a compound provided for herein is:



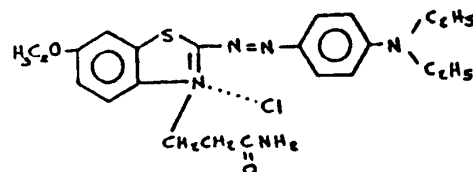
- 610** This subclass is indented under subclass 607. Compounds in which an additional hetero ring or a polycyclic ring system having a hetero ring as one of the cyclos is bonded directly to the azo group.

- (1) Note. Examples of compounds provided for herein are:



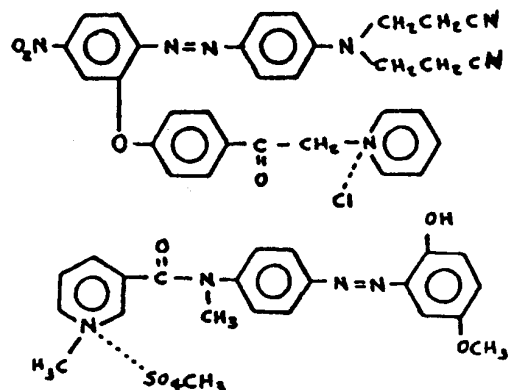
- 611** This subclass is indented under subclass 607. Compounds wherein the hetero ring which contains the pentavalent nitrogen is one of the cyclos in a polycyclo ring system.

- (1) Note. An example of a compound provided for herein is:



- 612** This subclass is indented under subclass 605. Compounds wherein an acyclic -- group, in which X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium) is attached directly or indirectly to the hetero ring by nonionic bonding.

- (1) Note. Examples of compounds provided for herein are:



- 613** This subclass is indented under subclass 603. Compounds which include aluminum or a metal with a specific gravity greater than four.

- (1) Note. Arsenic is considered a metal for the purpose of this subclass.
- (2) Note. An example of a compound provided for herein is:

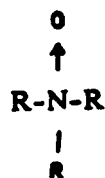
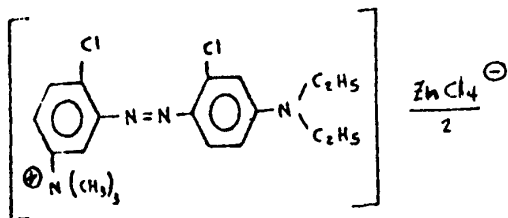


FIGURE 1

- 614 This subclass is indented under subclass 603. Compounds in which at least two azo groups are attached indirectly to each other by non-ionic bonding.

(1) Note. An example of a compound provided for herein is:

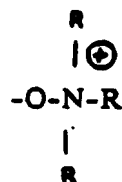
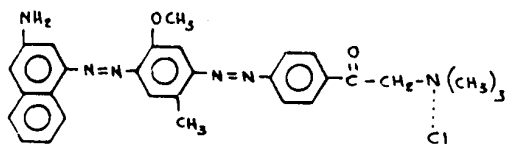


FIGURE 2

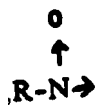


FIGURE 3. Nitro

- 615 This subclass is indented under subclass 603. Compounds in which at least two nitrogens are bonded directly to the same alkylene chain.

(1) Note. An example of a compound provided for herein is:

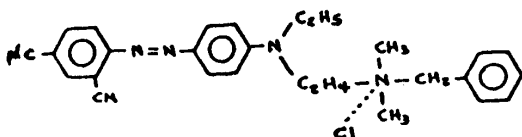
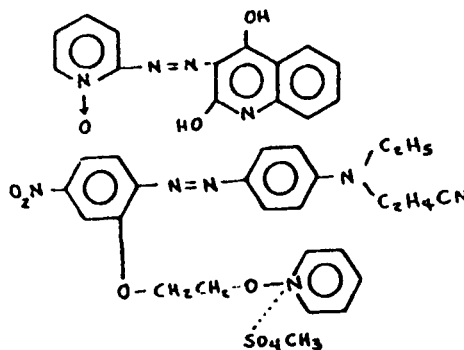


FIGURE 4. Nitroso

(2) Note. Examples of compounds provided for herein are:

- 616 This subclass is indented under subclass 573. Compounds wherein acyclic oxygen is bonded directly to a nitrogen atom which has three bonds to carbons.

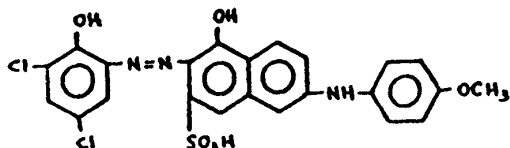
(1) Note. This subclass includes, e.g., Figs. 1 and 2 below, but excludes nitro and nitroso, i.e., Figs. 3 and 4, respectively.



- 617 This subclass is indented under subclass 573. Compounds which are azo compounds having a group capable of reacting with a group of a fiber or a substrate to form a nonionic bond,

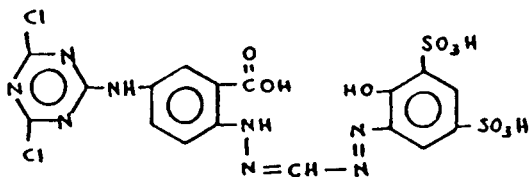
e.g., reacting with a hydroxy group of cellulose or an amino group of a polyamide, etc.

- (1) Note. Included herein are only those patents which distinctly disclose that an azo compound is "fiber - or substrate-reactive" or that a reaction occurs between a fiber or substrate and an azo dye.
- (2) Note. An example of a compound provided for herein is:



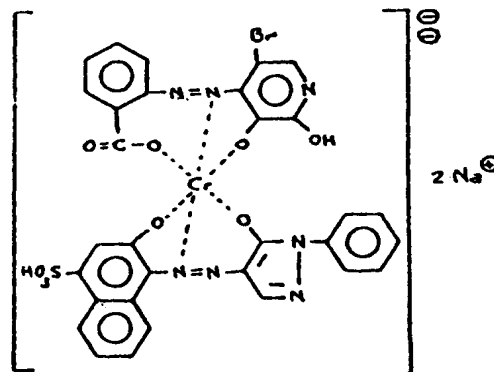
618 This subclass is indented under subclass 617. Compounds which contain the formazan group, i.e., N-N=N=N-.

- (1) Note. An example of a compound provided for herein is:



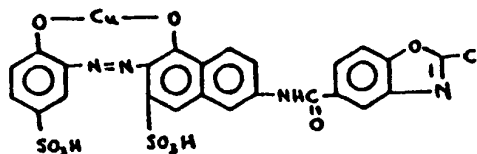
619 This subclass is indented under subclass 617. Compounds which include aluminum or a metal with a specific gravity greater than four.

- (1) Note. Arsenic is considered a metal for the purpose of this subclass.
- (2) Note. An example of a compound provided for herein is:



620 This subclass is indented under subclass 619. Compounds in which halogen is attached directly to a hetero ring or to an alicyclic ring by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



621 This subclass is indented under subclass 620. Compounds which contain the group in Fig. 1, wherein only hydrogen may be replaced.

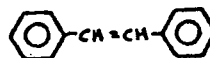
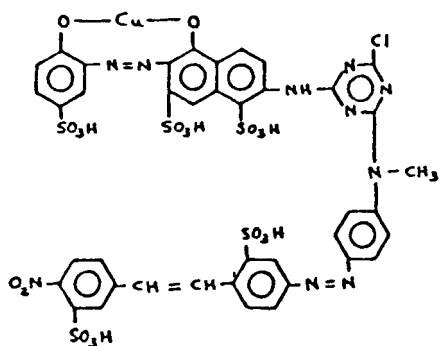


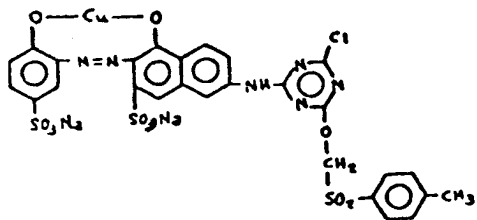
FIGURE 1

- (1) Note. An example of a compound provided for herein is:



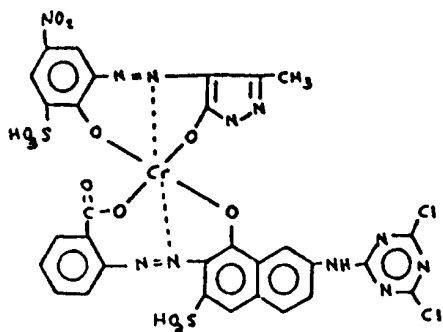
622 This subclass is indented under subclass 620. Compounds in which the hetero ring to which halogen is attached is six-membered and contains at least two ring nitrogens.

- (1) Note. An example of a compound provided for herein is:



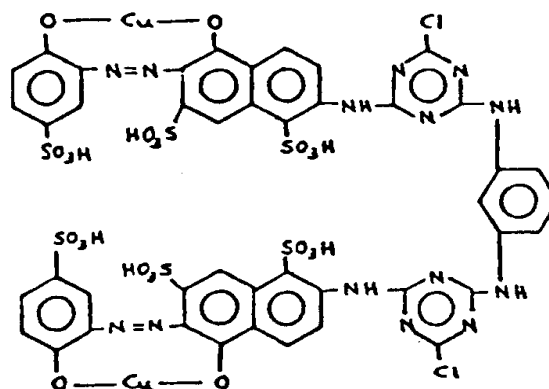
623 This subclass is indented under subclass 622. Compounds wherein azo moieties from different and distinct azo compounds are bonded to the same metal.

- (1) Note. An example of a compound provided for herein is:



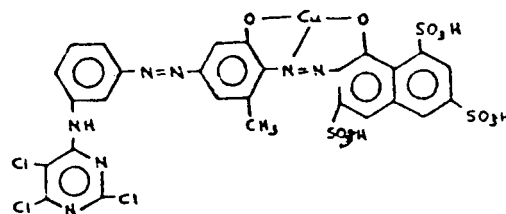
624 This subclass is indented under subclass 622. Compounds wherein at least two of the six-membered hetero rings having halogen bonded directly thereto are attached indirectly to each other by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



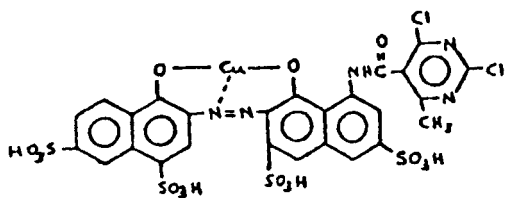
625 This subclass is indented under subclass 622. Compounds wherein at least two azo groups within the same azo moiety are attached indirectly to each other by nonionic bonding.

- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:



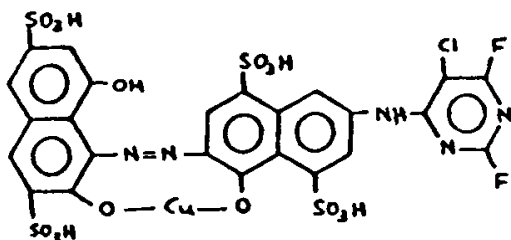
626 This subclass is indented under subclass 622. Compounds in which carbon or chalcogen (i.e., oxygen, sulfur, selenium or tellurium) is bonded directly to the six-membered hetero ring, which chalcogen or carbon is between the hetero ring and the azo group.

- (1) Note. An example of a compound provided for herein is:



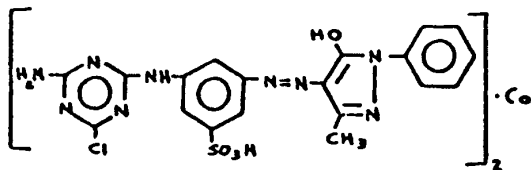
- 627 This subclass is indented under subclass 622. Compounds in which at least two halogens are attached directly to the six-membered hetero ring by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



- 628 This subclass is indented under subclass 622. Compounds which contain an additional hetero ring, which ring is other than six-membered having at least two ring nitrogens.

- (1) Note. An example of a compound provided for herein is:



- 629 This subclass is indented under subclass 619. Compounds wherein an alkylene, alkenyl or alkenylene chain is bonded directly to a sulfonyl group, i.e., Fig. 1, or to a sulfonamide group, i.e., Fig. 2, which sulfonyl or sulfonamide is between the chain and a ring.

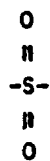


FIGURE 1

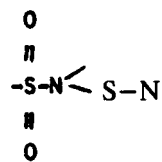
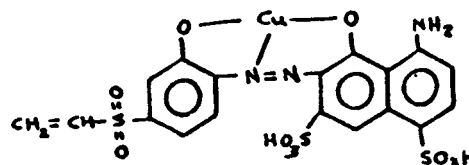


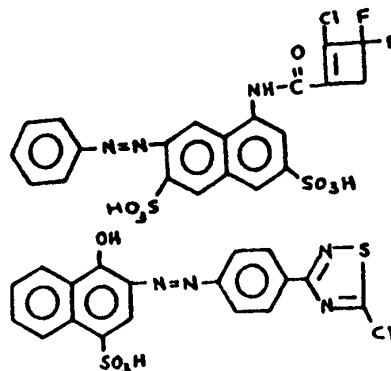
FIGURE 2.

- (1) Note. An example of a compound provided for herein is:



- 630 This subclass is indented under subclass 617. Compounds in which halogen is attached directly to a hetero ring or to an alicyclic ring by nonionic bonding.

- (1) Note. Examples of compounds provided for herein are:



- 631** This subclass is indented under subclass 630. Compounds which contain the [Fig. 1] group, wherein only hydrogen may be replaced.

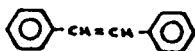
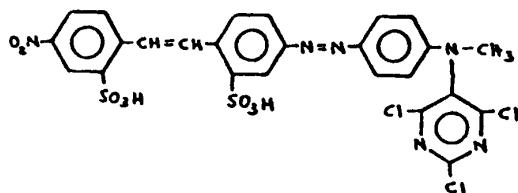


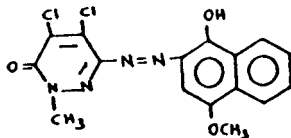
FIGURE 1

- (1) Note. An example of a compound provided for herein is:



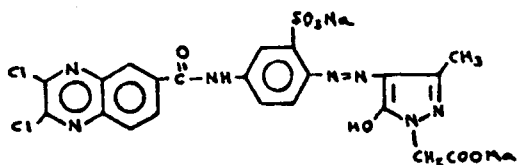
- 632** This subclass is indented under subclass 630. Compounds in which the hetero ring to which halogen is attached is six-membered and contains at least two ring nitrogens.

- (1) Note. An example of a compound provided for herein is:



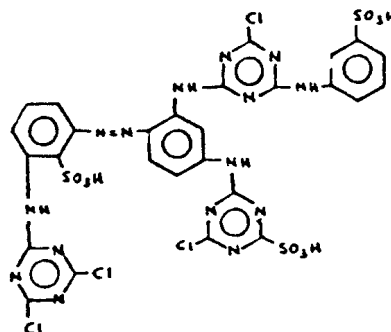
- 633** This subclass is indented under subclass 632. Compounds wherein the hetero ring is one of the cyclos in a polycyclo ring system.

- (1) Note. An example of a compound provided for herein is:



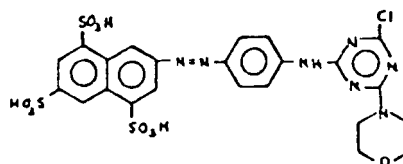
- 634** This subclass is indented under subclass 632. Compounds which contain at least two of the six-membered hetero rings having halogen bonded directly thereto attached indirectly to each other by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



- 635** This subclass is indented under subclass 632. Compounds which contain an additional hetero ring.

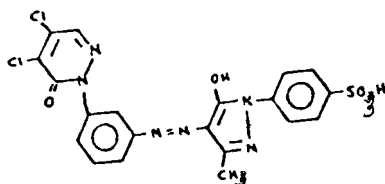
- (1) Note. An example of a compound provided for herein is:



- 636** This subclass is indented under subclass 635. Compounds wherein the additional hetero ring has the following basic structure, which may contain double bonds between ring members:

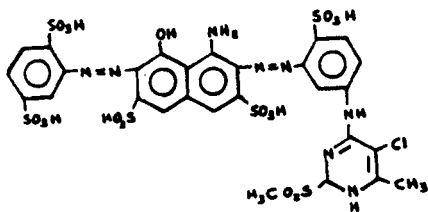


- (1) Note. An example of a compound provided for herein is:



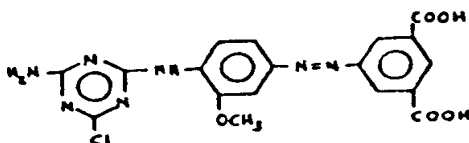
637 This subclass is indented under subclass 632. Compounds in which at least two azo groups are attached indirectly to each other by non-ionic bonding.

(1) Note. An example of a compound provided for herein is:



638 This subclass is indented under subclass 632. Compounds wherein the hetero ring and a benzene ring are both bonded directly to the same nitrogen, said benzene ring is additionally bonded directly to the azo group.

