

CPC COOPERATIVE PATENT CLASSIFICATION

A HUMAN NECESSITIES

AGRICULTURE

A01 AGRICULTURE; FORESTRY; ANIMAL HUSBANDRY; HUNTING; TRAPPING; FISHING

A01N PRESERVATION OF BODIES OF HUMANS OR ANIMALS OR PLANTS OR PARTS THEREOF; BIOCIDES, e.g. AS DISINFECTANTS, AS PESTICIDES, AS HERBICIDES (preparations for medical, dental or toilet purposes [A61K](#); methods or apparatus for disinfection or sterilisation in general, or for deodorising of air [A61L](#)); PEST REPELLANTS OR ATTRACTANTS (decoys [A01M 1/06](#); medicinal preparations [A61K](#)); PLANT GROWTH REGULATORS (compounds in general [C01](#), [C07](#), [C08](#); fertilisers [C05](#); soil conditioners or stabilisers [C09K 17/00](#))

NOTES

1. This subclass covers:
 - compositions, physical forms, methods of application of specific materials or the use of single compounds or compositions
 - chemosterilants for the sexual sterilisation of invertebrates, e.g. insects (sex sterilants for other purposes [A61K](#)).
2. This subclass does not cover materials which affect the growth of a plant solely by supplying nutrients, i.e. plant food, ordinarily required for growth or materials which are used to prevent or cure mineral deficiencies in plants, e.g. addition of iron chelates to cure iron chlorosis, which materials are covered by class [C05](#).
3. In this subclass, the following expression is used with the meaning indicated:
 - "plant growth regulators" are those materials which alter the plant through a chemical modification of the plant metabolism, such as auxins.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

A01N 43/824	covered by	A01N 43/82
A01N 43/828	covered by	A01N 43/82
A01N 43/832	covered by	A01N 43/82
A01N 43/836	covered by	A01N 43/82
A01N 53/02	covered by	A01N 53/00
A01N 53/04	covered by	A01N 53/00
A01N 53/06	covered by	A01N 53/00
A01N 53/08	covered by	A01N 53/00
A01N 53/10	covered by	A01N 53/00
A01N 53/12	covered by	A01N 53/00
A01N 53/14	covered by	A01N 53/00
A01N 55/10	covered by	A01N 55/00

Preservation of bodies of humans or animals, or plants, or parts thereof

1/00 Preservation of bodies of humans or animals, or parts thereof (preservation of foodstuffs [A23](#); medicinal preparations containing materials from mammals or birds, e.g. blood, sperm, [A61K 35/12](#); cell or tissue culture [C12N 5/00](#))

1/02 . Preservation of living parts

1/0205 . . {Chemical aspects}

1/021 . . . {Preservation or perfusion media, liquids, solids or gases used in the preservation of cells, tissue, organs or bodily fluids}

1/0215 {Disinfecting agents, e.g. antimicrobials for preserving living parts}

1/0221 {Freeze-process protecting agents, i.e. substances protecting cells from effects of the physical process, e.g. cryoprotectants, osmolarity regulators like oncotic agents}

1/0226 {Physiologically active agents, i.e. substances affecting physiological processes of cells and tissue to be preserved, e.g. anti-oxidants or nutrients}

1/0231 . . . {Chemically defined matrices, e.g. alginate gels, for immobilising, holding or storing cells, tissue or organs for preservation purposes; Chemically altering or fixing cells, tissue or organs, e.g. by cross-linking, for preservation purposes}

1/0236 . . {Mechanical aspects}

- 1/0242 . . . {Apparatuses, i.e. devices used in the process of preservation of living parts, such as pumps, refrigeration devices or any other devices featuring moving parts and/or temperature controlling components}
- 1/0247 {for perfusion, i.e. for circulating fluid through organs, blood vessels or other living parts}
- 1/0252 {Temperature controlling refrigerating apparatus, i.e. devices used to actively control the temperature of a designated internal volume, e.g. refrigerators, freeze-drying apparatus or liquid nitrogen baths}
- 1/0257 {Stationary or portable vessels generating cryogenic temperatures}
- 1/0263 . . . {Non-refrigerated containers specially adapted for transporting or storing living parts whilst preserving, e.g. cool boxes, blood bags or "straws" for cryopreservation (containers for collecting, administering, analyzing and storing without specific measures for preservation, e.g. blood bags as such, [A61J 1/10](#))}
- 1/0268 {Carriers for immersion in cryogenic fluid, both for slow-freezing and vitrification, e.g. open or closed "straws" for embryos, oocytes or semen}
- 1/0273 {Transport containers ([A01N 1/0268](#) takes precedence)}
- 1/0278 . . {Physical preservation processes}
- 1/0284 . . . {Temperature processes, i.e. using a designated change in temperature over time}
- 1/0289 . . . {Pressure processes, i.e. using a designated change in pressure over time}
- 1/0294 . . . {Electromagnetic, i.e. using electromagnetic radiation or electromagnetic fields}
- 3/00 Preservation of plants or parts thereof, e.g. inhibiting evaporation, improvement of the appearance of leaves {or protection against physical influences such as UV radiation using chemical compositions; Grafting wax} (preservation of foodstuffs [A23](#); preservation or chemical ripening of fruit or vegetables [A23B 7/00](#)); {(protective coverings [A01G 13/02](#))} Grafting wax**
- 3/02 . Keeping cut flowers fresh chemically ([apparatus therefor A01G 5/06](#))
- 3/04 . Grafting-wax

