This Class 556 is considered to be an integral part of Class 260 (see the Class 260 schedule for the position of this Class in schedule hierarchy). This Class retains all pertinent definitions and class lines of Class 260.

ORGANIC COMPOUNDS (CLASS 532, SUBCLASS 1)

1 .HEAVY METAL CONTAINING (e.g., Ga, In or T1, etc.)
2 ..With preservative or stabilizer
3 ...Compound preserved or stabilized contains lead bonded directly to carbon
4 ....Halogen containing preservative or stabilizer
5 ....Chalcogen containing preservative or stabilizer
6 ...Nitrogen containing preservative or stabilizer
7 ..Boron containing
8 ...Hydrogen bonded directly to the boron
9 ..Silicon containing
10 ...Silicon and heavy metal bonded directly to the same chalcogen
11 ...Heavy metal bonded directly to unsaturated five-membered carbocyclic ring
12 ...At least three carbons bonded directly to silicon
13 ..Phosphorus containing
14 ...Additional diverse heavy metal or aluminum containing
15 ...The heavy metal is bonded directly to the carbon of a -C(=X)- group, wherein X is chalcogen (e.g., cyclopentadienyl manganese dicarbonyl triphenyl phosphine, etc.)
16 ....Iron, cobalt, nickel, ruthenium, rhodium, palladium, osmium, iridium, or platinum containing (Fe, Co, Ni, Ru, Rh, Pd, Os, Ir or Pt)
17 ...Plural phosphori bonded directly to the same nitrogen or chalcogen (e.g., pyrophosphates, etc.)
18 ...Plural phosphori bonded directly to the same carbon or attached to each other by an acyclic chain which chain consists of carbons or of carbons and chalcogens
19 ...Carbon bonded directly to the phosphorus
20 ....Plural carbons bonded directly to the phosphorus
21 .....Exactly three carbons bonded directly to the phosphorus (e.g., triphenylphosphines, etc.)
22 ......And carbon bonded directly to the heavy metal
23 ......Hydrogen or halogen bonded directly to the heavy metal
24 ...Exactly four chalcogens bonded directly to the phosphorus (e.g., phosphates, orthophosphates, etc.)
25 ....At least two of the chalcogens are sulfur (e.g., zinc dihydrocarbyl dithiophosphates, etc.)
26 ....Nitrogen or -C(=X)- containing, wherein X is chalcogen
27 ..Aluminum containing
28 ..Plural diverse heavy metals containing
29 ...Heavy metal double bonded directly to heavy metal
30 ...Arsenic, antimony, or bismuth containing (As, Sb, or Bi)
31 ...Containing -C(=X)-, wherein X is chalcogen (e.g., carbonyl containing, etc.)
32 ..Nitrogen double bonded directly to carbon
33 ...Carbocyclic ring bonded directly to the nitrogen (e.g., azomethines, etc.)
34 ....Additonal carbon double bonded to nitrogen (e.g., bisazomethines, etc.)
35 ...Additional nitrogen bonded directly to the carbon or nitrogen
36 ....Guanidines
37 ...Chalcogen bonded directly to the carbon or nitrogen (e.g., oximes, etc.)