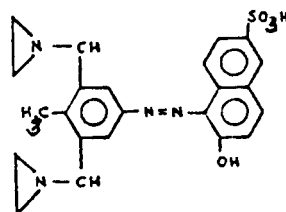
(1) Note. An example of a compound provided for herein is:



639 This subclass is indented under subclass 617. Compounds which contain a hetero ring having the following basic structure, which may contain a double bond between ring members:

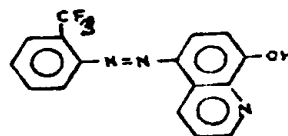


(1) Note. An example of a compound provided for herein is:



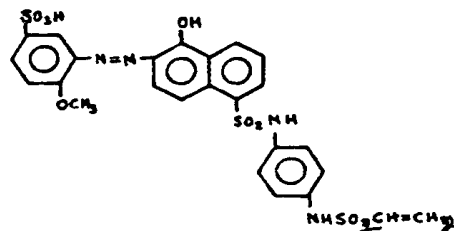
640 This subclass is indented under subclass 617. Compounds wherein an alkylene, alkenyl, alkenylene, alkynyl or alkynylene chain is attached directly or indirectly to a ring by non-ionic bonding.

(1) Note. An example of a compound provided for herein is:



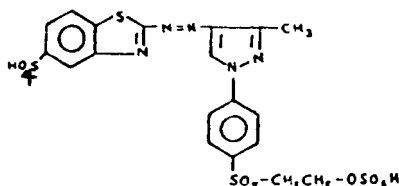
641 This subclass is indented under subclass 640. Compounds wherein an alkylene, alkenyl or alkenylene chain is bonded directly to a sulfonyl group, i.e., --, or a sulfonamide group, i.e., -N-, which sulfonyl or sulfonamide is between the chain and a ring.

(1) Note. An example of a compound provided for herein is:



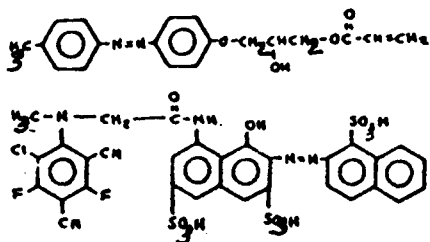
642 This subclass is indented under subclass 641. Compounds wherein the alkylene, alkenyl or alkenylene chain and the ring are both bonded directly to the same sulfonyl group.

(1) Note. An example of a compound provided for herein is:



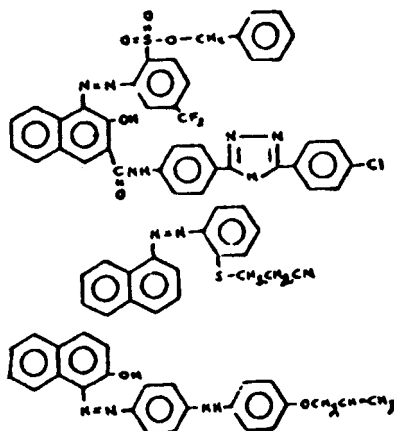
- 643 This subclass is indented under subclass 640. Compounds wherein an alkylene, alkenyl or alkenylene chain is bonded directly to a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium), to a -C , group or to a N--N group, which group is between the chain and a ring.

(1) Note. Examples of compounds provided for herein are:

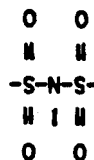


- 644 This subclass is indented under subclass 640. Compounds in which an alkylene, alkenyl or alkenylene chain and a ring are both bonded directly to the same chalcogen atom (i.e., oxygen, sulfur, selenium or tellurium) or to plural chalcogens which are bonded directly to each other.

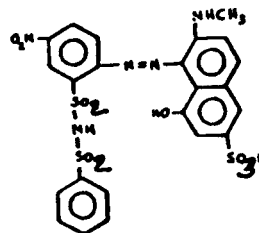
(1) Note. Examples of compounds provided for herein are:



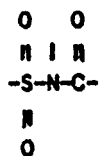
- 645 This subclass is indented under subclass 573. Compounds in which at least two sulfonyl groups are bonded directly to the same amino nitrogen, e.g.,



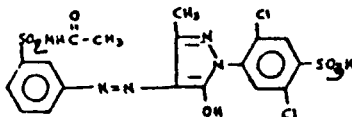
(1) Note. An example of a compound provide for herein is:



- 646 This subclass is indented under subclass 573. Compounds in which sulfonyl and carbonyl are both bonded directly to the same amino nitrogen,

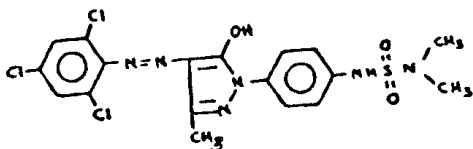


- (1) Note. An example of a compound provided for herein is:



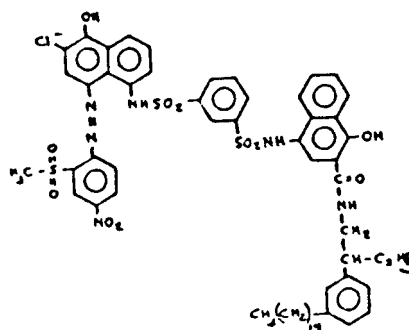
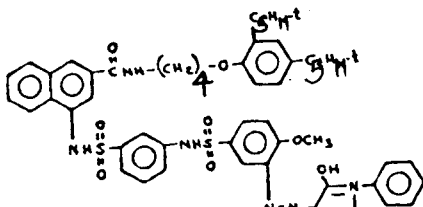
- 647 This subclass is indented under subclass 573. Compounds in which at least two amino nitrogens are bonded directly to the same sulfonyl group; e.g., N--N, etc.

- (1) Note. An example of a compound provided for herein is:



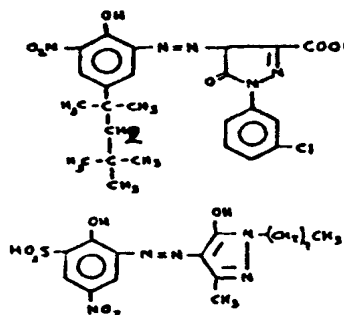
- 648 This subclass is indented under subclass 573. Compounds wherein an alkyl chain, which has at least eight carbons specified, or plural alkyl chains, each of which has at least five carbons specified, is bonded directly to a ring.

- (1) Note. Examples of compounds provided for herein are:



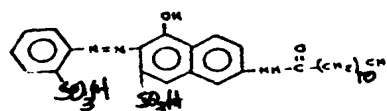
- 649 This subclass is indented under subclass 573. Compounds wherein an alkyl chain which has at least eight carbons specified is bonded directly to a ring.

- (1) Note. Examples of compounds provided for herein are:



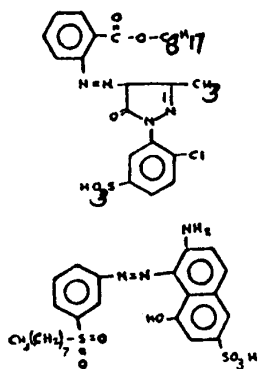
- 650 This subclass is indented under subclass 573. Compounds which contain a group or a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium), between a ring and an alkyl chain which has at least eight carbons specified.

- (1) Note. An example of a compound provided for herein is:



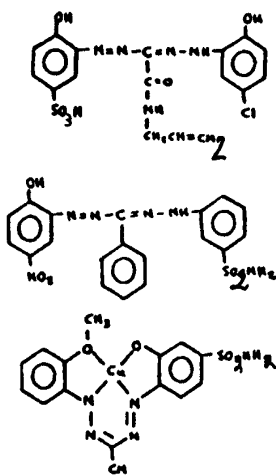
- 651 This subclass is indented under subclass 650. Compounds in which the sulfonyl group or the -- group is bonded directly the ring.

- (1) Note. Examples of compounds provided for herein are:



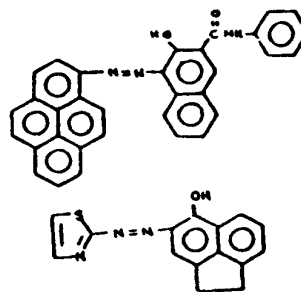
- 652** This subclass is indented under subclass 573. Compounds which contain the formazan group, i.e., -N=N=N-.

- (1) Note. Examples of compounds provided for herein are:



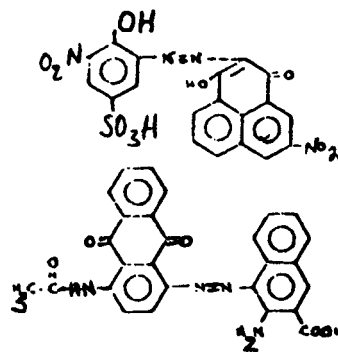
- 653** This subclass is indented under subclass 573. Compounds which contain a polycyclo carbocyclic ring system having at least three cycles.

- (1) Note. Examples of compounds provided for herein are:



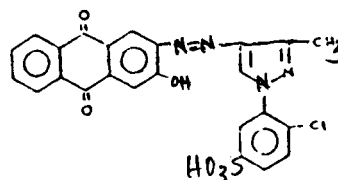
- 654** This subclass is indented under subclass 653. Compounds in which the polycyclo carbocyclic ring system consists of three six-membered cycles and has plural oxygens bonded directly to it.

- (1) Note. Examples of compounds provided for herein are:



- 655** This subclass is indented under subclass 654. Compounds which contain a hetero ring.

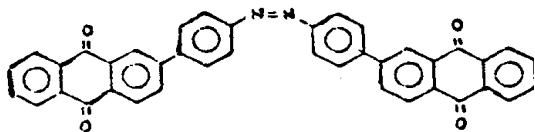
- (1) Note. An example of a compound provided for herein is:



- 656** This subclass is indented under subclass 654. Compounds which contain at least two polycyclo carbocyclic ring systems consisting of three

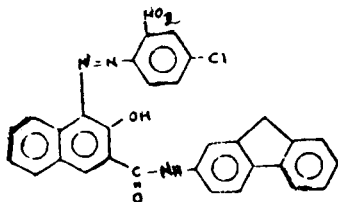
six-membered cyclos, each having plural oxygens bonded directly to it.

- (1) Note. An example of a compound provided for herein is:



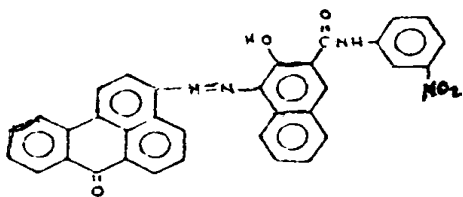
657 This subclass is indented under subclass 653. Compounds wherein the polycyclo ring system has no direct bond to any azo group.

- (1) Note. An example of a compound provided for herein is:



658 This subclass is indented under subclass 653. Compounds in which chalcogen (i.e., oxygen, sulfur, selenium or tellurium) is double bonded directly to the polycyclo ring system.

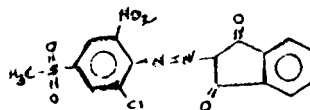
- (1) Note. An example of a compound provided for herein is:



659 This subclass is indented under subclass 573. Compounds which contain a bicyclo carbocyclic ring system consisting of a six-membered ring and a five-membered ring, (i.e., the structure below) which may contain double bonds between its members.

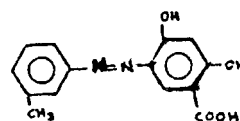
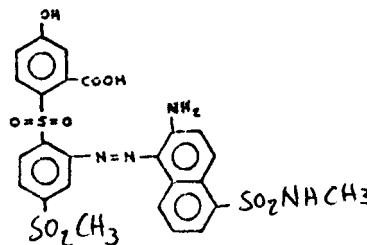


- (1) Note. An example of a compound provided for herein is:



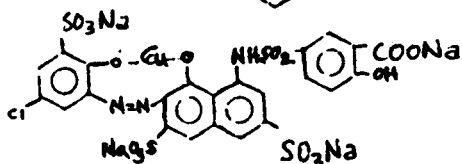
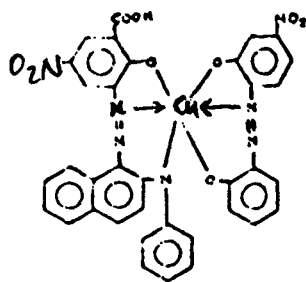
660 This subclass is indented under subclass 573. Compounds in which -OH and the carbon of a -O- group are both bonded directly to the same monocyclic benzene ring, wherein -H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a metal.

- (1) Note. Examples of compounds provided for herein are:



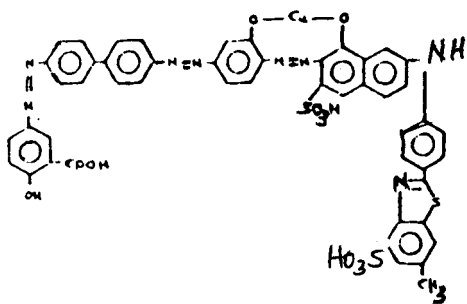
661 This subclass is indented under subclass 660. Compounds which include aluminum or a metal with a specific gravity greater than four.

- (1) Note. Arsenic is considered a metal for the purpose of this subclass.
- (2) Note. Examples of compounds provided for herein are:



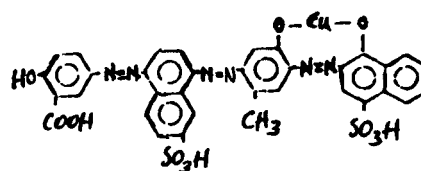
662 This subclass is indented under subclass 661. Compounds which contain a hetero ring.

- (1) Note. An example of a compound provided for herein is:



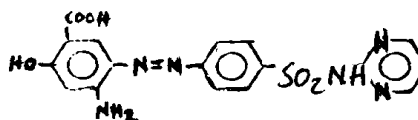
663 This subclass is indented under subclass 661. Compounds wherein at least two azo groups within the same azo moiety are attached indirectly to each other by nonionic bonding.

- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:



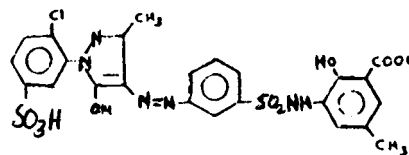
664 This subclass is indented under subclass 660. Compounds which contain a hetero ring.

- (1) Note. An example of a compound provided for herein is:



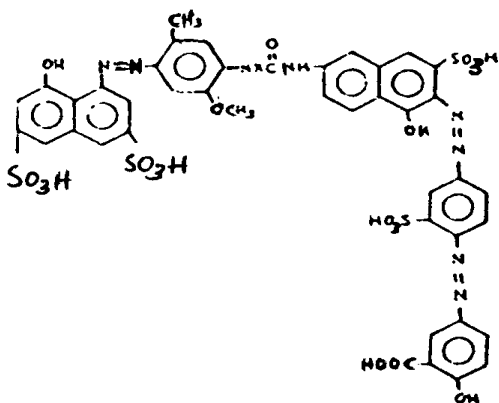
665 This subclass is indented under subclass 664. Compounds wherein an azo group is bonded directly to a hetero ring or to a polycyclic ring system which contains a hetero ring as one of the cycles.

- (1) Note. An example of a compound provided for herein is:



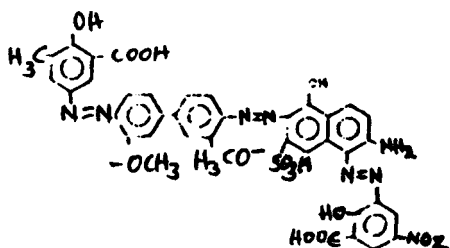
666 This subclass is indented under subclass 660. Compounds in which at least three azo groups are attached indirectly to each other by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



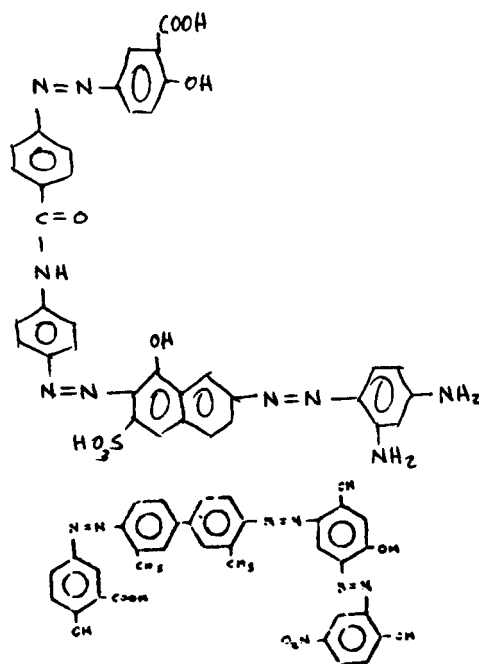
- 667 This subclass is indented under subclass 666. Compounds which contain at least two monocyclic benzene rings, each of which has an -OH group and a -COO- group bonded directly to it.

(1) Note. An example of a compound provided for herein is:



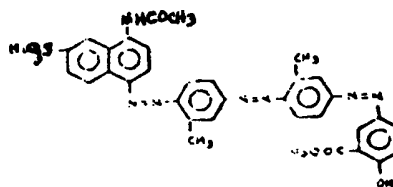
- 668 This subclass is indented under subclass 666. Compounds which contain an additional monocyclic benzene ring which has either plural hydroxy groups, hydroxy and nitrogen, or plural nitrogens bonded directly to it; wherein the nitrogen is other than as nitro, nitroso or azo.

(1) Note. Examples of compounds provided for herein are:



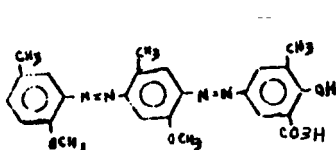
- 669 This subclass is indented under subclass 666. Compounds which contain an additional -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



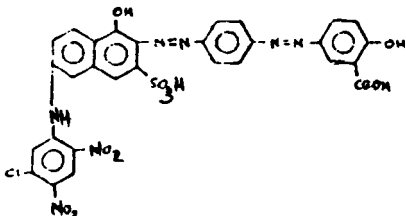
- 670 This subclass is indented under subclass 660. Compounds in which two azo groups are attached indirectly to each other by nonionic bonding.