NOTE

For compositions containing more than one known active ingredients (e.g. synergistic mixtures) the symbol [A01N 2300/00](#) is additionally given to the symbol of the main ingredient.

Biocides; Pest repellants or attractants; Plant growth regulators**NOTES**

- Attention is drawn to the definitions of groups of chemical elements following the title of section [C](#).
- In groups [A01N 27/00](#) - [A01N 65/00](#), in the absence of an indication to the contrary, classification is made in the last appropriate place for an active ingredient.
- Where a compound is described as existing in tautomeric forms, it is classified as if existing in the form which is classified last in the system.

- Compounds covered by different main groups according to alternatively specified parts of their formulae are classified in every one of the relevant main groups.
- Salts formed between two or more organic compounds are classified as the compound providing the essential ion and it is also classified as the compound providing the other ion.
- Salts or metal chelates of an organic compound are classified as that compound.
- In this subclass, a foodstuff is not considered as an active ingredient.
- Different materials applied in sequence, at different times, are considered as a mixture of all materials employed
- Synergistic or potentiated compositions are classified as if the synergist or potentiator were an active ingredient.
- In groups [A01N 25/00](#) - [A01N 65/00](#), the symbol X means nitrogen, oxygen, sulfur or a halogen; Y means nitrogen, oxygen or sulfur. A dotted line between atoms indicates an optional bond, e.g. $\text{---}\text{---}\text{---}$ indicates one or two single bonds or a double bond.
- In groups [A01N 25/00](#) - [A01N 65/00](#), it is required to use Combination Sets for classifying mixtures of (active or formulation-relevant) ingredients.

Symbols relating to additional ingredients of mixtures or specific formulation types are added to the Combination Set of the main ingredient.

The additional ingredient may be a further active ingredient (for example in case of synergistic mixtures) or may relate to a particular special formulation-ingredient (such as a surfactant or safer) or to a special formulation embodiment (like a wettable powder or microcapsule).

25/00 Biocides, pest repellants or attractants, or plant growth regulators, characterised by their forms, or by their non-active ingredients or by their methods of application, {e.g. seed treatment or sequential application;} (apparatus for the destruction of noxious animals or noxious plants [A01M](#); fungicidal, bactericidal, insecticidal, disinfecting or antiseptic paper [D21H](#)); Substances for reducing the noxious effect of the active ingredients to organisms other than pests

- 25/002 . {containing a foodstuff as carrier or diluent, i.e. baits}
- 25/004 . . {rodenticidal}
- 25/006 . . {insecticidal}
- 25/008 . . {molluscicidal}
- 25/02 . containing liquids as carriers, diluents or solvents
- 25/04 . . Dispersions, {emulsions, suspoemulsions, suspension concentrates} or gels (foams [A01N 25/16](#))
- 25/06 . . . Aerosols
- 25/08 . containing solids as carriers or diluents
- 25/10 . . Macromolecular compounds
- 25/12 . Powders or granules ([A01N 25/26](#) takes precedence)
- 25/14 . . wettable
- 25/16 . Foams
- 25/18 . Vapour or smoke emitting compositions with delayed or sustained release (fumigators [A01M 13/00](#))
- 25/20 . Combustible or heat-generating compositions
- 25/22 . containing ingredients stabilising the active ingredients
- 25/24 . containing ingredients to enhance the sticking of the active ingredients

