

## 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](#))**

### Definition statement

*This place covers:*

Compositions, physical forms thereof, and the application or method of use of specific materials, compositions, or single compounds for the following purposes:

- preserving or preventing the decay of dead human or animal bodies or parts thereof;
- preserving living parts of human or animal bodies;
- preserving or maintaining the freshness of plants or plant parts;
- reducing the noxious effect of active ingredients on organisms other than unwanted organisms;
- killing or preventing the growth or proliferation of unwanted organisms (e.g. insects, weeds, microorganisms);
- repelling (i.e. resisting, warding off) or luring pests;
- affecting plant growth through a chemical modification of the metabolism of plants using plant growth regulators, such as auxins.

Compositions used to protect the wound and scions of newly grafted plants or to cover the wounds on pruned plants (i.e. grafting wax).

Chemical agents used for the sexual sterilization of invertebrates (e.g. insects).

### Relationships with other classification places

Subclass [A01N](#) may overlap with many other subclasses relating to the use of biocides. In general, classification in [A01N](#) is given to documents which are relevant for biocidal compositions or methods which are used on non-living subjects or on plants or on humans or animals when the desired effect is not mainly pharmaceutical or cosmetic. For example, compositions for protecting pets against insect pests are classified in [A01N](#), whereas anthelmintic compositions are classified in [A61K](#).

Insect repellent compositions or anti-lice shampoos are classified in [A01N](#), whereas compositions where such an effect is only optional are classified in [A61K](#).

Further, documents, in which the disinfectant or biocidal effect depends on the application of a particular method or apparatus, are classified in the relevant classes such as [A61L](#) (disinfectant methods) or [B27K](#) (wood impregnation). Only when a document relates to technical features that are essentially chemical (and biocidal) in nature it should be classified in [A01N](#).

Documents disclosing chemical substances and/or the preparation thereof only are classified in [A01N](#) in cases where the biocidal or pesticidal effect is an essential part of the disclosure, for example when it is demonstrated in an example.

While substances that chemically modify a plant's metabolism are classified in [A01N](#), compositions that affect the growth of a plant solely by supplying nutrients ordinarily required for growth, e.g. fertiliser, plant food, are classified in [C05](#). Materials used to prevent or cure mineral deficiencies in plants, such as iron chelates used to cure iron chlorosis, are also classified in [C05](#).

When biocides, pest repellents, pest attractants or plant growth regulators are compounds or contain compounds which are determined to be invention information, the compounds must also be classified in [C01](#), [C07](#), [C08](#) or [C12N](#). When these compounds are considered to be of interest for search purposes, they may also be classified in [C01](#), [C07](#), [C08](#) or [C12N](#).

## References

### Limiting references

*This place does not cover:*

|   |  |
|---|--|
| Preservation of food or foodstuff, e.g. pasteurizing, sterilizing   | <a href="#">A23B</a> , <a href="#">A23K 30/00</a> ,<br><a href="#">A23L 3/00</a> |
| Preservation or chemical ripening of harvested fruits or vegetables   | <a href="#">A23B 7/00</a>  |
| Compositions for medical, dental or toilet purposes which kill or prevent the growth or proliferation of unwanted organisms | <a href="#">A61K</a>   |
| Sex sterilants for animals other than invertebrates   | <a href="#">A61K</a>   |
| Fungicidal, bactericidal, insecticidal, disinfecting or antiseptic paper  | <a href="#">D21H</a>   |

