**CPC**  COOPERATIVE PATENT CLASSIFICATION

**C**  CHEMISTRY; METALLURGY  
*(NOTES omitted)*

**CHEMISTRY**

**C07**  ORGANIC CHEMISTRY  
*(NOTES omitted)*

**C07F**  ACYCLIC, CARBOCYCLIC OR HETEROCYCLIC COMPOUNDS CONTAINING ELEMENTS OTHER THAN CARBON, HYDROGEN, HALOGEN, OXYGEN, NITROGEN, SULFUR, SELENIUM OR TELLURIUM  
*(metal-containing porphyrins C07D 487/22)*

**NOTES**

1. Attention is drawn to Note (3) C07, which defines the last place priority rule applied in the range of subclasses C07C-C07K and within these subclasses.
2. Attention is drawn to Note (6) following the title of class C07.
3. Attention is drawn to Note (3) after the title of section C, which Note indicates to which version of the periodic table of chemical elements the IPC refers.
4. In this subclass, organic acid salts, alcoholates, phenates, chelates or mercaptides are classified as the parent compounds.
5. Compounds containing Se or Te are classified with their sulfur homologues.
6. A hydrocarbon chain is considered to be terminated by a heteroatom or by a carbon atom having three bonds to heteroatoms with at the most one to halogen.
7. When groups, e.g. aromatic or aliphatic groups, are mentioned without further indications, it means that the group concerned can be further substituted. Otherwise it will be indicated, e.g. C07F 9/11 with hydroxyalkyl compounds without further substituents on alkyl.

**WARNINGS**

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - C07F 9/6593 covered by C07F 9/65815
2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<table>
<thead>
<tr>
<th>1/00</th>
<th>Compounds containing elements of Groups 1 or 11 of the Periodic System</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/005</td>
<td>. [without C-Metal linkages]</td>
</tr>
<tr>
<td>1/02</td>
<td>. Lithium compounds</td>
</tr>
<tr>
<td>1/04</td>
<td>. Sodium compounds</td>
</tr>
<tr>
<td>1/06</td>
<td>. Potassium compounds</td>
</tr>
<tr>
<td>1/08</td>
<td>. Copper compounds</td>
</tr>
<tr>
<td>1/10</td>
<td>. Silver compounds</td>
</tr>
<tr>
<td>1/12</td>
<td>. Gold compounds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3/00</th>
<th>Compounds containing elements of Groups 2 or 12 of the Periodic System</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/003</td>
<td>. [without C-Metal linkages]</td>
</tr>
<tr>
<td>3/006</td>
<td>. [Beryllium compounds]</td>
</tr>
<tr>
<td>3/02</td>
<td>. Magnesium compounds</td>
</tr>
<tr>
<td>3/04</td>
<td>. Calcium compounds</td>
</tr>
<tr>
<td>3/06</td>
<td>. Zinc compounds</td>
</tr>
<tr>
<td>3/08</td>
<td>. Cadmium compounds</td>
</tr>
<tr>
<td>3/10</td>
<td>. Mercury compounds</td>
</tr>
<tr>
<td>3/103</td>
<td>. [without C-Mercury linkages]</td>
</tr>
<tr>
<td>3/12</td>
<td>. Aromatic substances containing mercury</td>
</tr>
<tr>
<td>3/14</td>
<td>. Heterocyclic substances containing mercury</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5/00</th>
<th>Compounds containing elements of Groups 3 or 13 of the Periodic System</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/003</td>
<td>. [without C-Metal linkages]</td>
</tr>
<tr>
<td>5/02</td>
<td>. Boron compounds</td>
</tr>
<tr>
<td>5/022</td>
<td>. [without C-boron linkages]</td>
</tr>
<tr>
<td>5/025</td>
<td>. [Boronic and borinic acid compounds]</td>
</tr>
<tr>
<td>5/027</td>
<td>. [Organoboranes and organoborohydrides]</td>
</tr>
<tr>
<td>5/04</td>
<td>. Esters of boric acids</td>
</tr>
<tr>
<td>5/05</td>
<td>. Cyclic compounds having at least one ring containing boron but no carbon in the ring</td>
</tr>
<tr>
<td>5/06</td>
<td>. Aluminium compounds</td>
</tr>
<tr>
<td>5/061</td>
<td>. [with C-aluminium linkage]</td>
</tr>
<tr>
<td>5/062</td>
<td>. [Al linked exclusively to C]</td>
</tr>
<tr>
<td>5/064</td>
<td>. [compounds with an Al-Halogen linkage]</td>
</tr>
<tr>
<td>5/065</td>
<td>. [compounds with an Al-H linkage]</td>
</tr>
<tr>
<td>5/066</td>
<td>. [compounds with Al linked to an element other than Al, C, H or halogen (this includes Al-cyanide linkage)]</td>
</tr>
<tr>
<td>5/067</td>
<td>. . . [compounds with Al also linked to H or halogen]</td>
</tr>
<tr>
<td>5/068</td>
<td>. . . [preparation of alum(in)oxanes]</td>
</tr>
<tr>
<td>5/069</td>
<td>. . . [without C-aluminium linkages]</td>
</tr>
</tbody>
</table>
Compounds containing elements of Groups 4 or 14 of the Periodic System