38 ..Nitrogen and plural sulfurs bonded directly to the same carbon (e.g., thiocarbamates, etc.)
39 ...Plural nitrogens bonded directly to the same carbon or attached to each other by a chain consisting of carbons, which carbons may be part of a ring (e.g., ethylene bis-dithiocarbamates, etc.)
40 ..Plural -C(=X)- groups, wherein X is chalcogen, bonded directly to the same non-benzenoid carbons, or the enolate thereof. (e.g., beta-diketone chelates, acetylacetonates, etc.)
41 ...Carbon or halogen bonded directly to the metal
42 ..Vanadium, niobium, or tantalum containing (V, Nb, or Ta)
43 ...Carbon bonded directly to the metal (e.g., cyclopentadienyl vanadium tetracarbonyl, etc.)
44 ...The metal is bonded directly to X of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens (e.g., vanadyl xanthate, etc.)
45 ..Manganese or rhenium containing (Mn or Re)
46 ...Carbon bonded directly to the metal (e.g., ethyl thiomanganese tricarbonyl, etc.)
47 ....The metal is bonded directly to an unsaturated 5-membered carbocyclic ring and to at least three -C(=X)- groups, wherein X is chalcogen (e.g., cyclopentadienyl manganese tricarbonyl, indenyl manganese tricarbonyl, etc.)
48 .....Chalcogen or -C(=X)-, wherein X is chalcogen, bonded directly to the unsaturated 5-membered carbocyclic ring
49 ...The metal is bonded directly to X of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens (e.g., manganese acetate, etc.)
50 ....Nitrogen containing
51 ..Titanium, zirconium, or hafnium containing (Ti, Zr, or Hf)
52 ...Carbon bonded directly to the metal
53 ....Plural unsaturated 5-membered carbocyclic rings bonded directly to the metal
54 ...Plural chalcogens bonded directly to the metal (e.g., alkyl titanates, titanic esters, etc.)
55 ....Containing -C(=X)X-, wherein the X's are the same or diverse chalcogens
56 ....Nitrogen or halogen containing
57 ..Chromium, molybdenum, or tungsten containing (Cr, Mo, or
58 ...Carbon bonded directly to the metal
59 ....Chalcogen double bonded directly to the carbon (e.g., molybdenum pentacarbonyls, etc.)
60 .....Carbocyclic ring bonded directly to the metal
61 ...Containing -C(=X)X-, wherein the X's are the same or diverse chalcogens
62 ....The carbons of plural -C(X=)X- groups, are bonded directly to each other, to the same acyclic carbon, (e.g., chromium oxalates, etc.)
63 ....Nitrogen or halogen containing
64 ..Arsenic, antimony, or bismuth containing (As, Sb, or Bi)
65 ...Arsenic double bonded directly to arsenic (e.g., arsenobenzenes, etc.)
66 ....Containing two benzene rings each having nitrogen, chalcogen and one of the arsenics bonded directly thereto (e.g., arsphenamines, etc.)
67 .....Sulfur double bonded directly to chalcogen (e.g., neoarsphenamines, etc.)

68 ...Tricyclo ring system having a six-membered ring, which includes heavy metal and nitrogen or chalcogen, as one of the cyclos (e.g., phenoxarsines, phenarsazines, etc.)
69 ...Sulfur double bonded directly to chalcogen
70 ...Carbon bonded directly to the metal
71 ....Chalcogen bonded directly to the metal (e.g., arsine oxides, etc.)
72 .....Plural chalcogens bonded directly to the metal
73 ......Exactly three chalcogens bonded directly to the metal (e.g., arsonic acids, arsonates, etc.)
74 ....Nitrogen and the metal bonded directly to the same benzene ring (e.g., arsanilic acids, etc.)
75 ....Having -C(=X)-, wherein X is chalcogen, attached directly or indirectly to the nitrogen by acyclic nononic bonding
76 ...Chalcogen bonded directly to the metal
77 ....Containing -C(=X)X-, wherein the X's are the same or diverse chalcogens
78 .....Carbocyclic ring bonded directly to the carbon of the -C(=X)X- group
79 .....The carbons of plural -C(=X)X- groups are bonded directly to each other, to the same carbon, or to a chain consisting of carbons, which carbons may be part of a ring (e.g., bismuth tartrates, etc.)
80 ....Carbocyclic ring bonded directly to the chalcogen
81 ..Germanium, tin, or lead containing (Ge, Sn, or Pb)
82 ...Tin bonded directly to tin or lead bonded directly to lead
83 ...Plural heavy metals bonded directly to the same chalcogen (e.g., two germaniums bonded directly to the same oxygen, etc.)
84 ....Exactly three carbons bonded directly to each of the metals (e.g., bis tributyl tin oxides, etc.)
85 ...Sulfur double bonded directly to chalcogen
86 ....Exactly three carbons bonded directly to the metal
87 ...Carbon bonded directly to the metal
88 ....Chalcogen bonded directly to the metal
89 .....Plural chalcogens bonded directly to the metal
90 ......At least one of the chalcogens is part of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens
91 ....Sulfur containing (e.g., organotinmercaptio carboxylic acid ester sulfides, etc.)
92 ....Acyclic carbon to carbon unsaturation containing (e.g., diorganotin maleates, etc.)
93 ......Having -C(=X)X-, are the same or diverse chalcogens, attached indirectly to the metal by nonionic bonding (e.g., dialkyl tin thioglycollic acid esters, etc.)
94 .....The chalcogen is part of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens
95 ....The compound consists of the metal, carbon and hydrogen or the metal, carbon, hydrogen and halogen (e.g., tetraalkylleads, etc.)
96 .....Preparing by utilizing a magnesium containing material (e.g., Grignard reagent, etc.)
97 .....Preparing by interchange of radicals between heavy metal atoms (e.g., redistribution, disproportionation, etc.)
98 .....Preparing by reacting free heavy metal or heavy metal containing alloy with hydrocarbyl halide (e.g., reacting Pb-Na alloy with hydrocarbyl chloride, etc.)