(1) Note. An example of a compound provided for herein is:



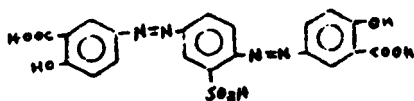
- 671** This subclass is indented under subclass 670. Compounds which contain a --OH group bonded directly to carbon, wherein H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a metal.

(1) Note. An example of a compound provided for herein is:



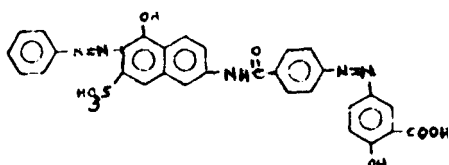
- 672** This subclass is indented under subclass 671. Compounds which contain at least two monocyclic benzene rings, each of which has an -OH group and a -COO- group bonded directly to it.

(1) Note. An example of a compound provided for herein is:



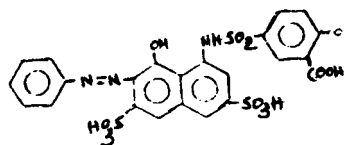
- 673** This subclass is indented under subclass 671. Compounds which contain an additional --group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



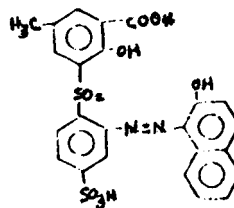
- 674** This subclass is indented under subclass 660. Compounds which contain a --OH group bonded directly to carbon, wherein -H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a metal.

(1) Note. An example of a compound provided for herein is:



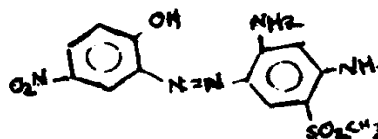
- 675** This subclass is indented under subclass 674. Compounds in which the azo group is attached indirectly to the monocyclic benzene ring by nonionic bonding.

(1) Note. An example of a compound provided for herein is:



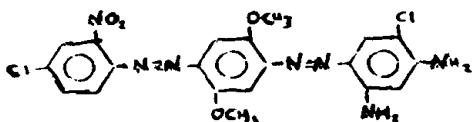
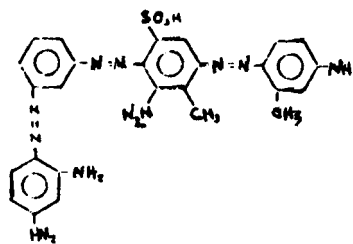
- 676** This subclass is indented under subclass 573. Compounds wherein at least two -NH₂ groups or a -NH₂ group and an -OH group are bonded directly to a monocyclic benzene ring; wherein -H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a metal.

(1) Note. An example of a compound provided for herein is:



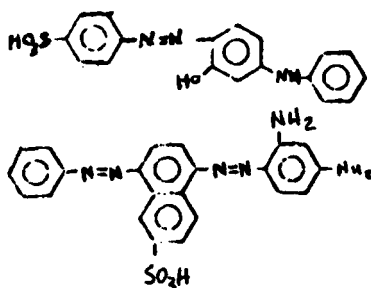
- 677** This subclass is indented under subclass 676. Compounds in which at least two azo groups within the same azo moiety are attached indirectly to each other by nonionic bonding.

- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:



- 678** This subclass is indented under subclass 677. Compounds which contain a --OH group bonded directly to carbon, wherein -H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a metal.

- (1) Note. Examples of compounds provided for herein are:

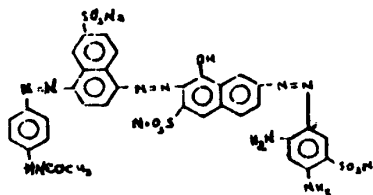


- 679** This subclass is indented under subclass 678. Compounds which contain at least two of the monocyclic rings, each of which has plural -NH₂ groups or a -NH₂ group and an -OH group bonded directly to it.

- (1) Note. An example of a compound provided for herein is:

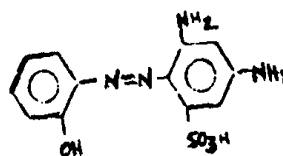
- 680** This subclass is indented under subclass 678. Compounds in which exactly three azo groups are attached indirectly to each other by non-ionic bonding.

- (1) Note. An example of a compound provided for herein is:



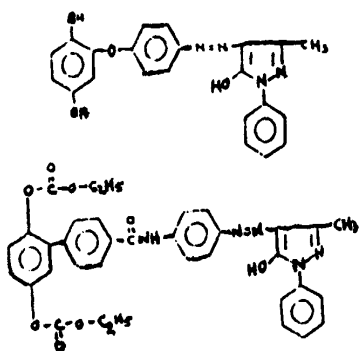
- 681** This subclass is indented under subclass 676. Compounds which contain a --OH group bonded directly to carbon wherein H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a metal.

- (1) Note. An example of a compound provided for herein is:



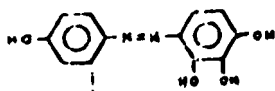
- 682** This subclass is indented under subclass 573. Compounds wherein at least two -OH groups or esters thereof are bonded directly to a monocyclic benzene ring; wherein the -H of the -OH may be replaced by a substituted or unsubstituted ammonium ion, a metal or an ester radical.

- (1) Note. Examples of compound provided for herein are:



683 This subclass is indented under subclass 682. Compounds wherein the benzene ring is bonded directly to an azo group.

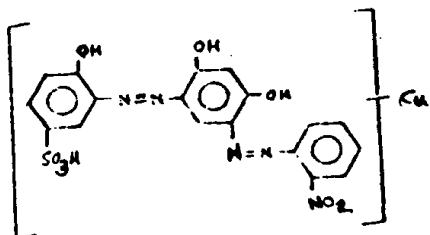
(1) Note. An example of a compound provided for herein is:



684 This subclass is indented under subclass 683. Compounds which contain aluminum or a metal with a specific gravity greater than four.

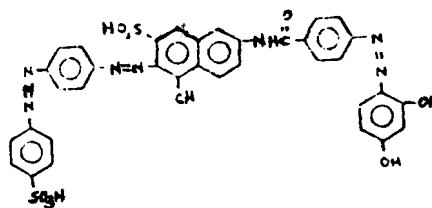
(1) Note. Arsenic is considered a metal for the purpose of this subclass.

(2) Note. An example of a compound provided for herein is:



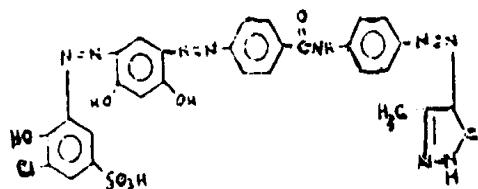
685 This subclass is indented under subclass 683. Compounds in which at least two azo groups are attached indirectly to each other by non-ionic bonding.

(1) Note. An example of a compound provided for herein is:



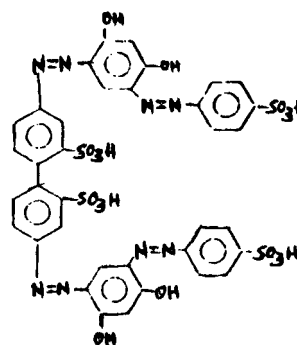
686 This subclass is indented under subclass 685. Compounds which contain a hetero ring.

(1) Note. An example of a compound provided for herein is:



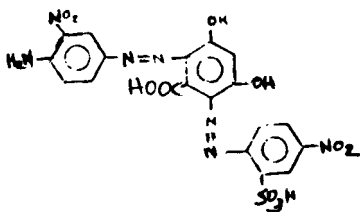
687 Compounds under subclass 685 which contain at least two of the monocyclic benzene rings, each of which has plural -OH groups or esters thereof, bonded directly to it.

(1) Note. An example of a compound provided for herein is:



688 This subclass is indented under subclass 683. Compounds wherein exactly two azo groups are attached indirectly to each other by non-ionic bonding.

- (1) Note. An example of a compound provided for herein is:

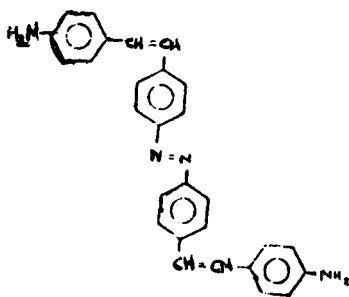


- 689** This subclass is indented under subclass 573. Compounds which contain the [see Fig. 1] group, wherein only hydrogen may be replaced.



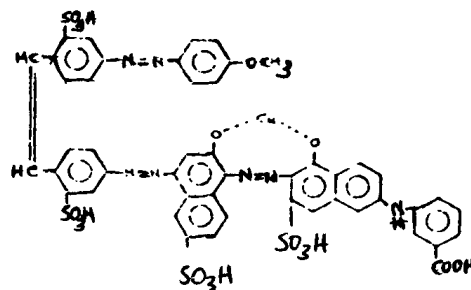
FIGURE 1

- (1) Note. An example of a compound provided for herein is:



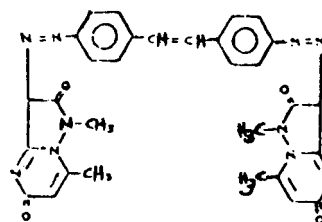
- 690** This subclass is indented under subclass 689. Compounds which contain aluminum or a metal with a specific gravity greater than four.

- (1) Note. Arsenic is considered a metal for the purpose of this subclass.
- (2) Note. An example of a compound provided for herein is:



- 691** This subclass is indented under subclass 689. Compounds which contain a hetero ring.

- (1) Note. An example of a compound provided for herein is:

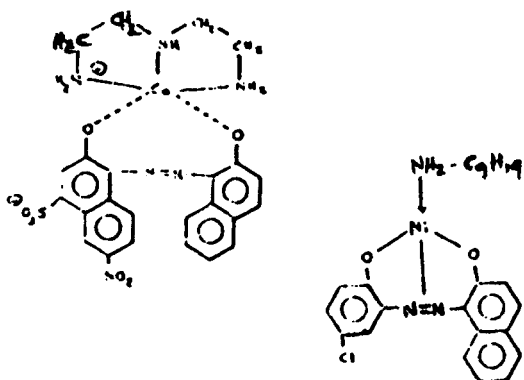


- 692** This subclass is indented under subclass 573. Compounds which contain aluminum or a metal with a specific gravity greater than four.

- (1) Note. Arsenic is considered a metal for the purpose of this subclass.

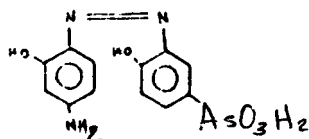
- 693** This subclass is indented under subclass 692. Compounds which are amine added salts of the metal containing azo compound.

- (1) Note. Examples of compounds provided for herein is:



694 This subclass is indented under subclass 692. Compounds which contain arsenic.

- (1) Note. An example of a compound provided for herein is:

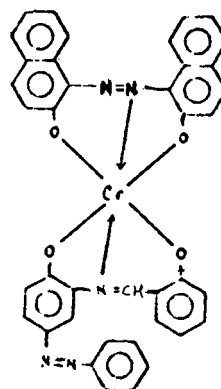


695 This subclass is indented under subclass 692. Compounds wherein a moiety having an azo group and a moiety having an acyclic chain which contains an azomethine group, i.e., $-\text{CH}=\text{N}$, are bonded directly to the same metal.

- (1) Note. An example of a compound provided for herein is:

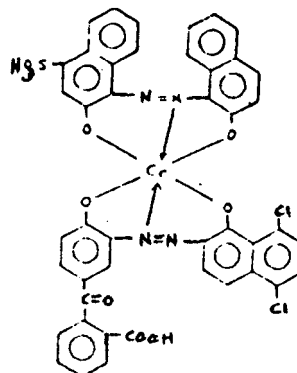
696 This subclass is indented under subclass 692. Compounds wherein azo moieties from different and distinct azo compounds are bonded to the same metal.

- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:



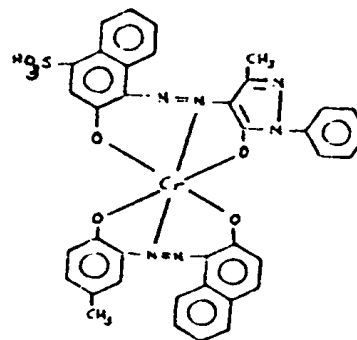
697 This subclass is indented under subclass 696. Compounds which contain a hetero ring.

- (1) Note. An example of a compound provided for herein is:



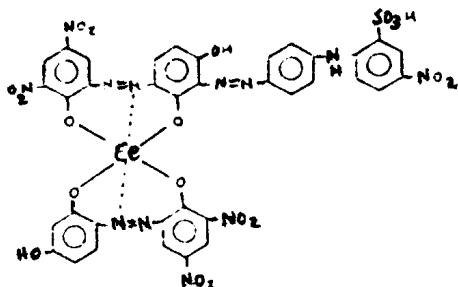
698 This subclass is indented under subclass 697. Compounds wherein each of the azo moieties contains a hetero ring.

- (1) Note. An example of a compound provided for herein is:



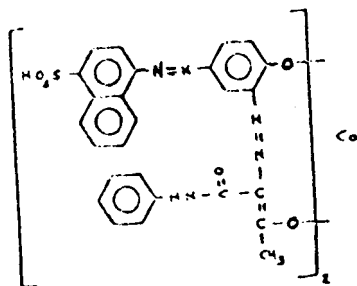
699 This subclass is indented under subclass 696. Compounds in which at least two azo groups within the same azo moiety are attached indirectly to each other by nonionic bonding.

- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:



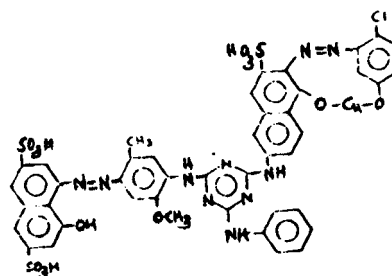
700 This subclass is indented under subclass 692. Compounds in which an azo group is bonded directly to an acyclic carbon, which carbon is additionally bonded directly to two acyclic carbons, each of which is double or triple bonded to an atom.

- (1) Note. The term "reactive methylene" is used to describe the acyclic carbon to which the azo group and other two carbons are bonded.
- (2) Note. An example of a compound provided for herein is:



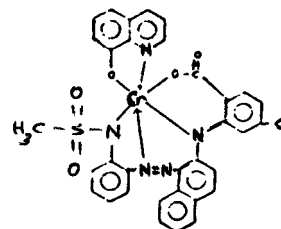
701 This subclass is indented under subclass 692. Compounds which contain a hetero ring.

- (1) Note. Arsenic is considered a metal for the purpose of this subclass.
- (2) Note. An example of a compound provided for herein is:



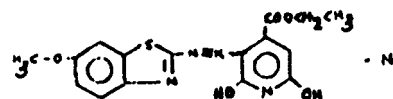
702 This subclass is indented under subclass 701. Compounds wherein the hetero ring is one of the cyclos in a polycyclo ring system.

- (1) Note. An example of a compound provided for herein is:



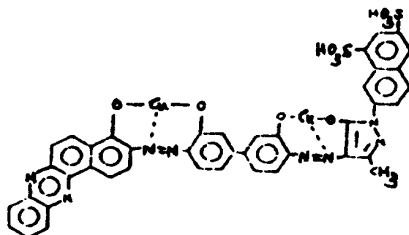
703 This subclass is indented under subclass 702. Compounds in which an azo group is bonded directly to the polycyclo ring system.

- (1) Note. An example of a compound provided for herein is:



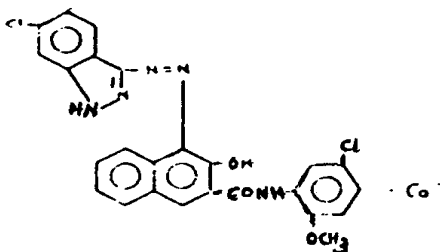
704 This subclass is indented under subclass 703. Compounds wherein the azo group is attached indirectly within the same azo moiety by nonionic bonding to either an additional azo group or an acyclic chain which contains a azomethine group; i.e., -CH=N-.

- (1) Note. The term “azo moiety” as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:

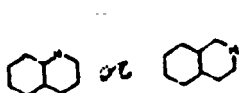


705 This subclass is indented under subclass 703. Compounds wherein the polycyclic ring system contains at least two ring nitrogens.

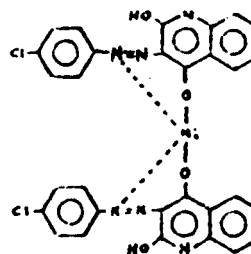
- (1) Note. An example of a compound provided for herein is:



706 This subclass is indented under subclass 703. Compounds which contain a bicyclo ring system having either of the following structures, which may contain double bonds between ring members:

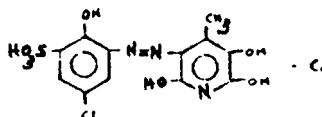


- (1) Note. An example of a compound provided for herein is:



707 This subclass is indented under subclass 701. Compounds in which the hetero ring is bonded directly to an azo group.

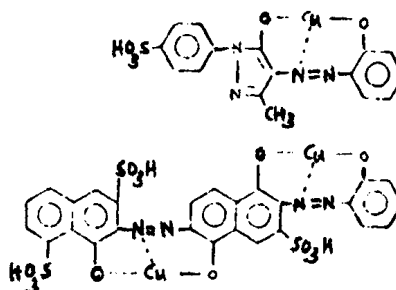
- (1) Note. An example of a compound provided for herein is:



708 This subclass is indented under subclass 707. Compounds in which at least three azo groups within the same azo moiety are attached indirectly to each other by nonionic bonding.