25/26	• in coated particulate form	33/24	• • only one oxygen atom attached to the nitrogen atom
25/28	• • Microcapsules {or nanocapsules}	33/26	• containing nitrogen-to-nitrogen bonds, e.g. azides, diazo-amino compounds, diazonium compounds, hydrazine derivatives
25/30	• characterised by the surfactants		
25/32	• Ingredients for reducing the noxious effect of the active substances to organisms other than pests, e.g. toxicity reducing compositions, self-destructing compositions	35/00	Biocides, pest repellants or attractants, or plant growth regulators containing organic compounds containing a carbon atom having two bonds to hetero atoms with at the most one bond to halogen, e.g. aldehyde radical
25/34	• Shaped forms, e.g. sheets, not provided for in any other sub-group of this main group	35/02	• containing aliphatically bound aldehyde or keto groups, or thio analogues thereof; Derivatives thereof, e.g. acetals
27/00	Biocides, pest repellants or attractants, or plant growth regulators containing hydrocarbons	35/04	• containing aldehyde or keto groups, or thio analogues thereof, directly attached to an aromatic ring system, e.g. acetophenone; Derivatives thereof, e.g. acetals
29/00	Biocides, pest repellants or attractants, or plant growth regulators containing halogenated hydrocarbons	35/06	• containing keto or thioketo groups as part of a ring, e.g. cyclohexanone, quinone; Derivatives thereof, e.g. ketals
29/02	• Acyclic compounds or compounds containing halogen attached to an aliphatic side-chain of a cycloaliphatic ring system	35/08	• at least one of the bonds to hetero atoms is to nitrogen
29/04	• Halogen directly attached to a carbocyclic ring system	35/10	• • containing a carbon-to-nitrogen double bond
29/06	• • Hexachlorocyclohexane	37/00	Biocides, pest repellants or attractants, or plant growth regulators containing organic compounds containing a carbon atom having three bonds to hetero atoms with at the most two bonds to halogen, e.g. carboxylic acids (containing cyclopropane carboxylic acids A01N 53/00)
29/08	• • Halogen directly attached to a polycyclic ring system	37/02	• Saturated carboxylic acids or thio analogues thereof; Derivatives thereof
29/10	• Halogen attached to an aliphatic side chain of an aromatic ring system	37/04	• • polybasic
29/12	• • 1,1-Di- or 1,1,1-trihalo-2-aryl-ethane or -ethene or derivatives thereof, e.g. DDT	37/06	• Unsaturated carboxylic acids or thio analogues thereof; Derivatives thereof
31/00	Biocides, pest repellants or attractants, or plant growth regulators containing organic oxygen or sulfur compounds	37/08	• containing carboxylic groups or thio analogues thereof, directly attached by the carbon atom to a cycloaliphatic ring; Derivatives thereof
31/02	• Acyclic compounds	37/10	• Aromatic or araliphatic carboxylic acids, or thio analogues thereof; Derivatives thereof
31/04	• Oxygen or sulfur attached to an aliphatic side-chain of a carbocyclic ring system	37/12	• containing the group $-\text{CO}-\text{O}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{C}}}\equiv\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{C}}}_{\text{n}}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{Y}}}$, wherein
31/06	• Oxygen or sulfur directly attached to a cycloaliphatic ring system		C_{n} means a carbon skeleton not containing a ring; Thio analogues thereof
31/08	• Oxygen or sulfur directly attached to an aromatic ring system	37/14	• containing the group $-\text{CO}-\text{O}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{C}}}\equiv\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{X}}}$; Thio analogues thereof
31/10	• • Pentachlorophenol	37/16	• containing the group $-\text{CO}-\text{O}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{Y}}}$; Thio analogues thereof
31/12	• • Bis-chlorophenols	37/18	• containing the group $-\text{CO}-\text{N}<$, e.g. carboxylic acid amides or imides; Thio analogues thereof
31/14	• • Ethers	37/20	• • containing the group $-\text{CO}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{N}}}\equiv\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{C}}}\equiv\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{C}}}_{\text{n}}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{Y}}}$, wherein C_{n} means a carbon skeleton not containing a ring; Thio analogues thereof
31/16	• • with two or more oxygen or sulfur atoms directly attached to the same aromatic ring system	37/22	• • the nitrogen atom being directly attached to an aromatic ring system, e.g. anilides
33/00	Biocides, pest repellants or attractants, or plant growth regulators containing organic nitrogen compounds	37/24	• • containing at least one oxygen or sulfur atom being directly attached to the same aromatic ring system
33/02	• Amines; Quaternary ammonium compounds	37/26	• • containing the group $-\text{CO}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{N}}}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{C}}}\equiv\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{X}}}$; Thio analogues thereof
33/04	• • Nitrogen directly attached to aliphatic or cycloaliphatic carbon atoms		
33/06	• • Nitrogen directly attached to an aromatic ring system		
33/08	• • containing oxygen or sulfur		
33/10	• • • having at least one oxygen or sulfur atom directly attached to an aromatic ring system		
33/12	• • Quaternary ammonium compounds		
33/14	• containing nitrogen-to-halogen bonds		
33/16	• containing nitrogen-to-oxygen bonds		
33/18	• • Nitro compounds		
33/20	• • • containing oxygen or sulfur attached to the carbon skeleton containing the nitro group		
33/22	• • • having at least one oxygen or sulfur atom and at least one nitro group directly attached to the same aromatic ring system		