99 ......Additional heavy metal containing material or aluminum containing material utilized
100 ......Phosphorus containing material or organic nitrogen containing compound utilized
101 ......Organic chalcogen containing compound or additional organic halogen containing utilized
102 .....Preparing by utilizing boron, aluminum, gallium, indium, or thallium
103 .....Purification or recovery
104 .....Halogen bonded directly to the metal
105 ...Containing -C(=X)X-, wherein the X's are the same or diverse chalcogens
106 ....Carbocyclic ring bonded directly to the carbon of the -C(=X)X- group (e.g., lead phthalates, etc.)
107 ....Nitrogen containing
108 ...Carbocyclic ring and the metal are bonded directly to the same chalcogen (e.g., stannous catecholates, etc.)
109 ....Plural chalcogens and plural nitro groups bonded directly to the same benzene ring (e.g., lead styphnates, lead salts of di-nitroresorcinol, etc.)
110 ..Copper, silver, or gold containing (Cu, Ag, or Au)
111 ...Sulfur double bonded directly to chalcogen
112 ...Carbon bonded directly to the metal
113 ...Chalcogen bonded directly to the metal
114 ....The chalcogen is part of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens
115 .....Carbocyclic ring bonded directly to the carbon of the -C(=X)X- group
116 .....Nitrogen containing
117 ....Containing -C(=X)-, wherein X is chalcogen
118 ..Zinc, cadmium, or mercury containing (Zn, Cd, or Hg)
119 ...Sulfur double bonded directly to chalcogen
120 ....Containing -C(=X)-, wherein X is chalcogen (e.g., zinc formaldehyde sulphoxylates, etc.)
121 ...Carbon bonded directly to the metal
122 ....Chalcogen bonded directly to the metal
123 .....The carbon is part of a carbocyclic ring (e.g., phenyl mercury nitrate, phenyl mercury phenolates, etc.)
124 ......Hydrogen or -C(=X)-, wherein X is chalcogen, bonded directly to the chalcogen (e.g., H-X-Metal-Ring-H, -C(=X)X-Metal-Ring-H, phenyl mercury hydroxides, phenyl mercury acetates, etc.)
125 ....The carbon of the -C(=X)X- group is bonded directly to the carbocyclic ring or to a different carbocyclic ring (e.g., phenyl mercury salicylates, oxymercuric benzoic acid anhydrides, etc.)
126 ....Additional chalcogen bonded directly to the carbocyclic ring (e.g., acetoxymercury nitrocresols, etc.)
127 .....Hydrogen or -C(=X)-, wherein X is chalcogen, bonded directly to the chalcogen (e.g., H-X-Metal-HCH-, -C(=X)X-Metal-HCH-, etc.)
128 ....Cyano, nitrogen or halogen bonded directly to the metal
129 ....The compound consists of the metal, carbon and hydrogen (e.g., dialkyl zinc, etc.)
130 ...Chalcogen bonded directly to the metal
131 ....The chalcogen is part of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens
132 .....Carbocyclic ring bonded directly to the carbon of the -C(=X)X- group