7/00

7/003 . . . (without C-Metal linkages)

7/007 . . . Cyclic esters

7/008 . . . Compounds having one or more C—Si linkages

7/04 . . . with hydroxyaryl compounds

WARNING

Groups C07F 7/06 and C07F 7/07 are incomplete pending reclassification of documents from groups C07F 7/04 and C07F 7/045.

Groups C07F 7/04, C07F 7/045, C07F 7/06 and C07F 7/07 should be considered in order to perform a complete search.

7/08 . . . Compounds having one or more C—Si linkages

7/0801 . . . (General processes)

7/0803 . . . (Compounds with Si-C or Si-Si linkages)

7/0805 . . . (comprising only Si, C or H atoms)

7/0807 . . . (comprising Si as a ring atom)

7/081 . . . (comprising at least one atom selected from the elements N, O, halogen, S, Se or Se)

7/0812 . . . (comprising a heterocyclic ring)

7/0814 . . . (said ring is substituted at a C ring atom by Si)

7/0816 . . . . . . (said ring comprising Si as a ring atom)

7/0825 . . . (Preparations of compounds not comprising Si-Si or Si-cyano linkages)

7/0827 . . . (Syntheses with formation of a Si-C bond)

7/0829 . . . (Hydrosilylation reactions)

7/083 . . . (Syntheses without formation of a Si-C bond)

7/0832 . . . (Other preparations)

7/0834 . . . (Compounds having one or more O-Si linkage (for compounds with C-O-Si linkages see C07F 7/18))

7/0836 . . . (Compounds with one or more Si-OH or Si-O-metal linkage)

WARNING

Group C07F 7/045 is incomplete pending reclassification of documents from group C07F 7/045.

Group C07F 7/04 is impacted by reclassification into groups C07F 7/06 and C07F 7/07.

Groups C07F 7/04, C07F 7/045, C07F 7/06 and C07F 7/07 should be considered in order to perform a complete search.

7/045 . . . . . . (Frozen)

[Compounds containing elements of Groups 4 or 14 of the Periodic System]

7/0838 . . . . . . (Compounds with one or more Si-O-Si sequences (compounds with a ring containing only alternating Si and O atoms, i.e. cyclosilanes C07F 7/21))

7/087 . . . . . . (Compounds of unknown structure containing a Si-O-Si sequence)

7/0872 . . . . . . (Preparation and treatment thereof)

7/0874 . . . . . . (Reactions involving a bond of the Si-O-Si linkage)

7/0876 . . . . . . (Reactions involving the formation of bonds to a Si atom of a Si-O-Si sequence other than a bond of the Si-O-Si linkage)

7/0878 . . . . . . (Si-C bond)

7/0879 . . . . . . (Hydrosilylation reactions)

7/0889 . . . . . . (Reactions not involving the Si atom of the Si-O-Si sequence)

7/089 . . . . . . (Treatments not covered by a preceding group)

7/0892 . . . . . . (Compounds with a Si-O-N linkage)

7/0894 . . . . . . (Compounds with a Si-O linkage)

7/0896 . . . . . . (Compounds with a Si-H linkage)

7/0898 . . . . . . (Compounds with a Si-S linkage)

7/10 . . . containing nitrogen (having a Si-N linkage)

7/12 . . . Organo silicon halides

7/121 . . . . . . (Preparation or treatment not provided for in C07F 7/14, C07F 7/16 or C07F 7/20)

NOTE

The silicon atom involved in the reaction that is attached or becomes attached to the highest number of halide atoms determines classification.