37/28	<ul style="list-style-type: none"> containing the group $\text{—CO—N} \begin{smallmatrix} \vdots \\ \vdots \end{smallmatrix} \text{X} \begin{smallmatrix} \vdots \\ \vdots \end{smallmatrix}$; Thio analogues thereof 	41/08	<ul style="list-style-type: none"> Sulfonic acid halides; alpha-Hydroxy-sulfonic acids; Amino-sulfonic acids; Thiosulfonic acids; Derivatives thereof
37/30	<ul style="list-style-type: none"> containing the groups $\text{—CO—N} <$ and $\text{—C} \begin{smallmatrix} \text{O} \\ \vdots \end{smallmatrix} \text{N} \begin{smallmatrix} \vdots \\ \vdots \end{smallmatrix} \text{X} \begin{smallmatrix} \vdots \\ \vdots \end{smallmatrix}$, both being directly attached by their carbon atoms to the same carbon skeleton, e.g. $\text{H}_2\text{N—NH—CO—C}_6\text{H}_4\text{—COOCH}_3$; Thio-analogues thereof 	41/10	<ul style="list-style-type: none"> Sulfones; Sulfoxides
37/32	<ul style="list-style-type: none"> Cyclic imides of polybasic carboxylic acids or thio analogues thereof 	41/12	<ul style="list-style-type: none"> not containing sulfur-to-oxygen bonds, e.g. polysulfides
37/34	<ul style="list-style-type: none"> Nitriles 	43/00	<p>Biocides, pest repellants or attractants, or plant growth regulators containing heterocyclic compounds (containing cyclic anhydrides, cyclic imides A01N 37/00; containing compounds of the formula $\text{X}_m \text{—C}_n \text{—N} \begin{smallmatrix} \text{C} \\ \vdots \end{smallmatrix} \end{smallmatrix}$ containing only one heterocyclic ring, wherein $m \geq 1$ and $n \geq 0$ and $\text{—N} \begin{smallmatrix} \text{C} \\ \vdots \end{smallmatrix} \end{smallmatrix}$ is unsubstituted or alkylsubstituted</p> <p>pyrrolidine, piperidine, morpholine, thiomorpholine, piperazine or a polymethyleneimine with four or more CH_2 groups, A01N 33/00 - A01N 41/12)</p>
37/36	<ul style="list-style-type: none"> containing at least one carboxylic group or a thio analogue, or a derivative thereof, and a singly bound oxygen or sulfur atom attached to the same carbon skeleton, this oxygen or sulfur atom not being a member of a carboxylic group or of a thio analogue, or of a derivative thereof, e.g. hydroxy-carboxylic acids 		
37/38	<ul style="list-style-type: none"> having at least one oxygen or sulfur atom attached to an aromatic ring system 		
37/40	<ul style="list-style-type: none"> having at least one carboxylic group or a thio analogue, or a derivative thereof, and one oxygen or sulfur atom attached to the same aromatic ring system 		
37/42	<ul style="list-style-type: none"> containing within the same carbon skeleton a carboxylic group or a thio analogue, or a derivative thereof, and a carbon atom having only two bonds to hetero atoms with at the most one bond to halogen, e.g. keto-carboxylic acids 		
37/44	<ul style="list-style-type: none"> containing at least one carboxylic group or a thio analogue, or a derivative thereof, and a nitrogen atom attached to the same carbon skeleton by a single or double bond, this nitrogen atom not being a member of a derivative or of a thio analogue of a carboxylic group, e.g. amino-carboxylic acids 		
37/46	<ul style="list-style-type: none"> N-acyl derivatives 		
37/48	<ul style="list-style-type: none"> Nitro-carboxylic acids; Derivatives thereof 		
37/50	<ul style="list-style-type: none"> the nitrogen atom being doubly bound to the carbon skeleton 		
37/52	<ul style="list-style-type: none"> containing $\text{X—C} \begin{smallmatrix} \vdots \\ \vdots \end{smallmatrix} \text{=N—}$ groups, e.g. carboxylic acid amidines 		
39/00	<p>Biocides, pest repellants or attractants, or plant growth regulators containing aryloxy- or arylthio-aliphatic or cycloaliphatic compounds, containing the group $\text{Ar—O—C}_n \text{—Y}$ or $\text{Ar—S—C}_n \text{—Y}$, e.g. phenoxyethylamine, phenylthio-acetonitrile, phenoxyacetone</p> <p>NOTE</p> <p>In this group, the symbol C_n means a carbon skeleton, not containing an aromatic ring system wherein $n \geq 2$</p>		
39/02	<ul style="list-style-type: none"> Aryloxy-carboxylic acids; Derivatives thereof 	43/02	<ul style="list-style-type: none"> having rings with one or more oxygen or sulfur atoms as the only ring hetero atoms
39/04	<ul style="list-style-type: none"> Aryloxy-acetic acids; Derivatives thereof 	43/04	<ul style="list-style-type: none"> with one hetero atom
41/00	<p>Biocides, pest repellants or attractants, or plant growth regulators containing organic compounds containing a sulfur atom bound to a hetero atom</p>		
41/02	<ul style="list-style-type: none"> containing a sulfur-to-oxygen double bond 	43/06	<ul style="list-style-type: none"> five-membered rings
41/04	<ul style="list-style-type: none"> Sulfonic acids; Derivatives thereof 	43/08	<ul style="list-style-type: none"> with oxygen as the ring hetero atom
41/06	<ul style="list-style-type: none"> Sulfonic acid amides 	43/10	<ul style="list-style-type: none"> with sulfur as the ring hetero atom
		43/12	<ul style="list-style-type: none"> condensed with a carbocyclic ring
		43/14	<ul style="list-style-type: none"> six-membered rings
		43/16	<ul style="list-style-type: none"> with oxygen as the ring hetero atom
		43/18	<ul style="list-style-type: none"> with sulfur as the ring hetero atom
		43/20	<ul style="list-style-type: none"> three- or four-membered rings
		43/22	<ul style="list-style-type: none"> rings with more than six members
		43/24	<ul style="list-style-type: none"> with two or more hetero atoms
		43/26	<ul style="list-style-type: none"> five-membered rings
		43/28	<ul style="list-style-type: none"> with two hetero atoms in positions 1,3
		43/30	<ul style="list-style-type: none"> with two oxygen atoms in positions 1,3, condensed with a carbocyclic ring
		43/32	<ul style="list-style-type: none"> six-membered rings