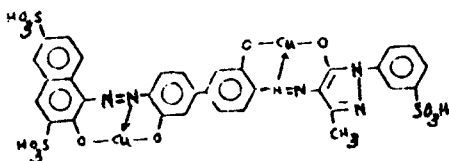
- (1) Note. The term “azo moiety” as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.

- (2) Note. An example of a compound provided for herein is:



709 This subclass is indented under subclass 707. Compounds in which two azo groups in the same azo moiety are attached indirectly to each other by nonionic bonding.

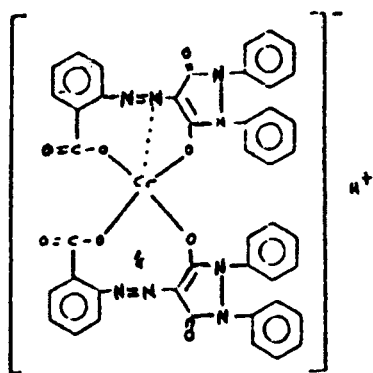
- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:



710 This subclass is indented under subclass 707. Compounds which contain a hetero ring having the following structure, which may contain double bonds between ring members:

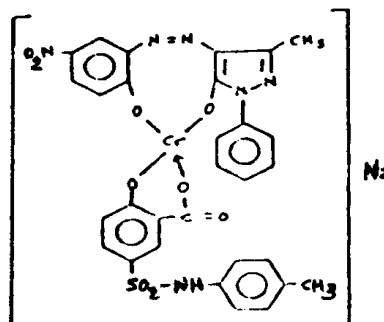


- (1) Note. An example of a compound provided for herein is:



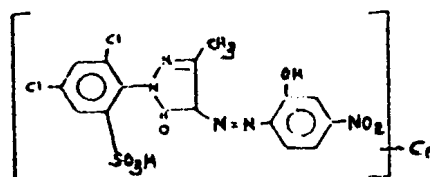
711 This subclass is indented under subclass 710. Compounds wherein a sulfonyl group, i.e., --, is bonded directly to a ring.

- (1) Note. An example of a compound provided for herein is:



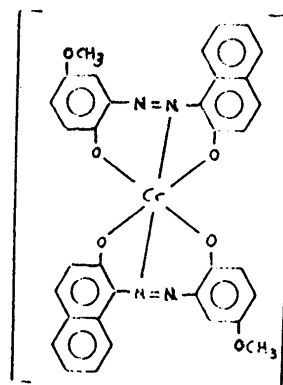
712 This subclass is indented under subclass 711. Compounds wherein an additional chalcogen (i.e., oxygen, sulfur, selenium or tellurium) is bonded directly to the sulfonyl group.

- (1) Note. An example of a compound provided for herein is:



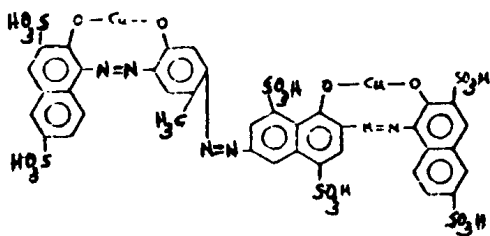
713 This subclass is indented under subclass 692. Compounds which contain a benzene ring.

- (1) Note. An example of a compound provided for herein is:



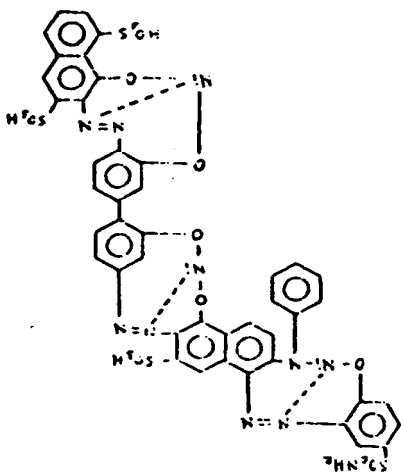
714 This subclass is indented under subclass 713. Compounds in which at least three azo groups within the same azo moiety are attached indirectly to each other by nonionic bonding.

- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:



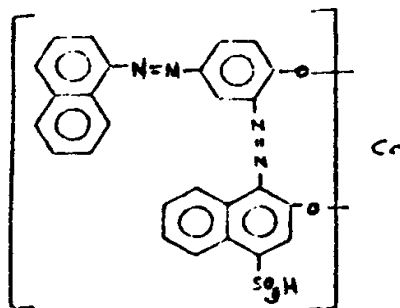
715 This subclass is indented under subclass 714. Compounds wherein between two azo groups are at least two monocyclic benzene rings which are attached directly to each other by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



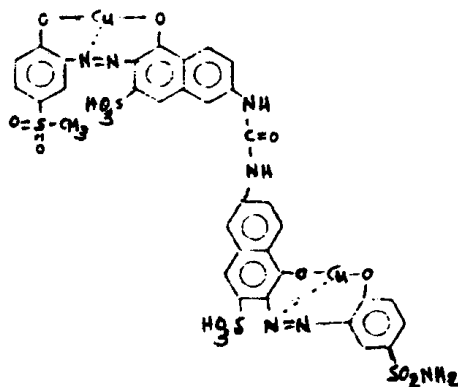
716 This subclass is indented under subclass 713. Compounds in which two azo groups within the same azo moiety are attached indirectly to each other by nonionic bonding.

- (1) Note. The term "azo moiety" as used herein is intended to include singularly each of the azo compounds which complex with a heavy metal in the formation of a sandwich-type compound.
- (2) Note. An example of a compound provided for herein is:



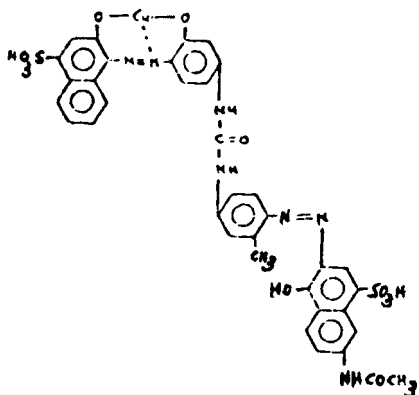
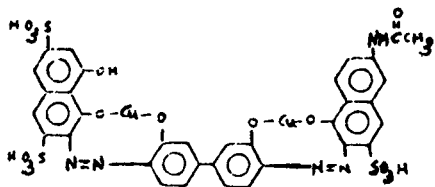
717 This subclass is indented under subclass 716. Compounds which contain a -C- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

- (1) Note. An example of a compound provided for herein is:



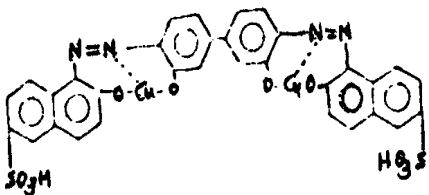
718 This subclass is indented under subclass 717. Compounds where in between the azo groups are at least two monocyclic benzene rings which are attached directly or indirectly to each other by acyclic nonionic bonding.

- (1) Note. Examples of compounds provided for herein are:



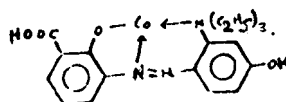
- 719** This subclass is indented under subclass 716. Compounds wherein between the azo groups are at least two monocyclic benzene rings which are attached directly or indirectly to each other by acyclic nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



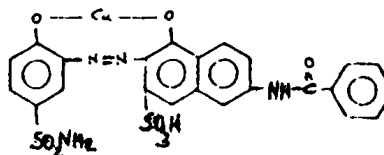
- 720** This subclass is indented under subclass 713. Compounds which contain a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium, or tellurium).

- (1) Note. An example of a compound provided for herein is:



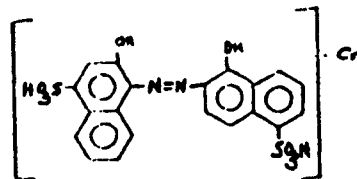
- 721** This subclass is indented under subclass 720. Compounds wherein nitrogen is bonded directly to the -- group; i.e., --N.

- (1) Note. An example of a compound provided for herein is:



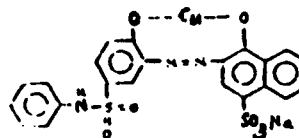
- 722** This subclass is indented under subclass 713. Compounds wherein plural bicyclo carbocyclic ring systems are bonded directly to the azo group.

- (1) Note. An example of a compound provided for herein is:



- 723** This subclass is indented under subclass 713. Compounds in which amino nitrogen is bonded directly to a sulfonyl group; i.e., N -

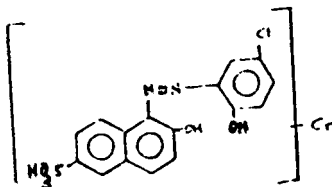
- (1) Note. An example of a compound provided for herein is:



- 724** This subclass is indented under subclass 713. Compounds which contain a --OH group bonded directly to carbon, wherein H of the -

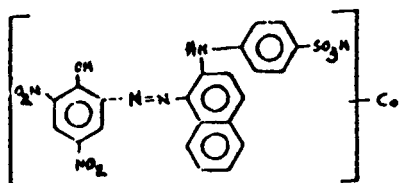
OH may be replaced by the ammonium ion or a metal.

- (1) Note. An example of a compound provided for herein is:



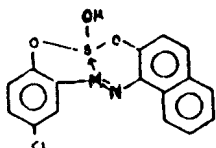
- 725 This subclass is indented under subclass 724. Compounds which contain an amino nitrogen.

- (1) Note. An example of a compound provided for herein is:



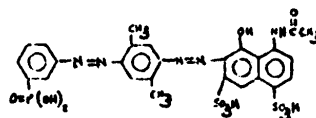
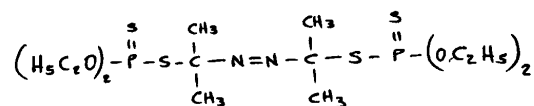
- 726 This subclass is indented under subclass 573. Compounds which contain boron or silicon.

- (1) Note. An example of a compound provided for herein is:



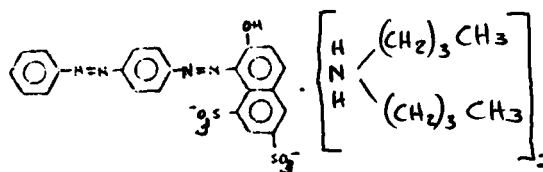
- 727 This subclass is indented under subclass 573. Compounds wherein phosphorus is attached indirectly to an azo group by nonionic bonding.

- (1) Note. Examples of compounds provided for herein are:



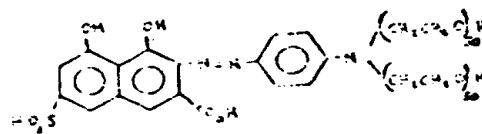
- 728 This subclass is indented under subclass 573. Compounds which are amine addition salts of an azo compound.

- (1) Note. An example of a compound provided for herein is:



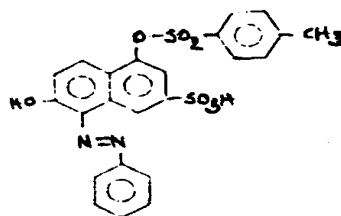
- 729 This subclass is indented under subclass 573. Compounds which contain a chain composed of a least fifteen alkylene oxide groups.

- (1) Note. An example of a compound provided for herein is:



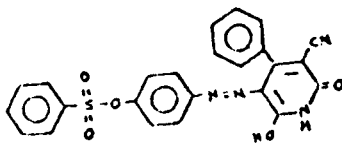
- 730 This subclass is indented under subclass 573. Compounds which contain a sulfonic acid ester radical; i.e., ---O---.

- (1) Note. An example of a compound provided for herein is:



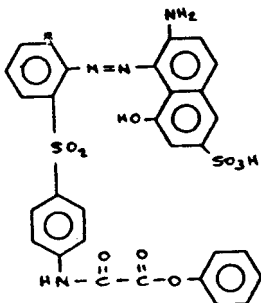
731 This subclass is indented under subclass 730. Compounds which contain a hetero ring.

(1) Note. An example of a compound provided for herein is:



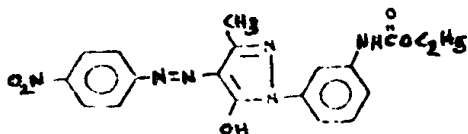
732 This subclass is indented under subclass 573. Compounds wherein nitrogen, other than as azo, and chalcogen (i.e., oxygen, sulfur, selenium or tellurium) or nitrogen, other than as azo, and --X, wherein the X's may be the same or diverse chalcogens, are bonded directly to the same -- group; e.g., -N--O-, -N---O-, etc.

(1) Note. An example of a compound provided for herein is:



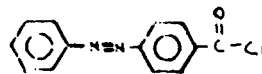
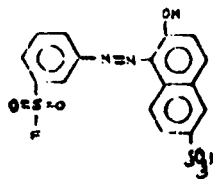
733 This subclass is indented under subclass 732. Compounds which contain a hetero ring.

(1) Note. An example of a compound provided for herein is:



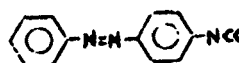
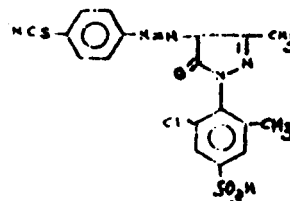
734 This subclass is indented under subclass 573. Compounds wherein halogen is bonded directly to sulfur or to a -- group, wherein X is chalcogen, (i.e., oxygen, sulfur, selenium or tellurium); e.g., -S-halo, --halo, etc.

(1) Note. Examples of compounds provided for herein are:



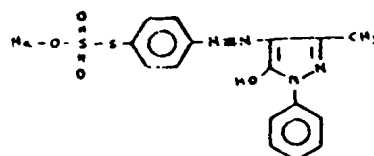
735 This subclass is indented under subclass 573. Compounds which contain an acyclic -XCN or -NCX group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. Examples of compounds provided for herein are:



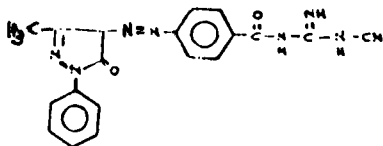
736 This subclass is indented under subclass 573. Compounds which contain a -S--OH group bonded directly to carbon, wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

(1) Note. An example of a compound provided for herein is:



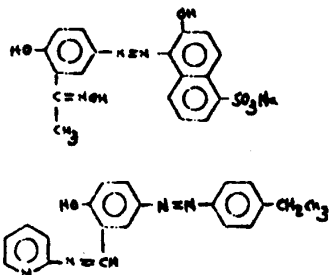
737 This subclass is indented under subclass 573. Compounds in which carbon and a cyano group are both bonded directly to the same acyclic nitrogen atom, i.e., $---C=N$.

- (1) Note. Examples of compounds provided for herein are:



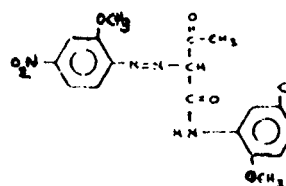
738 This subclass is indented under subclass 573. Compounds in which an acyclic chain contains a $-CH=N$ group, wherein substitution may be made for hydrogen only.

- (1) Note. Examples of compounds provided for herein are:



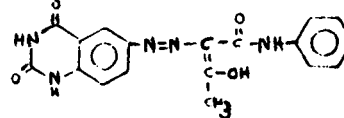
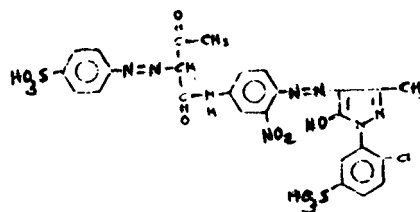
739 This subclass is indented under subclass 573. Compounds in which an azo group is bonded directly to an acyclic carbon, which carbon is additionally bonded directly to two acyclic carbons, each of which is double or triple bonded to an atom.

- (1) Note. The term "reactive methylene" is used in reference to the acyclic carbon to which azo group and other two carbons are bonded.
- (2) Note. An example of a compound provided for herein is:



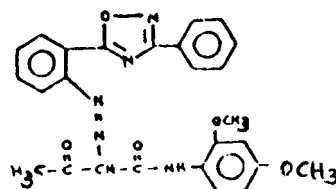
740 This subclass is indented under subclass 739. Compounds in which a hetero ring or a polycyclic ring system which contains a hetero ring as one of the cyclos is bonded directly to an azo group.

- (1) Note. Examples of compounds provided for herein are:



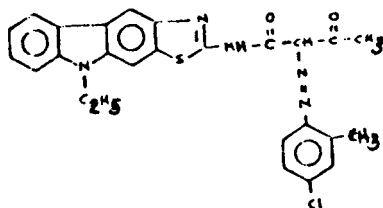
741 This subclass is indented under subclass 739. Compounds in which a hetero ring is attached indirectly to an azo group by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



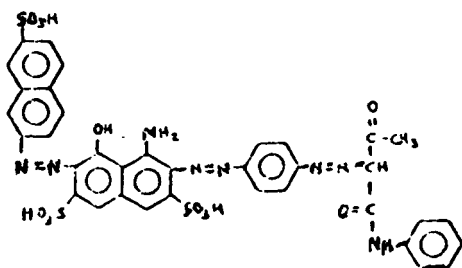
742 This subclass is indented under subclass 741. Compounds wherein the acyclic carbon, to which the other two cyclic carbons are bonded, is between the hetero ring and the azo group.