(Compounds containing elements of Groups 4 or 14 of the Periodic System)

7/122 . . . . . . (by reactions involving the formation of Si-C linkages (hydrosilylation reactions C07F 7/14; direct synthesis C07F 7/16))

7/123 . . . . . . (by reactions involving the formation of Si-halogen linkages)

7/125 . . . . . . (by reactions involving both Si-C and Si-halogen linkages, the Si-C and Si-halogen linkages can be to the same or to different Si atoms, e.g. redistribution reactions)

7/126 . . . . . . (by reactions involving the formation of Si-Y linkages, where Y is not a carbon or halogen atom)

7/127 . . . . . . (by reactions not affecting the linkages to the silicon atom)

7/128 . . . . . . (by reactions covered by more than one of the groups C07F 7/122 - C07F 7/127 and of which the starting material is unknown or insufficiently determined)

7/14 . . . . . . (Preparation thereof from [optionally substituted] halogenated silanes and hydrocarbons [hydrosilylation reactions])

7/16 . . . . . . (Preparation thereof from silicon and halogenated hydrocarbons [direct synthesis])

7/18 . . . . . . (Compounds having one or more C—Si linkages as well as one or more C—O—Si linkages)

7/1804 . . . . . . (Compounds having Si-O-C linkages (Si-O-acyl linkages C07F 7/1896))

7/1872 . . . . . . (Preparation; Treatments not provided for in C07F 7/20)
Compounds containing elements of Groups 5 or 15 of the Periodic System

9/005 . . . . . . . . . . [Compounds of elements of Group 5 of the Periodic System without metal-carbon linkages]
9/02 . . . . . . . . . . Phosphorus compounds (sugar phosphates C07H 11/04; nucleotides C07H 19/00, C07H 21/00; nucleic acids C07H 21/00)
9/025 . . . . . . . . . . [Purification; Separation; Stabilisation; Desodorisation of organo-phosphorus compounds (of natural phosphatides C07F 9/103; phosphines C07F 9/5095)]
9/04 . . . . . . . . . . Reaction products of phosphorus sulfur compounds with hydrocarbons
9/06 . . . . . . . . . . without P—C bonds
9/062 . . . . . . . . . . [Organo-phosphoranes without P-C bonds]
9/065 . . . . . . . . . . [Phosphoranes containing the structure P=N-]
9/067 . . . . . . . . . . [Polyphosphazenes containing the structure [P=N-N] (cyclic compounds C07F 9/65812)]
9/08 . . . . . . . . . . Esters of oxyacids of phosphorus ((C07F 9/062 takes precedence))
9/09 . . . . . . . . . . Esters of phosphoric acids
9/091 . . . . . . . . . . [with hydroxyalkyl compounds with further substituents on alkyl]
9/092 . . . . . . . . . . [substituted by B, Si or a metal]
9/093 . . . . . . . . . . [Polyol derivatives esterified at least twice by phosphoric rests]
9/094 . . . . . . . . . . [with arylalkanols]
9/095 . . . . . . . . . . [Compounds containing the structure \( P(=O)-O-acyl, P(=O)-O-heteroatom, P(=O)-O-CN \)]
Amides of acids of phosphorus
Esteramides

Hydrazides

Amides of acids of phosphorus
{ containing the structure P-N-N, e.g. azides,

Phosphorus triamides
Amides of phosphoric acids

Esters of thiophosphorus acids
characteristic
{ containing the amide moiety containing a substituent

or a structure which is considered as

containing P-halide groups

with hydroxyaryl compounds

with cycloaliphatic alcohols

with unsaturated acyclic alcohols

substituents on alkyl

with hydroxyl compounds without further

further substituents on alkyl

with hydroxyl compounds without further

substituents on alkyl

with unsaturated acyclic alcohols

with cycloaliphatic alcohols

with hydroxyaryl compounds

with hydroxyalkyl compounds with

hydroxyaryl compounds

with cycloaliphatic alcohols

with unsaturated acyclic alcohols

further substituents on alkyl

with hydroxyalkyl compounds without

further substituents on alkyl

P(=X)n-N-CN (X = O, S, Se; n = 0, 1)