43/34	• having rings with one nitrogen atom as the only ring hetero atom	45/00	Biocides, pest repellants or attractants, or plant growth regulators, containing compounds having three or more carbocyclic rings condensed among themselves, at least one ring not being a six-membered ring (halogenated hydrocarbons A01N 29/08 ; condensed with heterocyclic rings A01N 43/00)
43/36	• • five-membered rings		
43/38	• • • condensed with carbocyclic rings		
43/40	• • six-membered rings		
43/42	• • • condensed with carbocyclic rings		
43/44	• • three- or four-membered rings	45/02	• having three carbocyclic rings
43/46	• • rings with more than six members		
43/48	• having rings with two nitrogen atoms as the only ring hetero atoms	47/00	Biocides, pest repellants or attractants, or plant growth regulators containing organic compounds containing a carbon atom not being member of a ring and having no bond to a carbon or hydrogen atom, e.g. derivatives of carbonic acid (carbon tetrahalides A01N 29/02)
43/50	• • 1,3-Diazoles; Hydrogenated 1,3-diazoles		
43/52	• • • condensed with carbocyclic rings, e.g. benzimidazoles		
43/54	• • 1,3-Diazines; Hydrogenated 1,3-diazines	47/02	• the carbon atom having no bond to a nitrogen atom
43/56	• • 1,2-Diazoles; Hydrogenated 1,2-diazoles	47/04	• • containing $>\text{N}-\text{S}-\text{C}\equiv(\text{Hal})_3$ groups
43/58	• • 1,2-Diazines; Hydrogenated 1,2-diazines	47/06	• • containing $-\text{O}-\text{CO}-\text{O}-$ groups; Thio analogues thereof
43/60	• • 1,4-Diazines; Hydrogenated 1,4-diazines	47/08	• the carbon atom having one or more single bonds to nitrogen atoms
43/62	• • three- or four-membered rings or rings with more than six members	47/10	• • Carbamic acid derivatives, i.e. containing the group $-\text{O}-\text{CO}-\text{N}<$; Thio analogues thereof
43/64	• having rings with three nitrogen atoms as the only ring hetero atoms	47/12	• • • containing a $-\text{O}-\text{CO}-\text{N}<$ group, or a thio analogue thereof, neither directly attached to a ring nor the nitrogen atom being a member of a heterocyclic ring
43/647	• • Triazoles; Hydrogenated triazoles	47/14	• • • • Di-thio analogues thereof
43/653	• • • 1,2,4-Triazoles; Hydrogenated 1,2,4-triazoles	47/16	• • • the nitrogen atom being part of a heterocyclic ring
43/66	• • 1,3,5-Triazines, not hydrogenated and not substituted at the ring nitrogen atoms	47/18	• • • containing a $-\text{O}-\text{CO}-\text{N}<$ group, or a thio analogue thereof, directly attached to a heterocyclic or cycloaliphatic ring
43/68	• • • with two or three nitrogen atoms directly attached to ring carbon atoms	47/20	• • • N-Aryl derivatives thereof
43/70	• • • • Diamino-1,3,5-triazines with only one oxygen, sulfur or halogen atom or only one cyano, thiocyno ($-\text{SCN}$), cyanato ($-\text{OCN}$) or azido ($-\text{N}_3$) group directly attached to a ring carbon atom	47/22	• • • O-Aryl or S-Aryl esters thereof