- (1) Note. An example of a compound provided for herein is:



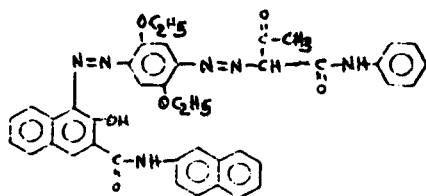
- 743** This subclass is indented under subclass 739. Compounds in which at least three azo groups are attached indirectly to each other by non-ionic bonding.

- (1) Note. An example of a compound provided for herein is:



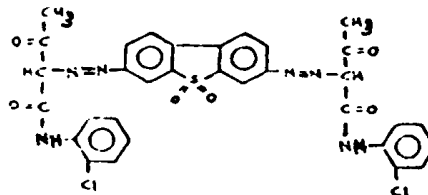
- 744** This subclass is indented under subclass 739. Compounds in which exactly two azo groups are attached indirectly to each other by non-ionic bonding.

- (1) Note. An example of a compound provided for herein is:



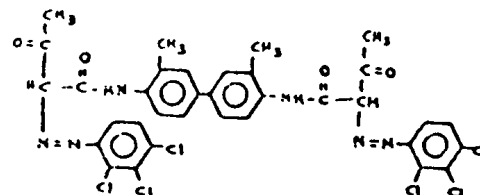
- 745** This subclass is indented under subclass 744. Compounds in which each of the two azo groups is bonded directly to an acyclic carbon, which carbon is additionally bonded directly to two acyclic carbons, each of which is double or triple bonded to an atom.

- (1) Note. An example of a compound provided for herein is:



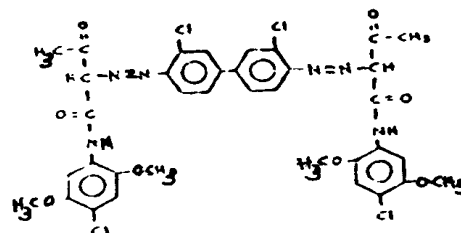
- 746** This subclass is indented under subclass 745. Compounds wherein between the azo groups are at least two benzene rings which are bonded directly to each other.

- (1) Note. An example of a compound provided for herein is:



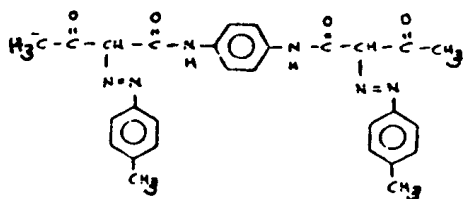
- 747** This subclass is indented under subclass 746. Compounds wherein each of the benzene rings is bonded directly to an azo group.

- (1) Note. An example of a compound provided for herein is:



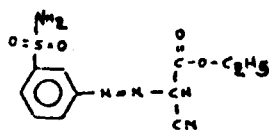
- 748** This subclass is indented under subclass 745. Compounds wherein between the azo groups is a benzene ring to which at least two amino nitrogens are bonded directly.

- (1) Note. An example of a compound provided for herein is:



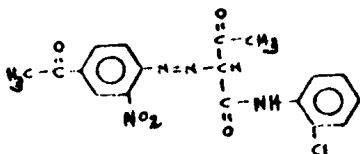
749 This subclass is indented under subclass 739. Compounds in which sulfonyl is bonded directly to nitrogen, i.e., --N .

- (1) Note. An example of a compound provided for herein is:



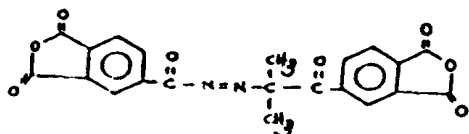
750 This subclass is indented under subclass 739. Compounds wherein a -C- group, in which X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium), is attached indirectly by nonionic bonding to the acyclic carbon to which the other two acyclic carbons are bonded.

- (1) Note. An example of a compound provided for herein is:



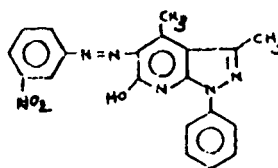
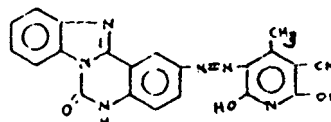
751 This subclass is indented under subclass 573. Compounds which contain a hetero ring.

- (1) Note. An example of a compound provided for herein is:



752 This subclass is indented under subclass 751. Compounds which contain a polycyclo ring system having at least two hetero atoms which are not members of the same ring or having a hetero atom which is shared by at least two rings of the polycyclo ring system.

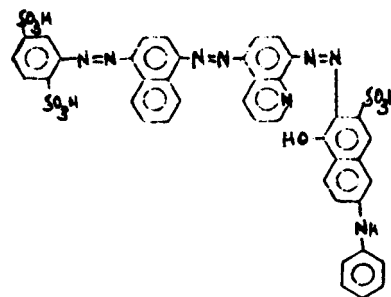
- (1) Note. Examples of compounds provided for herein are:



753 This subclass is indented under subclass 751. Compounds in which an azo group is bonded directly to the hetero ring or to a polycyclo ring system which contains the hetero ring as one of the cyclos.

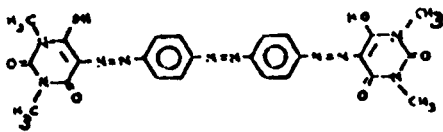
754 This subclass is indented under subclass 753. Compounds wherein at least three azo groups are attached indirectly to each other by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



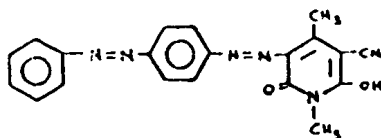
755 This subclass is indented under subclass 754. Compounds in which an additional hetero ring or an additional polycyclo ring system having a hetero ring as one of the cyclos is bonded directly to an azo group.

- (1) Note. An example of a compound provided for herein is:



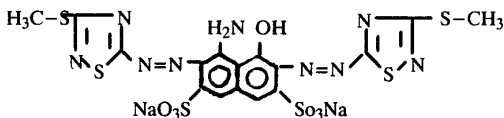
- 756** This subclass is indented under subclass 753. Compounds in which two azo groups are attached indirectly to each other by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



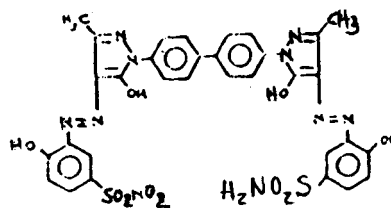
- 757** This subclass is indented under subclass 756. Compounds in which an additional hetero ring or an additional polycyclo ring system having a hetero ring as one of the cyclos is bonded directly to an azo group.

- (1) Noted. An example of a compound provided for herein is:



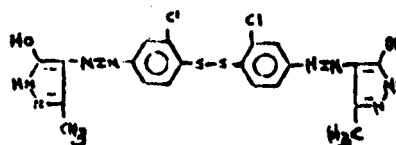
- 758** This subclass is indented under subclass 757. Compounds wherein between the azo groups are both hetero rings or both polycyclo ring systems.

- (1) Note. An example of a compound provided for herein is:



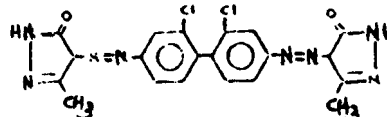
- 759** This subclass is indented under subclass 757. Compounds wherein between the azo groups are plural monocyclic benzene rings, each of which is bonded directly to an azo group.

- (1) Note. An example of a compound provided for herein is:



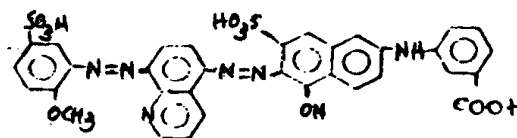
- 760** This subclass is indented under subclass 759. Compounds in which the benzene rings are bonded directly to each other.

- (1) Note. An example of a compound provided for herein is:



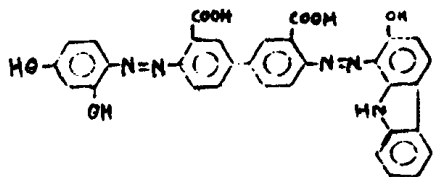
- 761** This subclass is indented under subclass 756. Compounds in which both azo groups are bonded directly to the same hetero ring or to the same polycyclo ring system.

- (1) Note. An example of a compound provided for herein is:



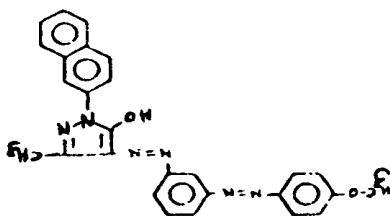
762 This subclass is indented under subclass 756. Compounds which contain a polycyclo ring system having at least three cyclos, at least one of which is a hetero ring.

(1) Note. An example of a compound provided for herein is:



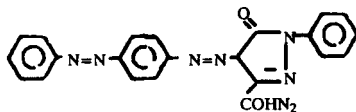
763 This subclass is indented under subclass 756. Compounds which contain a bicyclo carbocyclic ring system.

(1) Note. An example of a compound provided for here is:



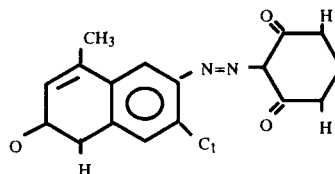
764 This subclass is indented under subclass 756. Compounds in which an additional ring is bonded directly to the hetero ring or to the polycyclo ring system.

(1) Note. An example of a compound provided for herein is:



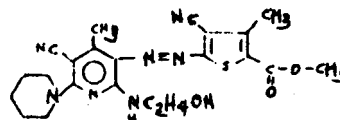
765 This subclass is indented under subclass 753. Compounds in which an additional hetero ring or polycyclo ring system having a hetero ring as one of the cyclos is bonded directly to the azo group.

(1) Note. An example of a compound provided for herein is:



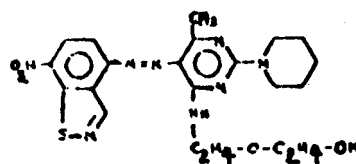
766 This subclass is indented under subclass 765. Compounds wherein the hetero ring is six-membered and contains nitrogen, e.g., pyridine, morpholine, etc.

(1) Note. An example of a compound provided for herein is:



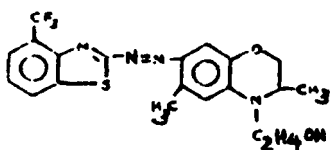
767 This subclass is indented under subclass 766. Compounds wherein the hetero ring contains at least two nitrogens, e.g., pyrimidine, triazine, etc.

(1) Note. An example of a compound provided for herein is:



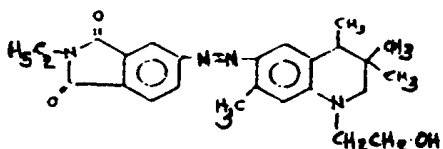
768 This subclass is indented under subclass 766. Compounds wherein the hetero ring is one of the cyclos in a bicyclo ring system, e.g., quinoline, benzomorpholine, etc.

(1) Note. Examples of compounds provided for herein are:



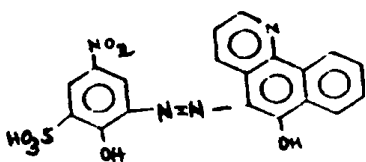
- 769 This subclass is indented under subclass 765. Compounds which contain a hetero ring having the following structure, which may contain double bonds between ring members:

- (1) Note. An example of a compound provided for herein is:



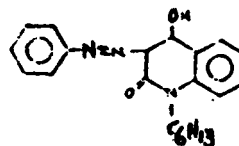
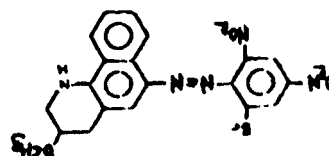
- 770 This subclass is indented under subclass 753. Compounds wherein the hetero ring is six-membered and consists of one nitrogen and five carbons, e.g., pyridine, etc.

- (1) Note. An example of a compound provided for herein is:



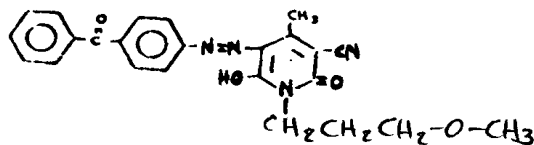
- 771 This subclass is indented under subclass 770. Compounds in which acyclic oxygen is bonded directly to the hetero ring.

- (1) Note. Examples of compounds provided for herein are:



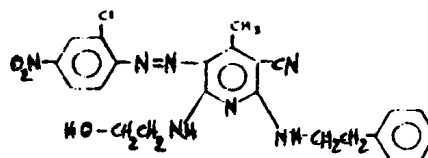
- 772 This subclass is indented under subclass 771. Compounds wherein at least two acyclic chalcogens, (i.e., oxygen, sulfur, selenium or tellurium) are bonded directly to the hetero ring at the two positions which are adjacent to the ring in nitrogen.

- (1) Note. An example of a compound provided for herein is:



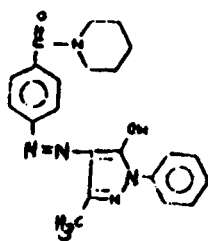
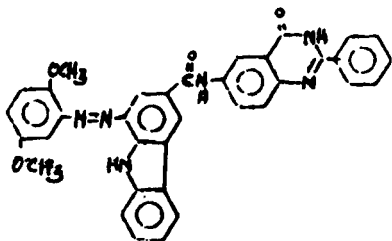
- 773 This subclass is indented under subclass 770. Compounds wherein at least two acyclic nitrogens are bonded directly to the hetero ring at the two positions which are adjacent to the ring nitrogen; the nitrogens are other than as nitro, nitroso or azo.

- (1) Note. An example of a compound provided for herein is:



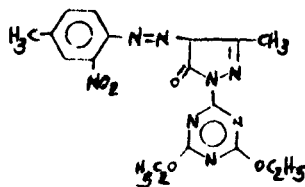
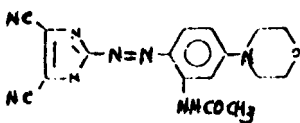
- 774 This subclass is indented under subclass 753. Compounds in which an additional hetero ring is attached indirectly to the azo group by non-ionic bonding.

- (1) Note. Example of compounds provided for herein are:



- 775 This subclass is indented under subclass 774. Compounds wherein the additional hetero ring or a polycyclo ring system which contains the additional hetero ring as one of the cyclos is bonded directly to a ring, which ring is between the azo group and the additional hetero ring.

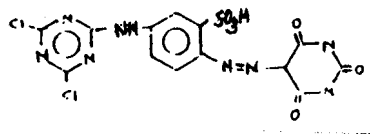
- (1) Note. Examples of compounds provided for herein are:



- 776 This subclass is indented under subclass 774. Compounds wherein a ring and the additional hetero ring or a polycyclo ring system which contains the additional hetero ring as one of the

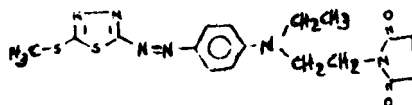
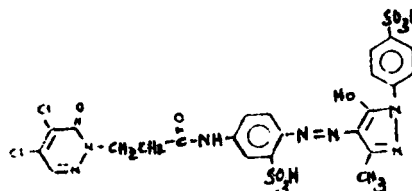
cyclos are both bonded directly to the same nitrogen.

- (1) Note. An example of a compound provided for herein is:



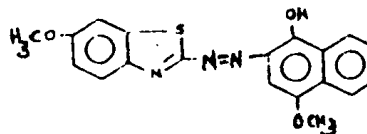
- 777 This subclass is indented under subclass 774. Compounds wherein the additional hetero ring or a polycyclo ring system which contains the hetero ring as one the cyclos is bonded directly to an alkylene chain, which chain is between the azo group and the additional hetero ring.

- (1) Note. Examples of compounds provided for herein are:



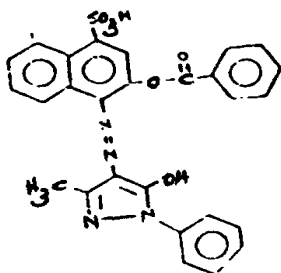
- 778 This subclass is indented under subclass 753. Compounds in which a bicyclo carbocyclic ring system is bonded directly to the azo group.

- (1) Note. An example of a compound provided for herein is:



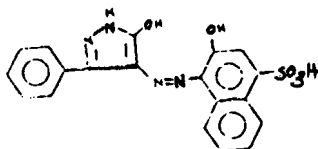
- 779 This subclass is indented under subclass 778. Compounds wherein the bicyclo ring system is between the azo group and an additional carbocyclic ring.

- (1) Note. An example of a compound provided for herein is:



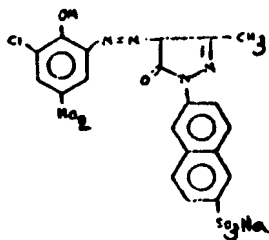
- 780** This subclass is indented under subclass 778. Compounds which contain a --OH group bonded directly to carbon, wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for herein is:



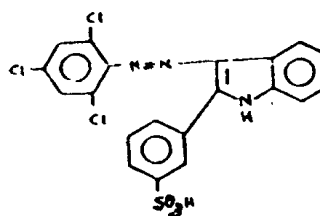
- 781** This subclass is indented under subclass 753. Compounds which contain a --OH group bonded directly to carbon wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for herein is:



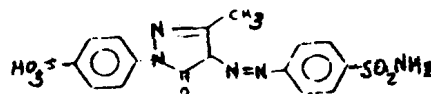
- 782** This subclass is indented under subclass 781. Compounds wherein the hetero ring is one of the cyclos of a polycyclo ring system.