P(=X)n-N-acyl, P(=X)n-N-heteroatom,

{ Compounds containing the structure

of aralkylamines }

{ containing the ester moiety containing a substituent

or a structure which is considered as

characteristic}

{ of hydroxyalkyl compounds }

{ of unsaturated acyclic alcohols }

{ of cycloaliphatic alcohols }

{ of hydroxaryl compounds }

{ containing the structure (RX)

(RR')(P=)(Y)-Z-(C)n-Z'=P(Y)(XR)2 (X

= O, S, NR; Y = O, S, electron pair; Z

= O, S; Z' = O, S)}

{ containing the structure P-isocyanates}

{ containing the structure P-N-N, e.g. azides,

hydrazides]}

{ Phosphorus trimides}

{ containing the structure P-acylamides]

{ containing the structure P-N-N, e.g. azides,

hydrazides]}

Esters thereof

{ containing the structure P-N-N-acyl, P(=X)n-N-heteroatom,

P(=X)n-N-CN (X = O, S, Se; n = 0, 1)}

{ containing the structure P(=X)n-N-S

C(=X) (X = O, S, Se; n = 0, 1) }

{ containing the structure P(=X)n-N-S

C(=X) (X = O, S, Se; n = 0, 1) }

{ containing the structure P(=X)n-N-S

C(=X) (X = O, S, Se; n = 0, 1) }

with one or more P—C bonds

Thiophosphinic acids [i.e. R,P(=X)(XH) (X

= S, Se)]

Pyrophosphinic acids; Phosphinic acid
anhydrides]

the acid moiety containing a substituent

or a structure which is considered as

characteristic]

{ Esters of acyclic saturated acids which can have further substituents on alkyl}

{ Esters of acyclic unsaturated acids}

{ Esters of cycloaliphatic acids}

{ containing the structure -C(=X)-
P(=X)(X)(XR), (X = O, S, Se; n'=1)}

{ Acids containing the structure -C(=X)P(=X)(X)(XR) or NC-P(=X)(X)(XR), (X

= O, S, Se)}

{ Pyrophosphinic acids; Phosphinic acid
anhydrides}
Esters thereof

Acids containing the structure -C(=X)-P(=X)(XH)2 or NC-P(=X)-P(=X)-X-N (X = O, S, Se)

Esters of arylalkanephosphonic acids

Esters of cycloaliphatic acids

Esters of poly(thio)phosphonic acids

9/4066 [Compounds containing the structure -C(=X)-P(=X)-(CH2)n-C(=O)-(CH2)m-H (X = O, S, Se)]

9/4065 [Compounds containing the structure -C(=X)-P(=X)-(XH)2 or NC-P(=X)-P(=X)-(XH)2 (X = O, S, Se)]

9/4064 [Esters of pyrophosphonic acids; Esters of phosphonic acid anhydrides]

9/4071 [Esters of pyrophosphonic acids; Esters of phosphonic acid anhydrides]

9/4070 [Esters of hydroxalkyl compounds]

9/4078 [Esters with unsaturated acyclic alcohols]

9/4081 [Esters of cycloaliphatic alcohols]

9/4084 [Esters with hydroxaryl compounds]

9/4087 [Esters with arylalkanols]

9/409 [Compounds containing the structure P(=X)-X-acyl, P(=X)-X-heteroatom, P(=X)-X-CN (X = O, S, Se)]

9/4093 [Compounds containing the structure P(=X)-X-C(=X) (X = O, S, Se)]

9/4096 [Compounds containing the structure P(=X)-X-N (X = O, S, Se)]

4/32 [Acid or estermonohalides thereof, e.g. RP(=X)YR(Hal) (X, Y = O, S; R = H, or hydrocarbon group)]


9/443 . . . . . . . [Amides of acids containing the structure -(C=(Y)-P(=X)(XR)-N or NC-(P(=X)(XR)-N)]

9/4434 . . . . . . . {the ester moiety containing a substituent or a structure which is considered as characteristic}

9/4438 . . . . . . . [Ester with hydroxyl alkyl compounds]

9/4442 . . . . . . . [Esters with unsaturated acyclic alcohols]