43/707	• • 1,2,3- or 1,2,4-triazines; Hydrogenated 1,2,3- or 1,2,4-triazines	47/24	• • • containing the groups $\begin{array}{c} \text{X} \\ \vdots \\ \text{X}-\text{O}-\text{CO}-\text{N} < \end{array}$, $\begin{array}{c} \text{X} \\ \vdots \\ -\text{O}-\text{CO}-\text{N}-\text{X} \end{array}$ or $\begin{array}{c} \text{X} \\ \vdots \\ \text{X}-\text{S}-\text{CO}-\text{N} < \end{array}$; Thio analogues thereof
43/713	• having rings with four or more nitrogen atoms as the only ring hetero atoms		
43/72	• having rings with nitrogen atoms and oxygen or sulfur atoms as ring hetero atoms	47/26	• • • Oxidation products of dithiocarbamic acid derivatives, e.g. thiuram sulfides
43/74	• • five-membered rings with one nitrogen atom and either one oxygen atom or one sulfur atom in positions 1,3	47/28	• • Ureas or thioureas containing the groups $>\text{N}-\text{CO}-\text{N}<$ or $>\text{N}-\text{CS}-\text{N}<$ (isoureas, isothioureas A01N 47/42)
43/76	• • • 1,3-Oxazoles; Hydrogenated 1,3-oxazoles		
43/78	• • • 1,3-Thiazoles; Hydrogenated 1,3-thiazoles	47/30	• • • Derivatives containing the group $>\text{N}-\text{CO}-\text{N}$ aryl or $>\text{N}-\text{CS}-\text{N}$ -aryl
43/80	• • five-membered rings with one nitrogen atom and either one oxygen atom or one sulfur atom in positions 1,2	47/32	• • • containing $>\text{N}-\text{CO}-\text{N}<$ or $>\text{N}-\text{CS}-\text{N}<$ groups directly attached to a cycloaliphatic ring
43/82	• • five-membered rings with three ring hetero atoms	47/34	• • • containing the groups $\begin{array}{c} \text{N} \\ \\ >\text{N}-\text{CO}-\text{N}-\text{CO}- \end{array}$, $\begin{array}{c} \text{N} \\ \\ >\text{N}-\text{CO}-\text{N}-\text{C}-\text{O}- \end{array}$, $\begin{array}{c} \text{N} \\ \\ >\text{N}-\text{CO}-\text{N}=\text{S} \end{array}$, $\begin{array}{c} \text{N} \\ \\ >\text{N}-\text{CO}-\text{N}=\text{N}- \end{array}$ or $\begin{array}{c} \text{N} \\ \\ >\text{N}-\text{CO}-\text{N}-\text{C}-\text{N} < \end{array}$ biuret; Thio analogues thereof; Urea-aldehyde condensation products
43/84	• • six-membered rings with one nitrogen atom and either one oxygen atom or one sulfur atom in positions 1,4		
43/86	• • six-membered rings with one nitrogen atom and either one oxygen atom or one sulfur atom in positions 1,3	47/36	• • • containing the group $>\text{N}-\text{CO}-\text{N}<$ directly attached to at least one heterocyclic ring; Thio analogues thereof
43/88	• • six-membered rings with three ring hetero atoms	47/38	• • • containing the group $>\text{N}-\text{CO}-\text{N}<$ where at least one nitrogen atom is part of a heterocyclic ring; Thio analogues thereof
43/90	• having two or more relevant hetero rings, condensed among themselves or with a common carbocyclic ring system		
43/92	• having rings with one or more halogen atoms as ring hetero atoms		