133 .....The carbons of plural -C(=X)X- groups are bonded directly to each other, to the same carbon, or to a chain consisting of carbons, which carbons, which carbons may be part of a ring (e.g., zinc glutamates, etc.)
134 .....Nitrogen containing (e.g., zinc ethionates, etc.)
135 ....Carbocyclic ring bonded directly to the chalcogen (e.g., zinc phenolates, zinc thiophenates, etc.)
136 ..Ruthenium, rhodium, palladium, osmium, iridium, or platinum containing (Ru, Rh, Pd, Os, Ir, or Pt)
137 ...Nitrogen bonded directly to the metal
138 ..Iron, cobalt, or nickel containing (Fe, Co, or Ni)
139 ...Sulfur double bonded directly to chalcogen
140 ...Carbon bonded directly to the metal
141 ....Chalcogen double bonded directly to the carbon (e.g., butadiene iron tricarbonyls, etc.)
142 .....Carbocyclic ring bonded directly to the metal
143 ....Plural unsaturated five-membered carbocyclic rings bonded directly to the metal (e.g., ferrorcenes, bis indenyl iron, etc.)
144 .....Chalcogen, nitrogen or halogen containing
145 ......Chalcogen, nitrogen, halogen or -C(=X)-, wherein X is chalcogen, bonded directly to at least one of the carbocyclic rings
146 ...Chalcogen bonded directly to the metal
147 ....The chalcogen is part of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens
148 .....Nitrogen containing (e.g., ferric chelates of ethylenediaminetetracetic acid, etc.)
149 .....Salts of acyclic monocarboxylic acids (e.g., nickel formate, cobalt acetate, etc.)
150 ....Carbocyclic ring bonded directly to the chalcogen
170 .ALUMINUM CONTAINING
171 ..With preservative or stabilizer
172 ..Boron containing
173 ..Silicon containing
174 ..Phosphorus containing
175 ..Ring aluminum containing
176 ..Nitrogen bonded directly to the aluminum
177 ..Oxygen double bonded directly to sulfur
178 ..Plural aluminums containing
179 ...Chalcogen bonded directly to aluminum
180 ...Halogen bonded directly to aluminum (e.g., sesquihalides, etc.)
181 ..Chalcogen bonded directly to aluminum
182 ...Plural chalcogens bonded directly to the same aluminum
183 ....At least one of the chalcogens is part of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens
184 .....Ring bonded directly to the carbon of the -C(=X)X- group
185 ....Preparing by oxidation
186 ..Halogen bonded directly to the aluminum
187 ..Processes of preparing, purifying or recovering compounds having plural carbons bonded directly to the same aluminum
188 ...Aluminum containing alloy or elemental aluminum utilized
189 ....And utilizing a material which contains a metal other than aluminum
190 ...Reactants include unsaturated hydrocarbon and compound having carbon bonded directly to aluminum
400 .SILICON CONTAINING
401 ..With preservative or stabilizer
402 ..Boron containing
403 ...Boron is ring member

404 ..Phosphorus attached directly or indirectly to silicon by nonionic bonding
405 ...Chalcogen bonded directly to silicon
406 ..Ring consisting of carbon and silicon
407 ..Nitrogen is ring member
408 ...Chalcogen is member of the ring
409 ...Plural silicons in the ring
410 ..Nitrogen attached directly to silicon by nonionic bonding
411 ...Having -C(=X)-, wherein X is chalcogen, bonded directly to the nitrogen
412 ...Plural silicons bonded directly to the nitrogen
413 ..Nitrogen attached indirectly to silicon by nonionic bonding
414 ...The nitrogen is in an isocyanato or isothiocyanato group (i.e., -NCO or -NCS)
415 ...The nitrogen is in a cyano group (i.e., -CN)
416 ....Chalcogen bonded directly to plural carbons or double-bonded directly to carbon
417 ....Chalcogen bonded directly to silicon
418 ...Having -C(=X)-, wherein X is chalcogen, attached indirectly to silicon by nonionic bonding
419 ....Nitrogen is bonded directly to the -C(=X)- group
420 .....The -C(=X)- is part of a -C(=X)X- group, wherein the X's are the same or diverse chalcogens
421 .....Additional nitrogen bonded directly to the -C(=X)- group
422 ...Chalcogen attached directly to the nitrogen by nonionic bonding
423 ...Plural carbons bonded directly to the same chalcogen
424 ...Plural nitrogens bonded directly to the same carbon or attached by a chain consisting of carbons, which carbons may be part of a ring
425 ...Two silicons bonded directly to the same oxygen
426 ..Sulfur bonded directly to silicon
427 ..Sulfur attached indirectly to silicon by nonionic bonding
428 ...Chalcogen bonded directly to sulfur
429 ...The sulfur is part of a -SH or -SC(=X)- group, wherein X is chalcogen (H of -SH may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal)
430 ..Plural silicons bonded directly to each other
431 ..Plural silicons bonded directly to the same carbon or attached by a chain consisting of carbons, which carbons may be part of a ring
432 ...Plural silicons bonded directly to the same or different benzene rings that form all or part of the chain
433 ....Two silicons bonded directly to the same oxygen
434 ...Two silicons bonded directly to the same oxygen
435 ...Two silicons bonded directly to the same acyclic saturated hydrocarbon
436 ..Carbonyl attached directly or indirectly to silicon by nonionic bonding
437 ...The carbonyl is part of a -COO- group
438 ....Silicon and the carbon of the -COO- group are bonded directly to the same hydrocarbon group
439 .....Two silicons bonded directly to the same oxygen
440 ....Silicon and the oxy of the -COO- group are bonded directly to the same hydrocarbon group
441 ....Carbocyclic ring having silicon as part of one substituent and the -COO- as part of another substituent
442 ....Silicon is bonded directly to the oxy of the -COO- group
443 ..Plural silicons attached by a chain consisting of oxygen and carbon, which chain may be part of a ring
444 ...Two carbons bonded directly to the same oxygen
445 ..Two carbons bonded directly to the same oxygen