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

|   |  |
|---|--|
| Apparatus, or methods of use thereof, for testing or treating seed, roots or the like; coating or dressing of seed        | <a href="#">A01C</a>                                   |
| Plant grafting  | <a href="#">A01G 2/30</a>                              |
| Devices for preserving flowers  | <a href="#">A01G 5/06</a>                              |
| Electric or magnetic treatment of plants for promoting growth   | <a href="#">A01G 7/04</a>                              |
| Sterilizing soil by steam   | <a href="#">A01G 11/00</a>                             |
| Protecting plants (e.g. protective covers; devices for generating heat, smoke or fog; devices protecting against animals) | <a href="#">A01G 13/00</a>                             |
| Means for catching or killing insects   | <a href="#">A01M 1/00</a> , <a href="#">A01M 5/00</a>  |
| Apparatus for destroying vermin in soil or food stuffs  | <a href="#">A01M 17/00</a>                             |
| Apparatus for the destruction of vegetation   | <a href="#">A01M 21/00</a>                             |
| Scaring devices e.g. bird-scaring apparatus   | <a href="#">A01M 29/00</a>                             |
| Hunting decoys  | <a href="#">A01M 31/06</a>                             |
| Methods or apparatus for disinfection or sterilization of materials not characterized by the agent employed               | <a href="#">A61L 2/00</a> , <a href="#">A61L 12/00</a> |
| Impregnating wood   | <a href="#">B27K</a>                                   |
| Treatment of water, waste water or sewage   | <a href="#">C02F 1/00</a>                              |
| Mixtures of fertilizers with pesticides   | <a href="#">C05G</a>                                   |
| Coating compositions  | <a href="#">C09D</a>                                   |
| Paints containing biocides, e.g. fungicides, insecticides, pesticides   | <a href="#">C09D 5/14</a>                              |
| Anti-fouling paints and underwater paints   | <a href="#">C09D 5/16</a>                              |
| Soil-conditioning materials or soil-stabilizing materials   | <a href="#">C09K 17/00</a>                             |
| Detergent compositions based essentially on surface-active compounds; use of these compounds as detergent                 | <a href="#">C11D</a>                                   |
| Microorganisms, e.g. protozoa, fungi, bacteria; compositions thereof  | <a href="#">C12N 1/00</a>                              |

|  |  |
|--|--|
| Undifferentiated human, animal or plant cells or tissues and their cultivation and maintenance   | <a href="#">C12N 5/00</a>                                  |
| Enzymes; proenzymes; compositions thereof  | <a href="#">C12N 9/00</a>                                  |
| Recombinant DNA-technology   | <a href="#">C12N 15/00</a>                                 |
| Treating fibers, yarns, fabrics or fibrous goods made from such materials                        | <a href="#">D06M 11/00</a> -<br><a href="#">D06M 13/00</a> |
| Biocidal agents (e.g. fungicidal, bactericidal, or insecticidal agents) which are in or on paper | <a href="#">D21H 21/36</a>                                 |

### Special rules of classification

In groups [A01N 27/00](#) - [A01N 65/00](#) classification is made in the last appropriate place for an active ingredient, unless otherwise indicated ('Last place rule').

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 all of the relevant main groups. (However, for practical reasons, for example to avoid too many classification symbols, only preferred or exemplified embodiments may be classified instead of every possible entity within the scope of a formula).

Generally, compounds are classified according to their chemical structure. However, in case the active ingredient is known to be a particular metabolite or derivative of the parent compound, the class for the actually active species should be given or at least also be given (see also the remarks under groups [A01N 27/00](#), [A01N 35/02](#) or [A01N 59/00](#)).

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.

(However, in case the metal ion is the active species, this should be classified as well, for example as combination-sets (see below)).

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 is an active ingredient.

With respect to the classification of mixtures of active or formulation ingredients: see combination-sets below.

For this subclass the definitions of groups of chemical elements as given under the title of section [C](#) is used.

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 by itself indicates an optional bond, an underscored dotted line



) indicates a single or double bond.

Classification of complementary information:

For compositions containing one or more active ingredients in combination or with formulation relevant ingredients (such as surfactants), for example particular formulations such as emulsions or mixtures of active ingredients, the symbol [A01N 2300/00](#) is added to the classification symbol (e.g. [A01N 57/20](#), [A01N 2300/00](#) for compositions comprising glyphosate as main ingredient and a second active or a particular surfactant as second or further ingredient. The second ingredient is then added to the combination-set, in this case [A01N 25/30](#) (in case the surfactant is essential) or the particular group of the second active ingredient).

#### Combination-sets

In groups [A01N 25/00](#) - [A01N 65/00](#), it is required to use combination-sets for classifying mixtures of (active or formulation-relevant) ingredients.

In this system classes of 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 safener (which in this case also considered a formulation-ingredient: see also the remarks under class [A01N 25/32](#)) or to a special formulation embodiment (like a wettable powder or microcapsule).

For example: a document disclosing a mixture of active ingredient A with further active ingredients B, C or D obtains as main classification for active ingredient A with the additional classifications for B, C and D in the combination-set. In case a document discloses as essential feature a particular formulation of compound A, a [A01N 25/00](#) classification is added to the combination-set (in these cases the main classification for A receives the additional symbol [A01N 2300/00](#)).