- 47/40 . the carbon atom having a double or triple bond to nitrogen, e.g. cyanates, cyanamides ([inorganic cyanamides A01N 59/24](#))
- 47/42 . . containing —N=CX_2 groups, e.g. isothiourea
- 47/44 . . . Guanidine; Derivatives thereof
- 47/46 . . containing —N=C=S groups
- 47/48 . . containing $\text{—S—C}\equiv\text{N}$ groups ([A01N 43/00 - A01N 47/38 take precedence](#))
- 49/00 Biocides, pest repellants or attractants, or plant growth regulators, containing compounds containing the group**
- $$\begin{array}{c} \text{C} \\ | \\ \text{[C}_n\text{]}=\text{C}^*-\text{C}^*-\text{C}^*=\text{C}^*-\text{[C}_m\text{]} \\ | \quad | \\ \text{X} \quad \text{X} \end{array},$$
- wherein $m+n \geq 1$, both X together may also mean —Y— or a direct carbon-to-carbon bond, and the carbon atoms marked with an asterisk are not part of any ring system other than that which may be formed by the atoms X, the carbon atoms in square brackets being part of any acyclic or cyclic structure, or the group
- $$\begin{array}{c} \text{A} \quad \quad \quad \text{C} \\ | \quad \quad \quad | \\ \text{—C—C—C—[C}_n\text{]—C—C—C—} \\ | \quad | \quad | \quad | \quad | \quad | \\ \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \quad \cdot \end{array},$$
- wherein A means a carbon atom or Y, $n \geq 0$, and not more than one of these carbon atoms being a member of the same ring system, e.g. juvenile insect hormones or mimics thereof ([containing hydrocarbons A01N 27/00](#))
- NOTE**
- Group [A01N 49/00](#) is intended to cover insect hormones
- 51/00 Biocides, pest repellants or attractants, or plant growth regulators containing organic compounds having the sequences of atoms O—N—S , X—O—S , N—N—S , O—N—N or O-halogen, regardless of the number of bonds each atom has and with no atom of these sequences forming part of a heterocyclic ring**
- 53/00 Biocides, pest repellants or attractants, or plant growth regulators containing cyclopropane carboxylic acids or derivatives thereof**
- 55/00 Biocides, pest repellants or attractants, or plant growth regulators, containing organic compounds containing elements other than carbon, hydrogen, halogen, oxygen, nitrogen and sulfur ([containing organo-phosphorus compounds A01N 57/00](#))**
- 55/02 . containing metal atoms
- 55/04 . . Tin
- 55/06 . . Mercury
- 55/08 . containing boron
- 57/00 Biocides, pest repellants or attractants, or plant growth regulators containing organic phosphorus compounds**
- 57/02 . having alternatively specified atoms bound to the phosphorus atom and not covered by a single one of groups [A01N 57/10](#), [A01N 57/18](#), [A01N 57/26](#), [A01N 57/34](#)
- 57/04 . . containing acyclic or cycloaliphatic radicals
- 57/06 . . containing aromatic radicals
- 57/08 . . containing heterocyclic radicals
- 57/10 . having phosphorus-to-oxygen bonds or phosphorus-to-sulfur bonds ([A01N 57/02 takes precedence](#))
- 57/12 . . containing acyclic or cycloaliphatic radicals
- 57/14 . . containing aromatic radicals
- 57/16 . . containing heterocyclic radicals
- 57/18 . having phosphorus-to-carbon bonds ([A01N 57/02 takes precedence](#))
- 57/20 . . containing acyclic or cycloaliphatic radicals
- 57/22 . . containing aromatic radicals
- 57/24 . . containing heterocyclic radicals
- 57/26 . having phosphorus-to-nitrogen bonds ([A01N 57/02 takes precedence](#))
- 57/28 . . containing acyclic or cycloaliphatic radicals
- 57/30 . . containing aromatic radicals
- 57/32 . . containing heterocyclic radicals
- 57/34 . having phosphorus-to-halogen bonds; Phosphonium salts
- 57/36 . having phosphorus as a ring member
- 59/00 Biocides, pest repellants or attractants, or plant growth regulators containing elements or inorganic compounds**
- 59/02 . Sulfur; Selenium; Tellurium; Compounds thereof
- 59/04 . Carbon disulfide; Carbon monoxide; Carbon dioxide ([treatment of plants with carbon dioxide A01G 7/02](#))
- 59/06 . Aluminium; Calcium; Magnesium; Compounds thereof
- 59/08 . Alkali metal chlorides; Alkaline earth metal chlorides
- 59/10 . Fluorides
- 59/12 . Iodine, e.g. iodophors; Compounds thereof
- 59/14 . Boron; Compounds thereof
- 59/16 . Heavy metals; Compounds thereof
- 59/18 . . Mercury
- 59/20 . . Copper
- 59/22 . . Arsenic
- 59/24 . Cyanogen or compounds thereof, e.g. hydrogen cyanide, cyanic acid, cyanamide, thiocyanic acid
- 59/26 . Phosphorus; Compounds thereof
- 61/00 Biocides, pest repellants or attractants, or plant growth regulators containing substances of unknown or undetermined composition, e.g. substances characterised only by the mode of action**
- 61/02 . Mineral oils; Tar oils; Tar; Distillates, extracts or conversion products thereof ([containing single chemical compounds isolated from these materials A01N 27/00 - A01N 59/00](#))
- 63/00 Biocides, pest repellants or attractants, or plant growth regulators containing microorganisms, viruses, microbial fungi, enzymes, fermentates or substances produced by, or extracted from, microorganisms or animal material ([containing compounds of determined constitution A01N 27/00 - A01N 59/00](#))**
- 63/02 . Fermentates or substances produced by, or extracted from, microorganisms or animal material
- 63/04 . Microbial fungi or extracts thereof