- (1) Note. An example of a compound provided for herein is:



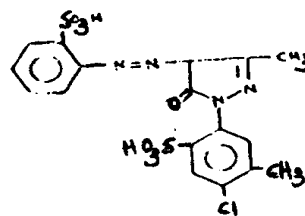
- 783** This subclass is indented under subclass 781. Compounds which contain an additional -- group.

- (1) Note. An example of a compound provided for herein is:



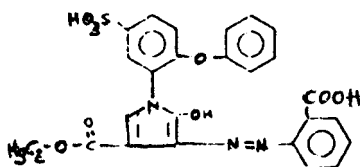
- 784** This subclass is indented under subclass 783. Compounds which contain at least two --OH groups bonded directly to carbon.

- (1) Note. An example of a compound provided herein is:



- 785** This subclass is indented under subclass 781. Compounds which contain an acyclic -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

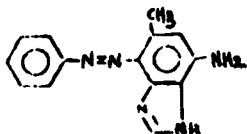
- (1) Note. An example of a compound provided for herein is:



786 This subclass is indented under subclass 785. Compounds in which the -- group is bonded directly to nitrogen, i.e., --N .

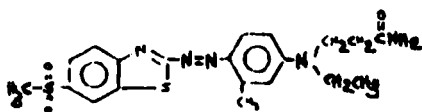
787 This subclass is indented under subclass 753. Compounds wherein the hetero ring is one of the cyclos of a polycyclo ring system.

- (1) Note. An example of a compound provided for herein is:



788 This subclass is indented under subclass 787. Compounds wherein the hetero ring consists of sulfur, nitrogen and carbon, e.g., benzothiazole, etc.

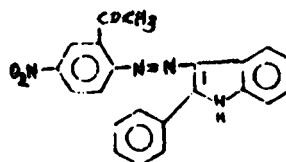
- (1) Note. An example of a compound provided for herein is:



789 This subclass is indented under subclass 787. Compounds wherein chalcogen (i.e., oxygen, sulfur, selenium or tellurium) is double bonded directly to the hetero ring.

790 This subclass is indented under subclass 787. Compounds wherein heter ring is five-membered and consists of one nitrogen and four carbons; e.g., indole, etc.

- (1) Note. An example of a compound provided for herein is:

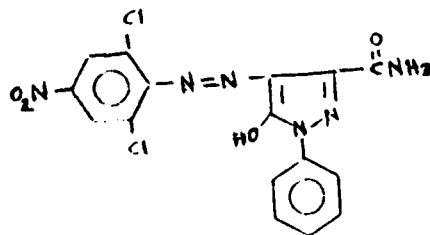


791 This subclass is indented under subclass 753. Compounds in which a carbocyclic ring is bonded directly to the hetero ring or to the polycyclo ring system which contains the hetero ring.

792 This subclass is indented under subclass 791. Compounds which contain a hetero ring having the following structure, which may contain double bonds between ring members:

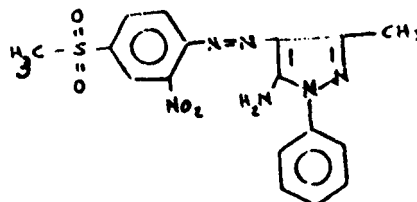


- (1) Note. An example of a compound provided for herein is:



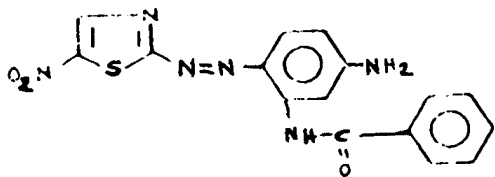
793 This subclass is indented under subclass 792. Compounds which contain a -- group.

- (1) Note. An example of compound provided for herein is:



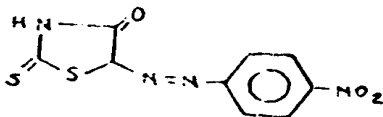
794 This subclass is indented under subclass 753. Compounds wherein a carbocyclic ring is attached indirectly to the azo group by non-ionic bonding.

- (1) Note. An example of a compound provided for herein is:



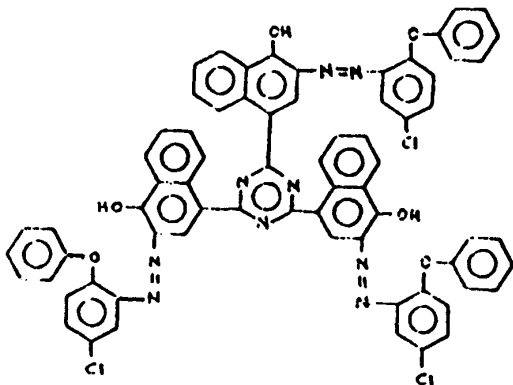
795 This subclass is indented under subclass 753. Compounds in which the hetero ring is five-membered and contains at least one atom each of sulfur, nitrogen, and carbon.

- (1) Note. An example of a compound provided for herein is:



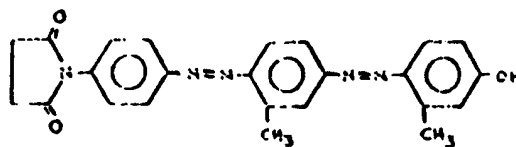
796 This subclass is indented under subclass 751. Compounds in which at least three azo groups are attached indirectly to each other by non-ionic bonding.

- (1) Note. An example of a compound provided for herein is:



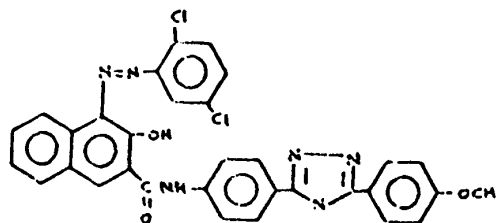
797 This subclass is indented under subclass 751. Compounds in which two azo groups are attached indirectly to each other by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



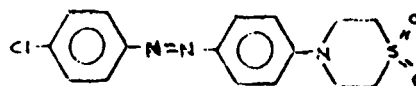
798 This subclass is indented under subclass 751. Compounds in which plural carbocyclic rings are attached directly to the azo group.

- (1) Note. An example of a compound provided for herein is:



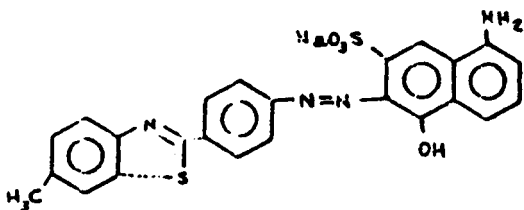
799 This subclass is indented under subclass 798. Compounds wherein the hetero ring or a polycyclic ring system which contains the hetero ring as one of the cyclos is bonded directly to one of the carbocyclic rings or to a bicyclo ring system which contains the carbocyclic ring as one of the cyclos.

- (1) Note. An example of a compound provided for herein is:



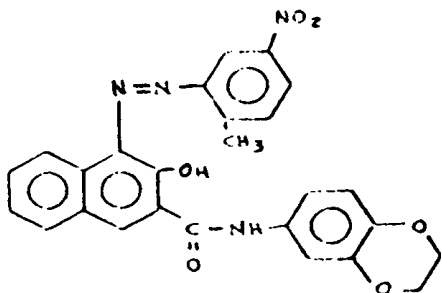
800 This subclass is indented under subclass 799. Compounds in which the hetero ring is one of the cyclos in a polycyclic ring system.

- (1) Note. An example of a compound provided for herein is:



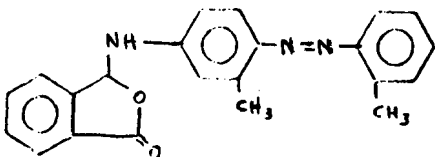
- 801** This subclass is indented under subclass 798. Compounds wherein the carbocyclic ring or a bicyclo ring system which contains the carbocyclic ring as one of the cyclos and the hetero ring or a polycyclo ring system which contains the hetero ring as one of the cyclos are both bonded directly to the same carboxamide group.

- (1) Note. An example of a compound provided for herein is:



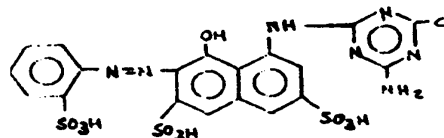
- 802** This subclass is indented under subclass 798. Compounds wherein the carbocyclic ring or a bicyclo ring system which contains the carbocyclic ring as one of the cyclos and the hetero ring or a polycyclo ring system which contains the hetero ring as one of the cyclos are both bonded directly to the same nitrogen atom.

- (1) Note. An example of a compound provided for herein is:



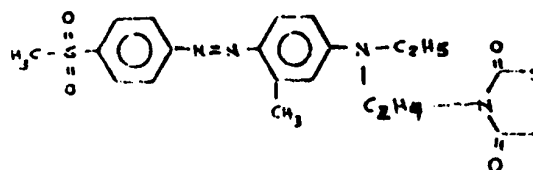
- 803** This subclass is indented under subclass 802. Compounds in which the hetero ring is six-membered and contains at least two nitrogens.

- (1) Note. An example of a compound provided for herein is:



- 804** This subclass is indented under subclass 798. Compounds wherein the hetero ring or a polycyclo ring system which contains the hetero ring as one of the cyclos is bonded directly to an alkylene chain, which chain is between the hetero ring and the carbocyclic ring.

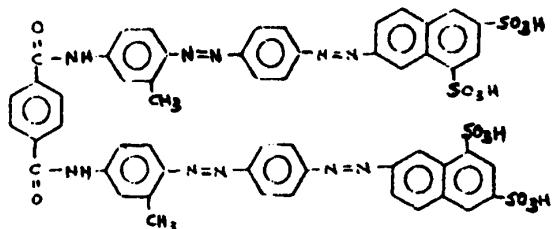
- (1) Note. An example of a compound provided for herein is:



- 805** This subclass is indented under subclass 573. Compounds wherein exactly five or exactly six azo groups are attached indirectly to each other by nonionic bonding.

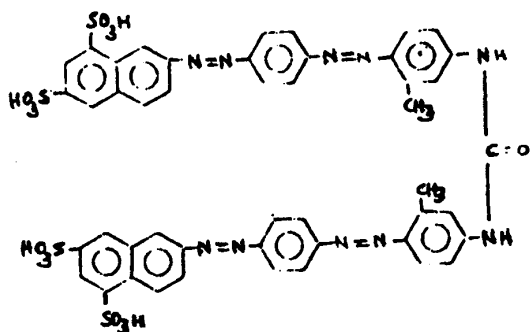
- 806** This subclass is indented under subclass 573. Compounds in which exactly four azo groups are attached indirectly to each other by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



- 807 This subclass is indented under subclass 806. Compounds wherein plural nitrogens are bonded directly to the same N--N group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium), e.g., N--N.

(1) Note. An example of a compound provided for herein is:

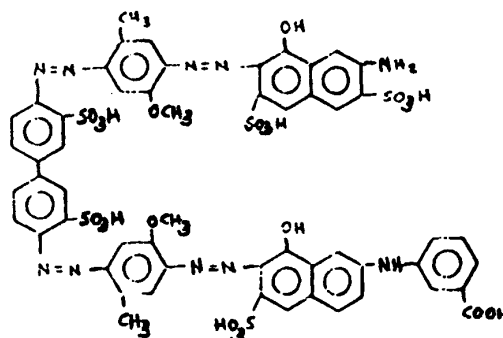


- 808 This subclass is indented under subclass 806. Compounds which contain the group [see Fig. 1], wherein the benzene rings may be further substituted.



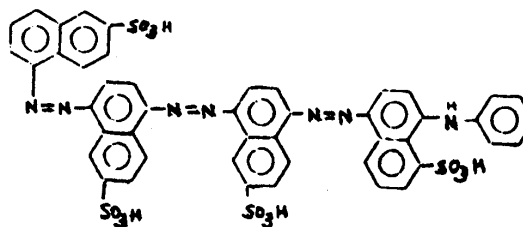
FIGURE 1.

(1) Note. An example of a compound provided for herein is:



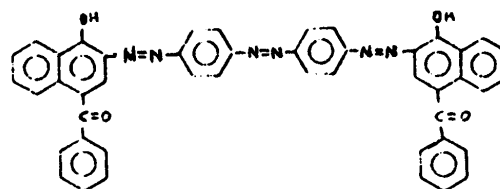
- 809 This subclass is indented under subclass 573. Compounds in which exactly three azo groups are attached indirectly to each other by non-ionic bonding.

(1) Note. An example of a compound provided for herein is:



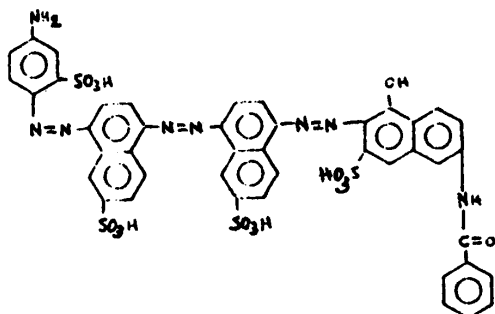
- 810 This subclass is indented under subclass 809. Compounds which contain a -- group, wherein X is nitrogen or chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



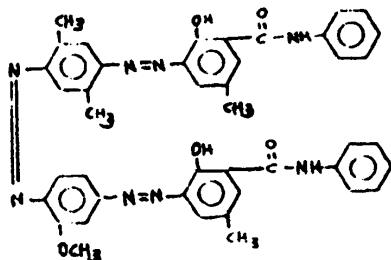
- 811 This subclass is indented under subclass 810. Compounds wherein the -- is part of a N-- group.

- (1) Note. An example of a compound provided for herein is:



- 812** This subclass is indented under subclass 811. Compounds which contain at least two of the -- groups.

- (1) Note. An example of a compound provided for herein is:



- 813** This subclass is indented under subclass 809. Compounds which contain the group [see Fig. 1], wherein the benzene rings may be further substituted.

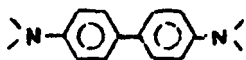
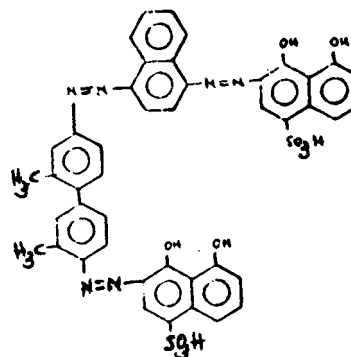


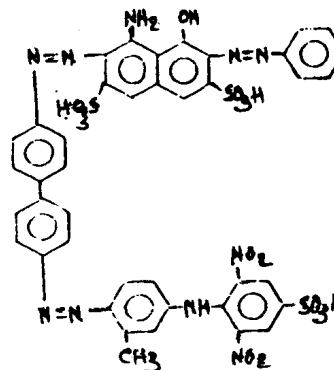
FIGURE 1.

- (1) Note. An example of a compound provided for herein is:



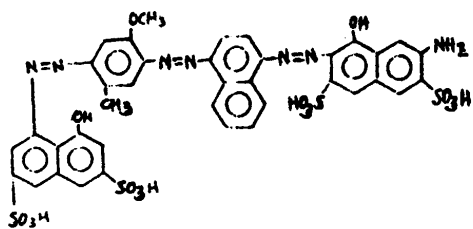
- 814** This subclass is indented under subclass 813. Compounds in which both hydroxy and nitrogen are bonded directly to the same bicyclo ring system; wherein the nitrogen is other than as a nitro, nitroso or azo group and the H or hydroxy may be replaced by the ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for herein is:



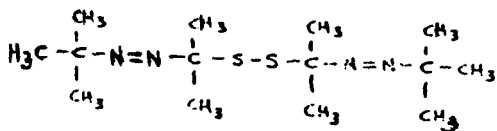
- 815** This subclass is indented under subclass 809. Compounds wherein -OH is bonded directly to a bicyclo ring system, wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for herein is:



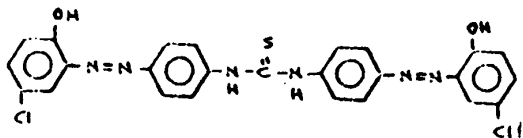
816 This subclass is indented under subclass 573. Compounds in which exactly two azo groups are attached indirectly to each other by non-ionic bonding.

(1) Note. An example of a compound provided for herein is:



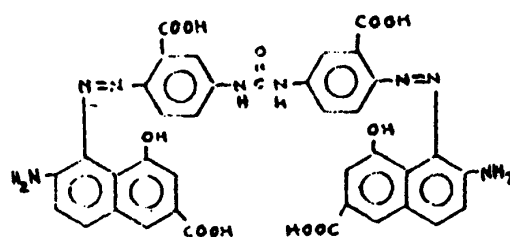
817 This subclass is indented under subclass 816. Compounds wherein between the azo groups are at least two benzene rings which are bonded directly to the same urea or thiourea group.

(1) Note. An example of a compound provided for herein is:



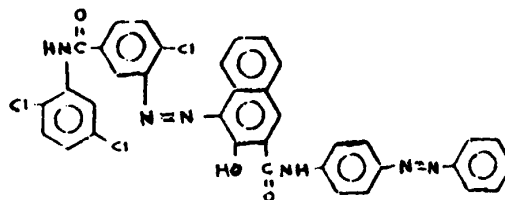
818 This subclass is indented under subclass 817. Compounds which contain a bicyclo ring system.