9/4446 . . . . . . . [Esters with cycloaliphatic alcohols]

9/4449 . . . . . . . [Esters with hydroxyaryl compounds]

9/4453 . . . . . . . [Esters with aryalkanols]

9/4457 . . . . . . . [Compounds containing the structure C-P(=X)(X-acyl)-N, C-P(=X)(X-heteroatom)-N or C-P(=X)(X-CN)-N (X = O, S, Se)]

9/4461 . . . . . . . {the amide moiety containing a substituent or a structure which is considered as characteristic}

9/4465 . . . . . . . {of aliphatic amines}

9/4469 . . . . . . . {of unsaturated acyclic amines}

9/4473 . . . . . . . {of cycloaliphatic amines}

9/4476 . . . . . . . {of aromatic amines (N-C aromatic linkage)]}

9/448 . . . . . . . {of aralkylamines}

9/4484 . . . . . . . [Compounds containing the structure C-P(=X)(N-acyl)-X, C-P(=X)(N-heteroatom)-X or C-P(=X)(N-CN)-X (X = O, S, Se)]

9/4488 . . . . . . . [Compounds containing the structure P(=X)(N-S-)(N = O, S, Se)]

9/4492 . . . . . . . [Compounds containing the structure P(=X)(N-C(=X)-)(X = O, S, Se)]

9/4496 . . . . . . . [Compounds containing the structure P(=X)(N-N-)(X = O, S, Se)]

9/46 . . . . . . . Phosphinous acids R₂P=O—OH; Thiophosphinous acids; Aminophosphines R₂P-NH₂ [including R₃P=(O)H; derivatives thereof]

9/48 . . . . . . . Phosphonous acids R—P(OH)₂; Thiophosphonous acids [including RHP(=O)(OH); Derivatives thereof]

9/4808 . . . . . . . {the acid moiety containing a substituent or structure which is considered as characteristic}

9/4816 . . . . . . . {Acyclic saturated acids or derivatives which can have further substituents on ayl}

9/4825 . . . . . . . {Acyclic unsaturated acids or derivatives}

9/4833 . . . . . . . {Cycloaliphatic acids or derivatives}

9/4841 . . . . . . . {Aromatic acids or derivatives (P-C aromatic linkage)}

9/485 . . . . . . . {Polyphosphonous acids or derivatives}

9/4858 . . . . . . . {Acids or derivatives containing the structure C=(X)-P(=X) or NC-P(=X)(X = O, S, Se)}

9/4866 . . . . . . . {the ester moiety containing a substituent or structure which is considered as characteristic}

9/4875 . . . . . . . {Esters with hydroxy aryl compounds}

9/4883 . . . . . . . {Amides or esteramides thereof, e.g. RP(NR’)2 or RP(X’)2 (X = O, S)}

9/4891 . . . . . . . {Monohalide derivatives RP(X’) (Hal) (X = O, S, N) (dihalide derivatives C07F 9/53)}

9/50 . . . . . . . Organo-phosphines

9/5004 . . . . . . . {Acyclic saturated phosphines}

9/5009 . . . . . . . {substituted by B, Si, P or a metal (C07F 9/5027 takes precedence)}

9/5013 . . . . . . . {Acyclic unsaturated phosphines}

9/5018 . . . . . . . {Cycloaliphatic phosphines}

9/5022 . . . . . . . {Aromatic phosphines (P-C aromatic linkage)}

9/5027 . . . . . . . {Polyphosphines}

9/5031 . . . . . . . {Arylalkane phosphines (C07F 9/5027 takes precedence)}

9/5036 . . . . . . . {Phosphines containing the structure -(C=(X))-P or NC-P}

9/504 . . . . . . . {Organo-phosphines containing a P-P bond}

9/5045 . . . . . . . {Complexes or chelates of phosphines with metallic compounds or metals}

9/505 . . . . . . . {Preparation; Separation; Purification; Stabilisation}

9/5054 . . . . . . . {by a process in which the phosphorus atom is not involved}

9/5059 . . . . . . . {by addition of phosphorus compounds to alkenes or alkynes}

9/5063 . . . . . . . {from compounds having the structure P-H or P-Heteroatom, in which one or more of such bonds are converted into P-C bonds (C07F 9/5059 takes precedence)}