NB: Groups [A01N 25/00](#) - [A01N 25/34](#) do not obtain a [A01N 2300/00](#)-class, but these groups may be added to the combination-set of active ingredients.

Alternatively, in case a document discloses a particular formulation type which may be used for various active ingredients, the main classification is the relevant [A01N 25/00](#) group (without [A01N 2300/00](#)) with as additional combination-set the classifications for the active ingredients for which the disclosed formulation is envisaged.

In order to avoid an infinite number of additional classifications, only the most preferred second ingredients or exemplified embodiments should be classified in cases where a document discloses a multitude of active ingredients.

A special case occurs when mixtures of more than two active ingredients are disclosed: then the combination-set is given in a cascading way: for example: a document discloses a

composition comprising 3 active ingredients (A with classification [A01N](#) aa/bb, B with classification [A01N](#) bb/cc and C with classification [A01N](#) cc/dd and 1 specific surfactant. The following classifications are then given:

1. [A01N 25/30](#), with [A01N](#) aa/bb, [A01N](#) bb/cc and [A01N](#) cc/dd in the combination-set;
2. [A01N](#) aa/bb, [A01N 2300/00](#) with [A01N](#) bb/cc and [A01N](#) cc/dd in the combination-set;
3. [A01N](#) bb/cc, [A01N 2300/00](#) with [A01N](#) cc/dd in the combination-set.

An example with real groups could be the following.

A document disclosing a mixture of microencapsulated neonicotinoid insecticides (imidacloprid or aectamiprid) with (non-encapsulated) pyrethroids (the latter preferably containing the synergist PBO) obtains the following classifications:

[A01N 51/00](#), [A01N 2300/00](#) with [A01N 25/28](#), [A01N 53/00](#) and [A01N 43/30](#) in the combination-set; and

[A01N 47/40](#), [A01N 2300/00](#) with [A01N 25/28](#), [A01N 53/00](#) and [A01N 43/30](#) in the combination-set as well as [A01N 53/00](#), [A01N 2300/00](#) with [A01N 43/30](#).

## Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

|                        |   |
|------------------------|---|
| Acaricide              | Any substance or mixture of substances intended for preventing or destroying mites and ticks or making them less harmful.   |
| Alkali metal           | One of the following elements: Li, Na, K, Rb, Cs, Fr.   |
| Alkaline earth metal   | One of the following elements: Ca, Sr, Ba, Ra.  |
| Arthropodicide         | Any substance or mixture of substances intended for preventing or destroying arthropods, e.g. insects, arachnids, crustaceans or making them less harmful.  |
| Biocide                | Any substance or mixture of substances intended for preventing, destroying, or mitigating any living organism (e.g., plant, animal). Examples of a biocide are: acaricide, arthropodicide, fungicide, insecticide, molluscicide, rodenticide (see Synonyms and Keywords). |
| Disinfectant           | Any substance or mixture of substances intended for preventing, destroying, or mitigating microorganisms.   |
| Fungicide              | Any substance or mixture of substances intended for preventing or destroying moulds and fungi or making them less harmful.  |
| Halogen                | One of the following elements: F, Cl, Br, I, At.  |
| Heavy metal            | A metal other than light metal.   |
| Herbicide              | Any substance or mixture of substances intended for preventing or destroying plant life or making it less harmful.  |
| Insecticide            | Any substance or mixture of substances intended for preventing or destroying insects or making them less harmful.   |
| Light metal            | One of the following elements: alkali metal, alkaline earth metal, Be, Al, Mg.  |
| Metal                  | An element other than non-metal.  |
| Molluscicide           | Any substance or mixture of substances intended for preventing or destroying molluscs, e.g. snails, clams or making them less harmful.  |
| Non-metal              | One of the following elements: H, B, C, Si, N, P, O, S, Se, Te, noble gas, halogen.   |
| Pesticide              | Any substance or mixture of substances intended for preventing or destroying any pest (e.g., insects, rodents) or making it less harmful.   |
| Plant                  | A young tree, shrub, vegetable, or flower newly planted, or intended for planting   |
| Plant growth regulator | Materials which alter the plant or may affect plant growth through a chemical modification of the plant metabolism, such as auxins.   |
| Rodenticide            | Any substance or mixture of substances intended for preventing or destroying rodents, e.g. rats, mice or making them less harmful.  |

**A01N 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](#))**

**Definition statement**

*This place covers:*

Compositions and methods intended for use in the preservation of dead bodies of humans or animals, for example to prevent them from further decay, or for use in taxidermy.