(1) Note. An example of a compound provided for herein is:



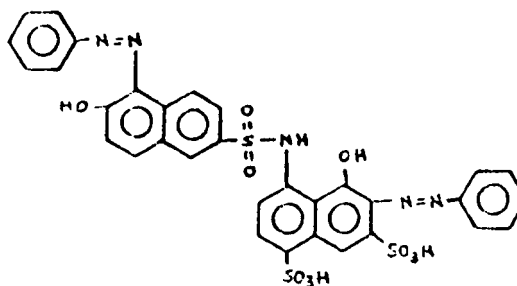
819 This subclass is indented under subclass 816. Compounds wherein between the azo groups are at least two benzene rings which are bonded directly to the same carboxamide or sulfonamide group.

(1) Note. Examples of compounds provided for herein are:



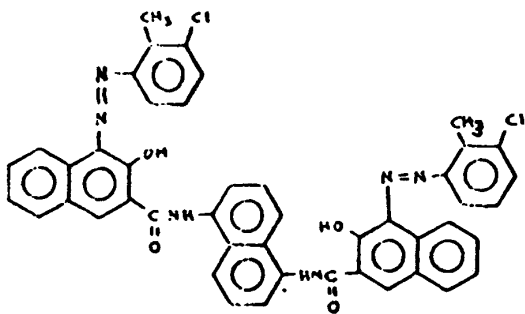
820 This subclass is indented under subclass 819. Compounds wherein at least two carboxamide groups are between the azo groups.

(1) Note. An example of a compound provided for herein is:



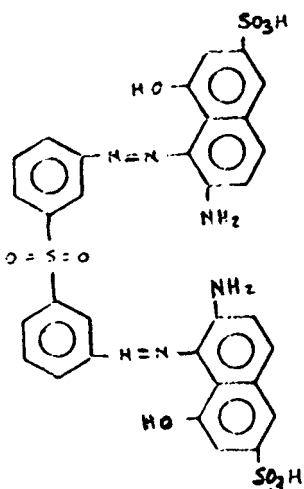
821 This subclass is indented under subclass 816. Compounds wherein between the azo groups are at least two benzene rings which are bonded directly to the same chalcogen (i.e., oxygen, sulfur, selenium or tellurium) or -- group, wherein X is chalcogen.

- (1) Note. An example of a compound provided for herein is:



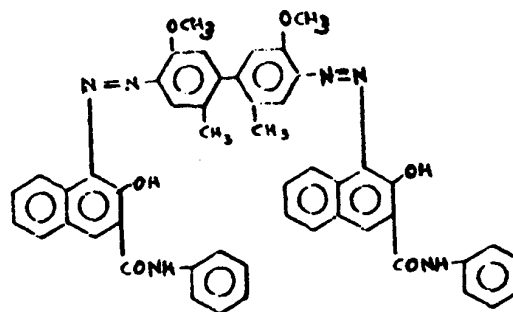
- 822** This subclass is indented under subclass 816. Compounds wherein between the azo groups are at least two benzene rings which are bonded directly to each other.

- (1) Note. Examples of compounds provided for herein are:



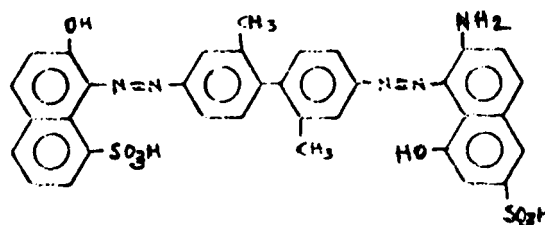
- 823** This subclass is indented under subclass 822. Compounds which contain a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

- (1) Note. An example of a compound provided for herein is:



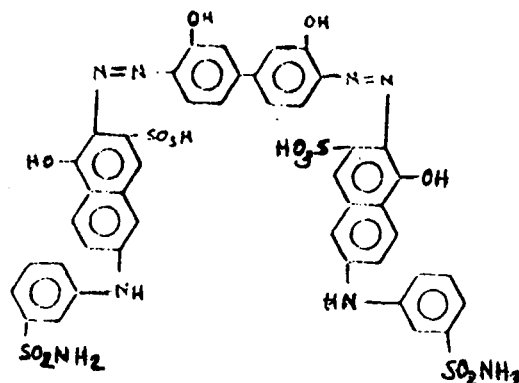
- 824** This subclass is indented under subclass 822. Compounds wherein nitrogen, other than as a nitro, nitroso or azo group, is attached indirectly to azo by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



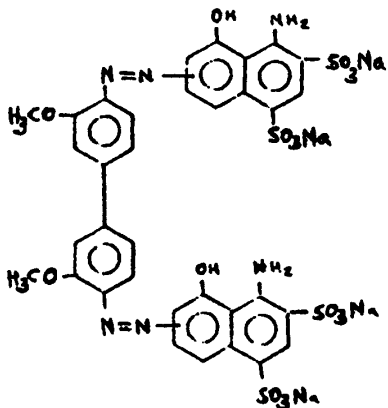
- 825** This subclass is indented under subclass 824. Compounds wherein at least two nitrogens, other than as nitro, nitroso or azo groups, are attached indirectly to azo by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



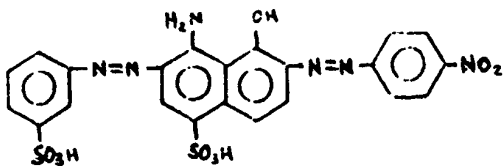
826 This subclass is indented under subclass 825. Compounds in which at least two --OH groups are bonded directly to the same bicyclo ring system, wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA lighty metal.

(1) Note. An example of a compound provided for herein is:



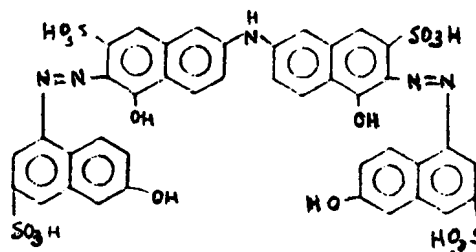
827 This subclass is indented under subclass 816. Compounds wherein between the azo groups is a bicyclo ring system having -OH bonded directly thereto, wherein H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal.

(1) Note. An example of a compound provided for herein is:



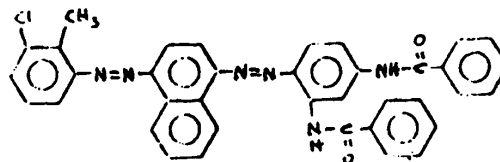
828 This subclass is indented under subclass 827. Compounds which contain at least two bicyclo ring systems, each of which has an -OH group bonded directly thereto.

(1) Note. An example of a compound provided for herein is:



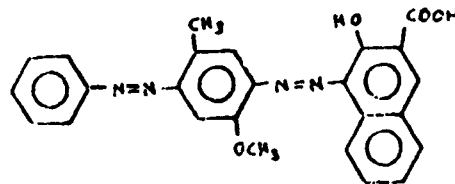
829 This subclass is indented under subclass 816. Compounds which contain a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provide for herein is:



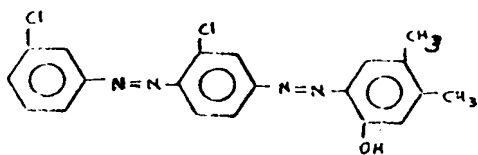
830 This subclass is indented under subclass 829. Compounds wherein -OH and the -- group are bonded directly to the same bicyclo ring system; wherein H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal.

(1) Note. An example of a compound provided for herein is:



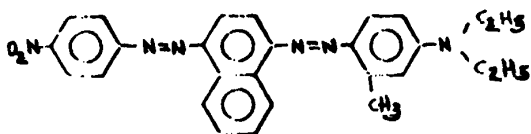
831 This subclass is indented under subclass 816. Compounds in which plural benzene rings are bonded directly to each azo group.

- (1) Note. An example of a compound provided for herein is:



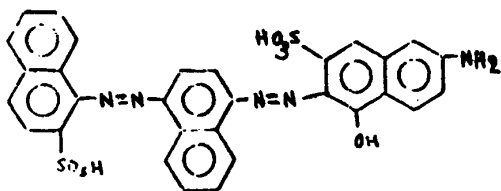
- 832** This subclass is indented under subclass 831. Compounds wherein at least one of the benzene rings is part of a bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



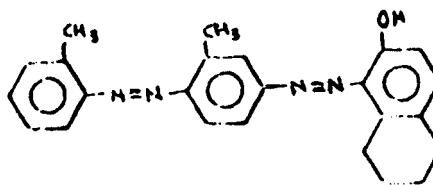
- 833** This subclass is indented under subclass 832. Compounds wherein each of the benzene rings is part of a bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



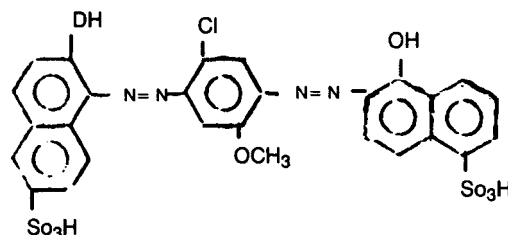
- 834** This subclass is indented under subclass 832. Compounds in which -OH is bonded directly to the bicyclo ring system; wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for herein is:



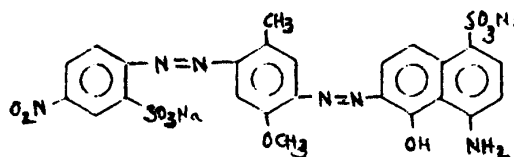
- 835** This subclass is indented under subclass 834. Compounds which contain at least two bicyclo ring systems, each of which has an -OH group bonded directly thereto.

- (1) Note. An example of a compound provided for herein is:



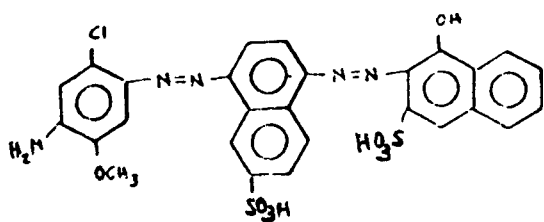
- 836** This subclass is indented under subclass 834. Compounds wherein an additional -OH group or nitrogen is bonded directly to the bicyclo ring system, wherein the nitrogen is other than as a nitro, nitroso or azo group.

- (1) Note. An example of a compound provided for herein is:



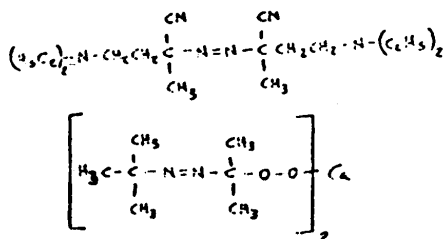
- 837** This subclass is indented under subclass 834. Compounds wherein a --OH group is bonded directly to the bicyclo ring system, wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for herein is:



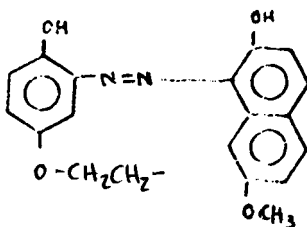
838 This subclass is indented under subclass 573. Compounds which contain exactly one azo group or more than one azo group if their attachment to each other is by ionic bonding.

- (1) Note. Examples of compounds provided for herein are:



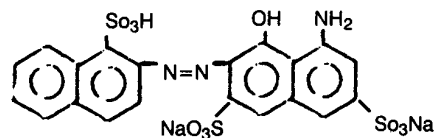
839 This subclass is indented under subclass 838. Compounds wherein plural benzene rings are bonded directly to the azo group.

- (1) Note. An example of a compound provided for herein is:



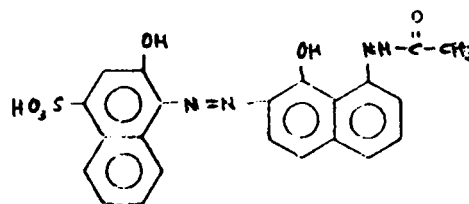
840 This subclass is indented under subclass 839. Compounds wherein each of the benzene rings is part of a bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



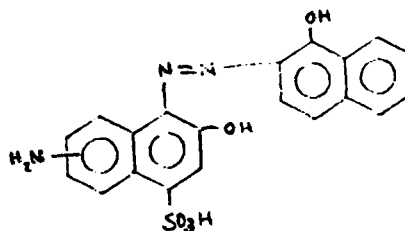
841 This subclass is indented under subclass 840. Compounds which contain a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

- (1) Note. An example of a compound provided for herein is:



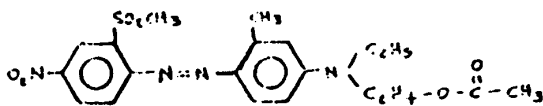
842 This subclass is indented under subclass 840. Compounds wherein -OH is bonded directly at the 2-position of the bicyclo ring system; wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for herein is:



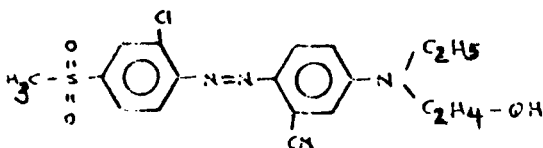
843 This subclass is indented under subclass 839. Compounds in which each of the benzene rings is monocyclic, i.e., neither bridged nor fused.

- (1) Note. An example of a compound provided for herein is:



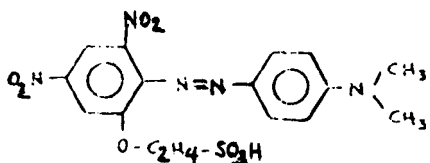
- 844 This subclass is indented under subclass 843. Compounds which contain a -- group.

(1) Note. An example of a compound provided for herein is:



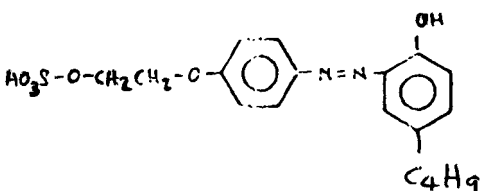
- 845 This subclass is indented under subclass 844. Compounds which contain a --O- group.

(1) Note. An example of compound provided for herein is:



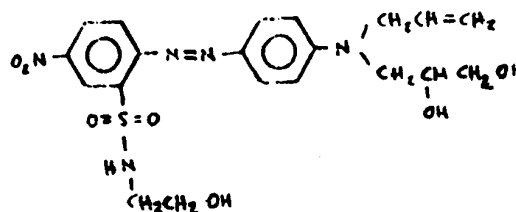
- 846 This subclass is indented under subclass 845. Compounds which contain a -O--O- group.

(1) Note. An example of a compound provided for herein is:



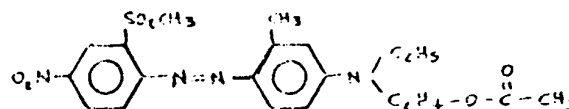
- 847 This subclass is indented under subclass 844. Compounds wherein the sulfonyl is part of a --N group.

(1) Note. An example of a compound provided for herein is:



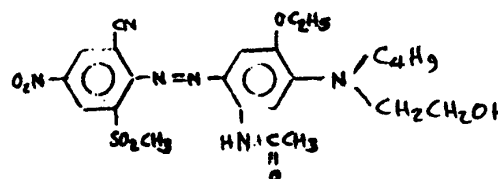
- 848 This subclass is indented under subclass 844. Compounds which contain a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



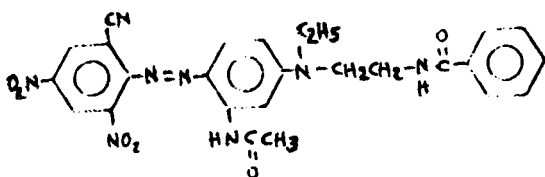
- 849 This subclass is indented under subclass 848. Compounds wherein the X -- group and a ring are both bonded directly to the same nitrogen.

(1) Note. An example of a compound provided for herein is:



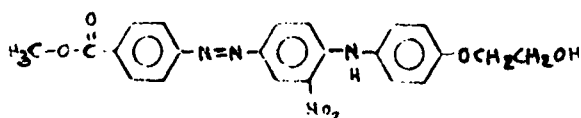
- 850 This subclass is indented under subclass 843. Compounds which contain a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



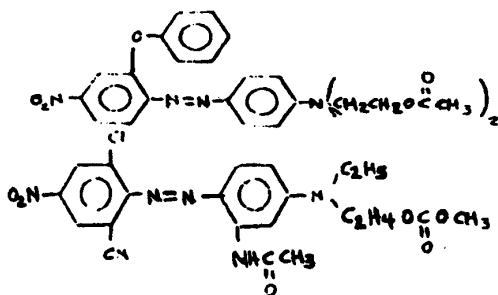
851 This subclass is indented under subclass 843. Compounds in which the -- group is bonded directly to one of the benzene rings.

- (1) Note. An example of a compound provided for herein is:



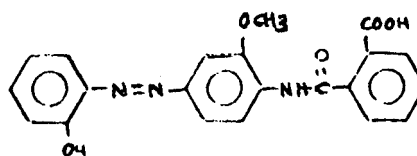
852 This subclass is indented under subclass 850. Compounds in which the -- is in a --X- group, wherein the X's may be the same or diverse chalcogens (i.e., oxygen, sulfur, selenium or tellurium).