9/5068 . . . . . . . {from starting materials having the structure >P-Hal}

9/5072 . . . . . . . {from starting materials having the structure P-H (C07F 9/5059 takes precedence)}

9/5077 . . . . . . . {from starting materials having the structure P-Metal, including R₂P(M⁺)}

9/5081 . . . . . . . {from starting materials having the structure >P-Het, Het being an heteroatom different from Hal or Metal}

9/5086 . . . . . . . {from phosphonium salts as starting materials}

9/509 . . . . . . . {by reduction of pentavalent phosphorus derivatives, e.g. -P=XY = O, S, Se or -P-Hal2}

9/5095 . . . . . . . {Separation; Purification; Stabilisation}

9/52 . . . . . . . Halophosphines

9/53 . . . . . . . Organo-phosphine oxides; Organo-phosphate thioxides

9/5304 . . . . . . . {Acyclic saturated phosphine oxides or thioxides}

9/5308 . . . . . . . {substituted by B, Si, P or a metal}

9/5312 . . . . . . . {substituted by a phosphorus atom (C07F 9/5329 takes precedence)}

9/5316 . . . . . . . {Unsaturated acyclic phosphine oxides or thioxides}

9/532 . . . . . . . {Cycloaliphatic phosphine oxides or thioxides}

9/5325 . . . . . . . {Aromatic phosphine oxides or thioxides (P-C aromatic linkage)}

9/5329 . . . . . . . {Polyphosphine oxides or thioxides}

9/5333 . . . . . . . {Arylalkane phosphine oxides or thioxides (C07F 9/5329 takes precedence)}

9/5337 . . . . . . . {Phosphine oxides or thioxides containing the structure -(C=(X))-P(=X) or NC-P(=X) (X = O, S, Se)}