65/00 Biocides, pest repellants or attractants, or plant growth regulators containing material from algae, lichens, bryophyta, multi-cellular fungi or plants, or extracts thereof (containing compounds of determined constitution A01N 27/00 - A01N 59/00)

WARNING

Groups [A01N 65/03](#) - [A01N 65/48](#), with the exception of [A01N 65/385](#), are incomplete. See also group [A01N 65/00](#).

2300/00 Combinations or mixtures of active ingredients covered by classes [A01N 27/00](#) - [A01N 65/48](#) with other active or formulation relevant ingredients, e.g. specific carrier materials or surfactants, covered by classes [A01N 25/00](#) - [A01N 65/48](#)

- 65/03 . Algae
- 65/04 . Pteridophyta [fern allies]; Filicophyta [ferns]
- 65/06 . Coniferophyta [gymnosperms], e.g. cypress
- 65/08 . Magnoliopsida [dicotyledons]
- 65/10 . . Apiaceae or Umbelliferae [Carrot family], e.g. parsley, caraway, dill, lovage, fennel or snakebed
- 65/12 . . Asteraceae or Compositae [Aster or Sunflower family], e.g. daisy, pyrethrum, artichoke, lettuce, sunflower, wormwood or tarragon
- 65/14 . . Celastraceae [Staff-tree or Bittersweet family], e.g. spindle tree, bittersweet or thunder god vine
- 65/16 . . Ericaceae [Heath or Blueberry family], e.g. rhododendron, arbutus, pieris, cranberry or bilberry
- 65/18 . . Euphorbiaceae [Spurge family], e.g. ricinus [castorbean]
- 65/20 . . Fabaceae or Leguminosae [Pea or Legume family], e.g. pea, lentil, soybean, clover, acacia, honey locust, derris or millettia
- 65/22 . . Lamiaceae or Labiatae [Mint family], e.g. thyme, rosemary, skullcap, selfheal, lavender, perilla, pennyroyal, peppermint or spearmint
- 65/24 . . Lauraceae [Laurel family], e.g. laurel, avocado, sassafras, cinnamon or camphor
- 65/26 . . Meliaceae [Chinaberry or Mahogany family], e.g. mahogany, langsat or neem
- 65/28 . . Myrtaceae [Myrtle family], e.g. teatree or clove
- 65/30 . . Polygonaceae [Buckwheat family], e.g. red-knees or rhubarb
- 65/32 . . Ranunculaceae [Buttercup family], e.g. hepatica, hydrastis or goldenseal
- 65/34 . . Rosaceae [Rose family], e.g. strawberry, hawthorn, plum, cherry, peach, apricot or almond
- 65/36 . . Rutaceae [Rue family], e.g. lime, orange, lemon, corktree or pricklyash
- 65/38 . . Solanaceae [Potato family], e.g. nightshade, tomato, tobacco or chilli pepper
- 65/385 . . . {Tobacco}
- 65/40 . Liliopsida [monocotyledons]
- 65/42 . . Aloeaceae [Aloe family] or Liliaceae [Lily family], e.g. aloe, veratrum, onion, garlic or chives
- 65/44 . . Poaceae or Gramineae [Grass family], e.g. bamboo, lemon grass or citronella grass
- 65/46 . . Stemonaceae [Stemona family], e.g. croomia
- 65/48 . . Zingiberaceae [Ginger family], e.g. ginger or galangal