- (1) Note. Examples of compounds provided for herein are:



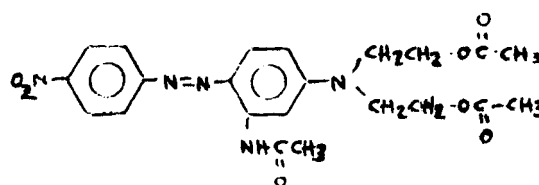
853 This subclass is indented under subclass 852. Compounds wherein the --X- is in a --OH group, wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

- (1) Note. An example of a compound provided for here is:



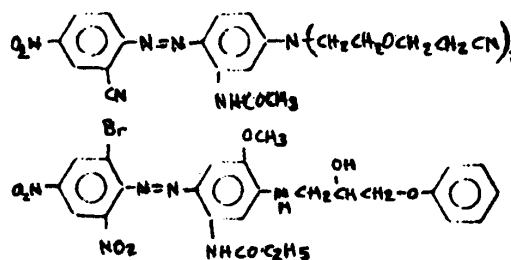
854 This subclass is indented under subclass 852. Compounds which contain an additional -C- group, which group and a ring are bonded directly to the same nitrogen.

- (1) Note. An example of a compound provided for herein in is:



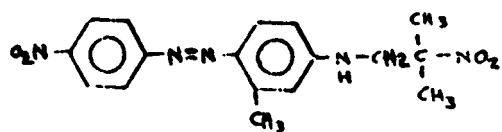
855 This subclass is indented under subclass 850. Compounds wherein chalcogen (i.e., oxygen, sulfur, selenium or tellurium), which has no direct bond to any ring, is attached by a single bond to acyclic carbon.

- (1) Note. Examples of compounds provided for herein are:



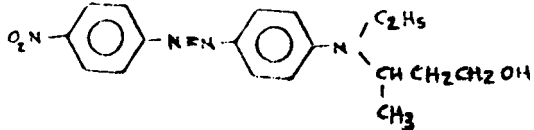
856 This subclass is indented under subclass 843. Compounds wherein nitrogen, other than as nitro or nitroso, is attached indirectly to the azo group by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



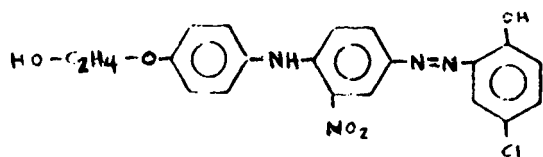
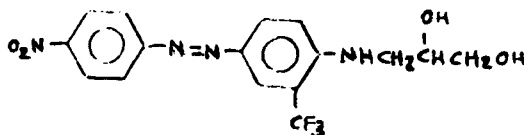
- 857 This subclass is indented under subclass 856. Compounds wherein -OH is bonded directly to an acyclic carbon or carbon chain, wherein H of the -OH may be replaced by the ammonium ion or a Group IA or IIA light metal.

(1) Note. An example of a compound provided for herein is:



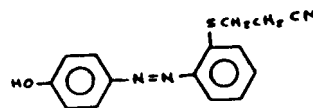
- 858 This subclass is indented under subclass 857. Compounds wherein an additional chalcogen, (i.e., oxygen, sulfur, selenium or tellurium) is bonded directly to the acyclic carbon or carbon chain.

(1) Note. Examples of compounds provided for herein are:



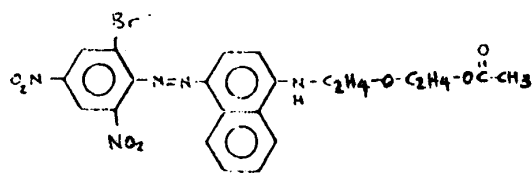
- 859 This subclass is indented under subclass 856. Compounds wherein chalcogen (i.e., oxygen, sulfur, selenium or tellurium) is bonded directly to a ring.

(1) Note. An example of a compound provided for herein is:



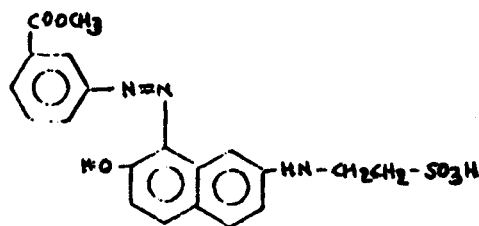
- 860 This subclass is indented under subclass 839. Compounds which contain an acyclic -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



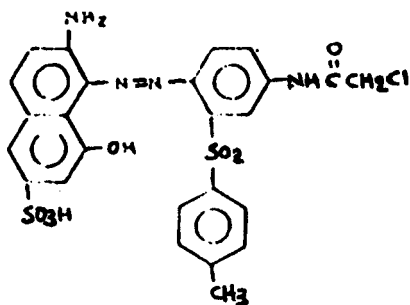
- 861 This subclass is indented under subclass 860. Compounds in which an -OH group is bonded directly to a bicyclo ring system, wherein H of the -OH may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal.

(1) Note. An example of a compound provided for herein is:



- 862 This subclass is indented under subclass 861. Compounds in which nitrogen is bonded directly to the -- group, e.g., carboxamide, etc.

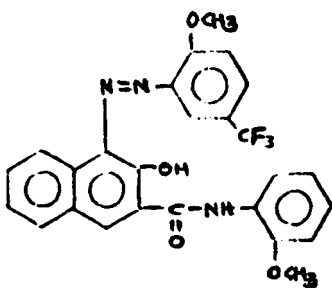
(1) Note. An example of a compound provided for herein is:



863 This subclass is indented under subclass 862. Compounds in which the

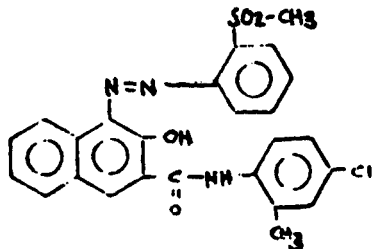
-- group is bonded directly to the bicyclo ring system.

(1) Note. An example of a compound provided for herein is:



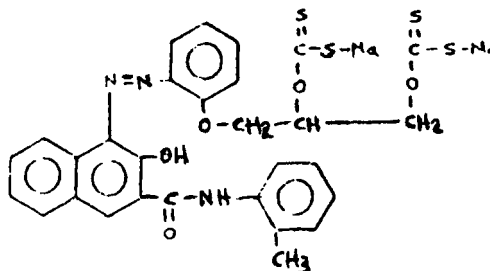
864 This subclass is indented under subclass 863. Compounds which contain a -- group.

(1) Note. An example of a compound provided for herein is:



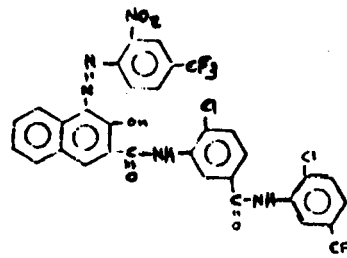
865 This subclass is indented under subclass 863. Compounds which contain an additional acyclic -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



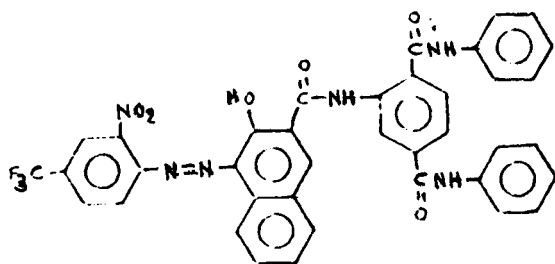
866 This subclass is indented under subclass 865. Compounds having at least two groups which contain nitrogen bonded directly to --; e.g., N--.

(1) Note. An example of a compound provided for herein is:



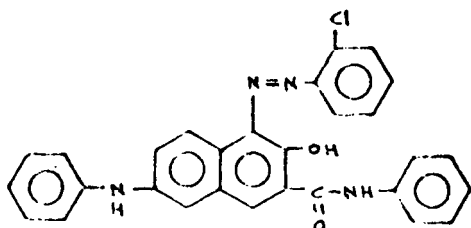
867 This subclass is indented under subclass 866. Compounds which contain at least three N-- groups, wherein the X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



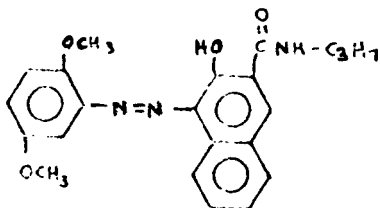
868 This subclass is indented under subclass 863. Compounds which contain an additional amino nitrogen.

- (1) Note. An example of a compound provided for herein is:



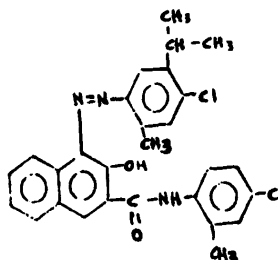
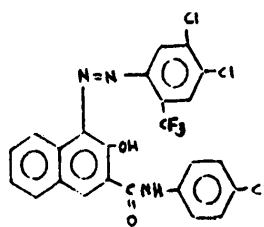
869 This subclass is indented under subclass 863. Compounds in which at least two oxygens are bonded directly to the same monocyclic benzene ring.

- (1) Note. An example of a compound provided for herein is:



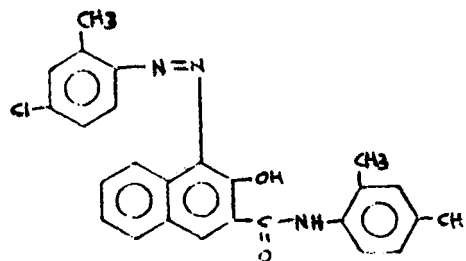
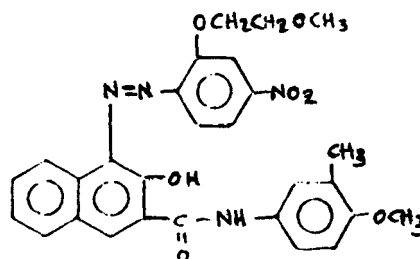
870 This subclass is indented under subclass 863. Compounds wherein bonded directly to the same benzene ring are the azo group, a halogen, an acyclic carbon and either an additional halogen or an additional acyclic carbon.

- (1) Note. Examples of compounds provided for herein are:



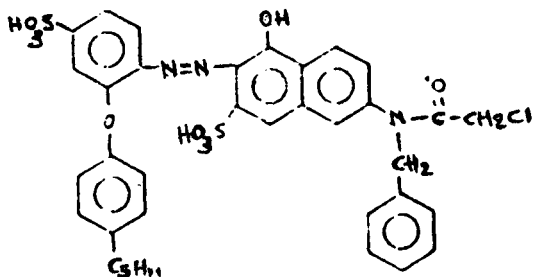
871 This subclass is indented under subclass 863. Compounds wherein bonded directly to the same benzene ring are an acyclic carbon, a carboxamide group and either chalcogen (i.e., oxygen, sulfur, selenium or tellurium) or an additional acyclic carbon.

- (1) Note. Examples of compounds provided for herein are:



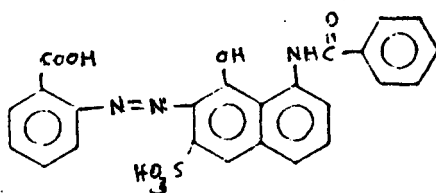
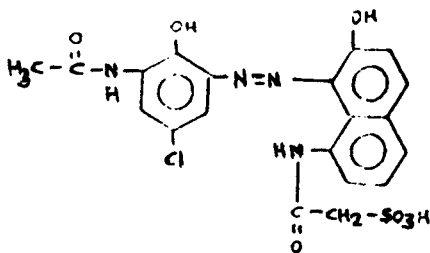
872 This subclass is indented under subclass 862. Compounds in which the nitrogen is bonded additionally directly to the bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



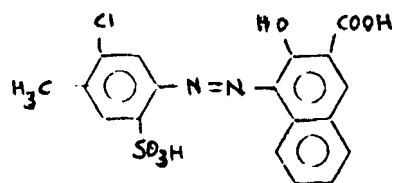
873 This subclass is indented under subclass 872. Compounds which contain an additional -- group.

- (1) Note. Examples of a compounds provided for herein are:



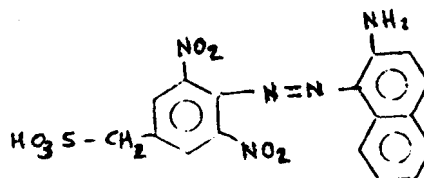
874 This subclass is indented under subclass 861. Compounds in which the 878 -- group is bonded directly to the bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



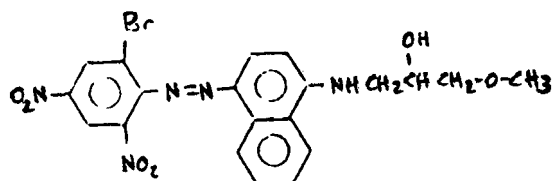
875 This subclass is indented under subclass 839. Compounds wherein nitrogen, other than as nitro or nitroso, is attached indirectly to the azo group by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



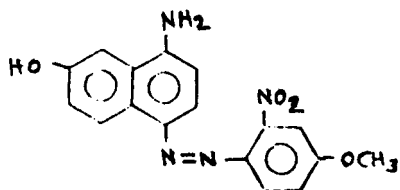
876 This subclass is indented under subclass 875. Compounds in which oxygen is bonded directly to carbon.

- (1) Note. An example of a compound provided for herein is:



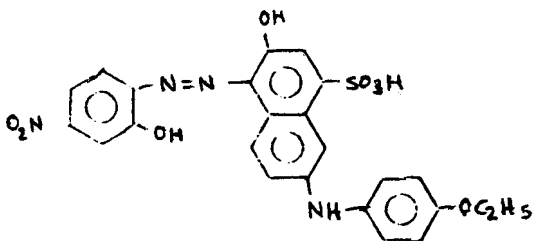
877 This subclass is indented under subclass 876. Compounds in which the nitrogen and the oxygen are both bonded directly to the same bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



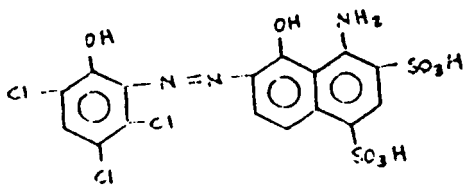
878 This subclass is indented under subclass 877. Compounds wherein a -- group is bonded directly to the bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



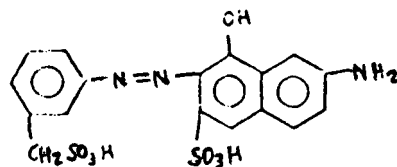
879 This subclass is indented under subclass 878. Compounds in which at least two nitrogens or at least two -- groups are bonded directly to the bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



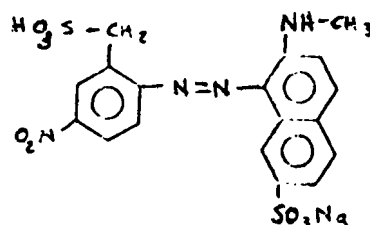
880 This subclass is indented under subclass 878. Compounds which contain an additional -- group, which group is attached indirectly to the bicyclo ring system by nonionic bonding.

- (1) Note. An example of a compound provided for herein is:



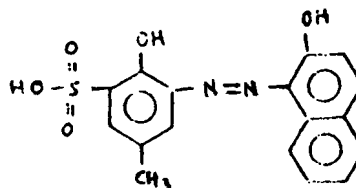
881 This subclass is indented under subclass 875. Compounds wherein the nitrogen and a -- group are both bonded directly to the same bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



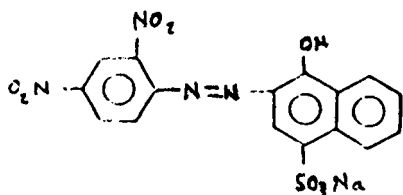
882 This subclass is indented under subclass 839. Compounds in which oxygen is double bonded directly to sulfur, e.g., --, etc..

- (1) Note. An example of a compound provided for herein is:



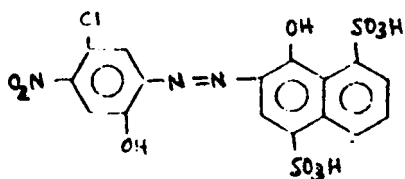
883 This subclass is indented under subclass 882. Compounds in which a -- group is bonded directly to a bicyclo ring system.

- (1) Note. An example of a compound provided for herein is:



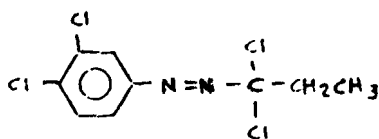
- 884** This subclass is indented under subclass 883. Compounds wherein at least two -- groups are bonded directly to the same bicyclo ring system.

(1) Note. An example of a compound provided for herein is:



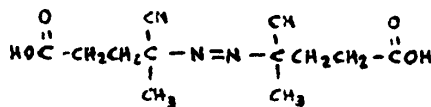
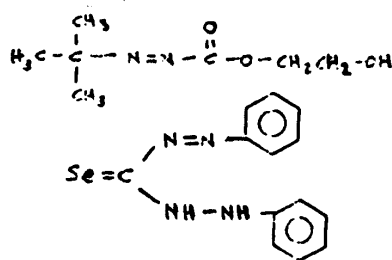
- 885** This subclass is indented under subclass 838. Compounds in which a benzene ring is bonded directly to the azo group.

(1) Note. An example of a compound provided for herein is:



- 886** This subclass is indented under subclass 838. Compounds which contain a -- group, wherein X is chalcogen (i.e., oxygen, sulfur, selenium or tellurium).

(1) Note. An example of a compound provided for herein is:



- 887** This subclass is indented under subclass 573. Processes wherein the azo compound is separated from impurities or from the reaction mixture.

END