9/5341 . . . . . . . {Organo-phosphorus oxides or thioxides containing a P-P bond}
9/5345 . . . . . (Complexes or chelates of phosphine-oxides or thioketones with metallic compounds or metals)
9/535 . . . . . Organo-phosphoranes
9/5352 . . . . . [Phosphoranes containing the structure \(P=\text{C}-\)]
9/5355 . . . . . [Phosphoranes containing the structure \(P=\text{N}\)]
9/5357 . . . . . (Polychlorophosphazenes containing the structure \(P=\text{N}-\text{in}\ (\text{cyclic phosphazenes} \text{C07F} 9/65812))
9/54 . . . Quaternary phosphonium compounds
9/5407 . . . . . [Acyclic saturated phosphonium compounds]
9/5414 . . . . . {substituted by B, Si, P or a metal}
9/5421 . . . . . {substituted by a phosphorus atom \(\text{C07F} 9/5449\) takes precedence}
9/5428 . . . . . [Acyclic unsaturated phosphonium compounds]
9/5435 . . . . . [Cycloaliphatic phosphonium compounds]
9/5442 . . . . . [Aromatic phosphonium compounds (P-C aromatic linkage)]
9/5449 . . . . . [Polyphosphonium compounds]
9/5456 . . . . . [Arylalkanephosphonium compounds]
9/5463 . . . . . [Compounds of the type “quasi-phosphonium”, e.g. \((\text{C})a-P-(\text{Y})b\) wherein a +b=4, b>=1 and Y=heteroatom, generally N or O]
9/547 . . . Heterocyclic compounds, e.g. containing phosphorus as a ring hetero atom
9/5475 . . . . . [having nitrogen and selenium with or without oxygen or sulfur as ring hetero atoms; having nitrogen and tellurium with or without oxygen or sulfur as ring hetero atoms]
9/553 . . . . . having one nitrogen atom as the only ring hetero atom
9/5532 . . . . . {Seven-(or more) membered rings}
9/5535 . . . . . {condensed with carbocyclic rings or ring systems}
9/5537 . . . . . (the heteroring containing the structure - C(=O)-N-C(=O)- (both carbon atoms belong to the heteroring))
9/5553 . . . . . {the oxygen atom being part of a three-membered phosphorane ring}
9/564 . . . . . Three-membered rings
9/568 . . . . . Four-membered rings
9/5686 . . . . . {condensed with carbocyclic rings or ring systems}
9/572 . . . . . Five-membered rings
9/5728 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/576 . . . . . Six-membered rings
9/5765 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/58 . . . . . Pyridine rings
9/59 . . . . . Hydrogenated pyridine rings
9/60 . . . . . Quinoline or hydrogenated quinoline ring systems
9/62 . . . . . Isoquinoline or hydrogenated isoquinoline ring systems
9/64 . . . . . Acidine or hydrogenated acidine ring systems
9/645 . . . . . having two nitrogen atoms as the only ring hetero atoms
9/6503 . . . . . Five-membered rings
9/65031 . . . . . {having the nitrogen atoms in the positions 1 and 2}
9/65038 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/6506 . . . . . having the nitrogen atoms in positions 1 and 3
9/65068 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/6509 . . . . . Six-membered rings
9/650905 . . . . . {having the nitrogen atoms in the positions 1 and 2}
9/650947 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/650952 . . . . . {having the nitrogen atoms in the positions 1 and 4}
9/650994 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/6512 . . . . . having the nitrogen atoms in positions 1 and 3
9/65128 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/6515 . . . . . having three nitrogen atoms as the only ring hetero atoms
9/6518 . . . . . Five-membered rings
9/65188 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/6521 . . . . . Six-membered rings
9/65218 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/6524 . . . . . having four or more nitrogen atoms as the only ring hetero atoms
9/6527 . . . . . having nitrogen and oxygen atoms as the only ring hetero atoms
9/653 . . . . . Five-membered rings
9/65306 . . . . . {containing two nitrogen atoms}
9/65312 . . . . . {having the two nitrogen atoms in positions 1 and 2}
9/65318 . . . . . {having the two nitrogen atoms in positions 1 and 3}
9/65324 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/6533 . . . . . Six-membered rings
9/65335 . . . . . {condensed with carbocyclic rings or carbocyclic ring systems}
9/6536 . . . . . having nitrogen and sulfur atoms with or without oxygen atoms, as the only ring hetero atoms
9/6539 . . . . . Five-membered rings
9/65392 . . . . . {containing two nitrogen atoms}
9/65395 . . . . . {having the two nitrogen atoms in positions 1 and 2}
9/65397 . . . . . {having the two nitrogen atoms in positions 1 and 3}
9/6541 . . . . . condensd with carbocyclic rings or carbocyclic ring systems
9/6544 . . . . . Six-membered rings
9/6547 . . . . . condensd with carbocyclic rings or carbocyclic ring systems
9/655 . . . . . having oxygen atoms, with or without sulfur, selenium, or tellurium, as the only ring hetero atoms
9/65502 . . . . . {the oxygen atom being part of a three-membered ring}
... having sulfur atoms, with or without selenium or tellurium atoms, as the only ring hetero atoms

9/655309
9/655318
9/655327
9/655336
9/655345
9/655354
9/655363
9/655372
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9/657109
9/657118
9/657127
9/657136
9/657145
9/657154
9/657163
9/657172
9/657181
Arsenic compounds containing one or more acridine ring systems
Antimony compounds
Compounds without antimony-carbon linkages
Aromatic compounds
Bismuth compounds
Compounds containing elements of Groups 6 or 16 of the Periodic System
Compounds without a metal-carbon linkage
Compounds containing elements of Groups 7 or 17 of the Periodic System
Compounds without a metal-carbon linkage
Compounds containing elements of Groups 8, 9, 10 or 18 of the Periodic System
Compounds of the platinum group
without a metal-carbon linkage
Osmium compounds
without a metal-carbon linkage
Iridium compounds
without a metal-carbon linkage
Rhodium compounds
without a metal-carbon linkage
Palladium compounds
without a metal-carbon linkage
Platinum compounds
without a metal-carbon linkage
Platinum compounds
Platinum compounds
Ruthenium compounds
without a metal-carbon linkage
Rhodium compounds
without a metal-carbon linkage
Sideramines; The corresponding desferri compounds
Sideramines; The corresponding desferri compounds
Iron compounds
Nickel compounds
without a metal-carbon linkage
without a metal-carbon linkage
without a metal-carbon linkage
without a metal-carbon linkage
without a metal-carbon linkage
Metalloclenes
Metallocenes
of metals of Groups 8, 9 or 10 of the Periodic System
Metal compounds according to more than one of main groups 
without metal-C linkages