**A01N 1/02**

**Preservation of living parts**

**Definition statement**

*This place covers:*

This group only applies to compositions/methods for the preservation (including cryopreservation) of living body parts (organs, tissues, cells) that are applied on explanted body parts on explanted body parts. in order to maintain their viability.

**A01N 1/0215**

**{Disinfecting agents, e.g. antimicrobials for preserving living parts}**

**Definition statement**

*This place covers:*

Compositions/methods in which disinfection agents are used for preservation purposes, for example to increase the storage stability of (e.g.) organs, blood samples or tissues by inhibiting bacterial growth

**A01N 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}**

**Definition statement**

*This place covers:*

This group includes formulations like gels, solid fibrous matrices but also ice-seeding particles.

**A01N 1/0236**

**{Mechanical aspects}**

**Definition statement**

*This place covers:*

Group designed for any mechanical inventions which are not covered by one of the groups defining containers, perfusion apparatus or refrigeration apparatus, e.g. access control for preserved samples.

## A01N 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](#))}**

### Definition statement

*This place covers:*

Non-refrigerated in this case means no mechanical apparatus that alters temperature. Using ice, liquid or nitrogen to passively keep the tissue cool does not count as "active" refrigeration in this case.

## A01N 1/0273

**{Transport containers ([A01N 1/0268](#) takes precedence)}**

### Definition statement

*This place covers:*

Containers for storing blood [A61J 1/05](#).

Only documents specifically stating that the container is used for transport are classified in this section. Containers which remain stationary most of the time but can be moved (picked up and moved to another fridge for instance) should be classified in [A01N 1/0263](#) or [A01N 1/0268](#).

## A01N 1/0294

**{Electromagnetic, i.e. using electromagnetic radiation or electromagnetic fields}**

### Definition statement

*This place covers:*

This group includes the use of any electro-magnetic phenomenon, in the broadest possible sense. This includes electro-magnetic fields but also all forms of radiation, be it UV, IR, microwaves, radiowaves or alpha, beta or gamma waves.

## A01N 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**

### Relationships with other classification places

Apparatus for treating/dressing seeds or methods of use thereof [A01C 1/06](#).

### Special rules of classification

[A01N 25/00](#) subgroups do not obtain a [A01N 2300/00](#) code.

**A01N 25/02****containing liquids as carriers, diluents or solvents****Definition statement***This place covers:*

Compositions in which the solvent system is the distinguishing feature. Decisive is the actually disclosed form: solutions which are intended to be emulsified or dispersed such as emulsifiable or dispersible concentrates usually obtain the classification [A01N 25/02](#) whereas the final diluted products obtain classification [A01N 25/04](#).

**A01N 25/04****Dispersions, {emulsions, suspoemulsions, suspension concentrates} or gels (foams [A01N 25/16](#))****Definition statement***This place covers:*

This group also covers nanoemulsions or nanodispersions.

In accordance with the Specification Guidelines for Liquid Formulated Pesticides of the FAO (cf. <http://www.fao.org/docrep/007/y4353e/y4353e0b.htm>), emulsifiable or dispersible concentrates are considered solutions whereas suspension concentrates, flowable concentrates, capsule suspensions and oil-based suspension concentrates are suspensions.

**A01N 25/12****Powders or granules ([A01N 25/26](#) takes precedence)****Definition statement***This place covers:*

Also co-crystals or polymorphs.

**A01N 25/14****wettable****Definition statement***This place covers:*

Wettable powders, i.e. exclusively suspendable or dispersible powders or granulates. (Water) soluble powders: [A01N 25/12](#).

**A01N 25/18****Vapour or smoke emitting compositions with delayed or sustained release (fumigators [A01M 13/00](#))****Definition statement***This place covers:*

Compositions/methods relating to sustained/delayed release of compounds in the vapor phase and not to a release in the liquid phase. In case of doubt this classification may be given.