446 ...Additional oxygen bonded directly to the silicon and to a group containing the oxygen and two carbons
447 ...Two carbocyclic rings bonded directly to the oxygen
448 ...One of the two carbons is part of a substituent on the oxygen, which substituent contains halogen and does not contain silicon or a benzene ring
449 ..Hydroxy bonded directly to carbon or peroxy bonded directly to two carbons or to hydrogen and carbon (H of the hydroxy or the H bonded to the peroxy may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal)
450 ..Two silicons bonded directly to the same oxygen
451 ...Hydrogen bonded directly to silicon
452 ...Halogen bonded directly to silicon
453 ...Three carbons bonded directly to the same silicon
454 ....Halogen attached indirectly to silicon by nonionic bonding
455 ....Three oxygens bonded directly to the same silicon
456 ....Three identical hydrocarbon groups bonded directly to the same silicon
457 ...Silicon and carbon bonded directly to the same oxygen
458 ....Three oxygens each bonded directly to the same silicon and to carbon
459 ...Hydroxy bonded directly to silicon (H of hydroxy may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal) may be replaced by a substituted or unsubstituted ammonium ion or a Group
460 ...Ring consisting of silicon and oxygen
461 ....Benzene ring containing
462 ...Preparing by utilizing a siloxane reactant
463 ..Hydroxy or peroxy bonded directly to the silicon (H of hydroxy may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal)
464 ..Ring consisting of silicon, oxygen, and carbon
465 ..Carbon attached directly or indirectly to the silicon by nonionic bonding (e.g., silanes, etc.)
466 ...Processes
467 ....Plural silicons in a reactant
468 .....Bonded directly to each other
469 ....Interchange of radicals between silicon atoms (e.g., redistribution, disproportionation, transesterification, etc.)
470 ....Forming group containing silicon and carbon bonded directly to the same oxygen (e.g., esters, etc.)
471 .....A silicon halide reacted with a hydroxy or oxirane-containing compound (H of hydroxy may be replaced by a substituted or unsubstituted ammonium ion or a Group IA or IIA light metal)
472 ....Elemental silicon, silicon-containing alloy or metal silicide reactant
473 .....Halogen, hydrogen halide, or a silicon halide utilized
474 ....Silicon to hydrogen bond formed
475 ....Dehydrohalogenation to produce carbon to carbon unsaturation
476 ....Halogenation of silicon-containing compound
477 .....Silicon to halogen bond formed
478 ....Silicon to carbon bond formed
479 .....Carbon to carbon unsaturation reduced by addition of a silicon hydride
480 .....Magnesium-containing reactant
481 .....By substitution of silicon bonded hydrogen
482 ...Silicon and carbon bonded directly to the same oxygen

483 ....Four oxygens bonded directly to the silicon
484 ....Halogen bonded directly to the silicon
485 ....Halogen bonded directly to acyclic carbon
486 ....Silicon and benzene ring bonded directly to the same oxygen
487 ...Hydrogen bonded directly to the silicon
488 ...Halogen bonded directly to acyclic carbon
489 ...Unsaturated carbocyclic ring containing

FOREIGN ART COLLECTIONS

FOR 000 **CLASS-RELATED FOREIGN DOCUMENTS**