## **A01N 25/22**

**containing ingredients stabilising the active ingredients**

### **Definition statement**

*This place covers:*

Ingredients which chemically stabilise the active ingredient(s). Physical stabilisation such as crystallisation inhibition does not obtain this classification.

## **A01N 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**

### **Definition statement**

*This place covers:*

Only given as main (first) classification in cases where a compound is used for the first time as safener. When a known safener is used for the first time with a particular active ingredient, [A01N 25/32](#) is given as combination-set.

## **A01N 25/34**

**Shaped forms, e.g. sheets, not provided for in any other sub-group of this main group**

### **Definition statement**

*This place covers:*

Tablet formulations and to formulations directed at nanosized particulate matter having a particular form such as nanofibers.

## **A01N 27/00**

**Biocides, pest repellants or attractants, or plant growth regulators containing hydrocarbons**

### **Special rules of classification**

This class is also given to ethylene generators (e.g. ethephon).

## **A01N 31/00**

**Biocides, pest repellants or attractants, or plant growth regulators containing organic oxygen or sulfur compounds**

### **Definition statement**

*This place covers:*

Active ingredients containing oxygen or sulfur atoms attached to a carbon atom by a single bond only, for example aliphatic or aromatic alcohols or ethers.

## A01N 33/00

**Biocides, pest repellants or attractants, or plant growth regulators containing organic nitrogen compounds**

### Definition statement

*This place covers:*

Active ingredients containing nitrogen atoms attached to a carbon atom by a single bond, for example amines or quaternary ammonium compounds.

## A01N 35/02

**containing aliphatically bound aldehyde or keto groups, or thio analogues thereof; Derivatives thereof, e.g. acetals**

### Definition statement

*This place covers:*

This group also covers biocides whose antimicrobial action derives from aldehydes generated by these compounds (e.g. formaldehyde releasers like imidazolinyurea or hydantoins). Such compounds are also classified in the corresponding subgroup for the aldehyde generating precursor itself (e.g. hydantoin is classified in both [A01N 35/02](#) and [A01N 43/50](#)).

## A01N 37/16

**containing the group  $-\text{C}(\text{O})-\text{O}-\overset{\cdot\cdot}{\underset{\cdot\cdot}{\text{Y}}}$ ; Thio analogues thereof**

### Definition statement

*This place covers:*

Peroxy-carboxylic acids.

## A01N 37/36

**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**

### Definition statement

*This place covers:*

In this group as well as in [A01N 37/38](#) - [A01N 37/50](#), CN-groups are considered as derivatives of carboxylic acid.

Compounds like Bromoxynil hence are not classified in [A01N 37/34](#), but in the relevant lower subgroup (Bromoxynil [A01N 37/44](#)).

**A01N 39/00**

**Biocides, pest repellants or attractants, or plant growth regulators containing aryloxy- or arylthio-aliphatic or cycloaliphatic compounds, containing the group  $\text{Ar-O-C}_n\equiv\text{Y}$  or  $\text{Ar-S-C}_n\equiv\text{Y}$ , e.g. phenoxyethylamine, phenylthioacetonitrile, phenoxyacetone**

**Definition statement**

*This place covers:*

Phenoxycarboxylic acids such as Mecoprop ([A01N 39/02](#)) or 2,4-D ([A01N 39/04](#)).

**Special rules of classification**

In this group, the symbol  $\text{C}_n$  means a carbon skeleton, not containing an aromatic ring system wherein  $n \geq 2$ .

**A01N 41/00**

**Biocides, pest repellants or attractants, or plant growth regulators containing organic compounds containing a sulfur atom bound to a hetero atom**

**Definition statement**

*This place covers:*

Active ingredients comprising sulfur compounds such as sulfonic acids, sulfones or polysulfides.

**A01N 41/02**

**containing a sulfur-to-oxygen double bond**

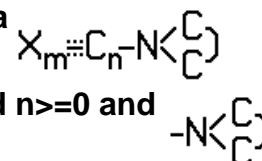
**Definition statement**

*This place covers:*

This subgroup covers organic sulfates (when used as active ingredient), since these are not sulfone or sulfonic acid derivatives.

## A01N 43/00

**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**



**containing only one heterocyclic ring, wherein  $m \geq 1$  and  $n \geq 0$  and**

**is unsubstituted or alkylsubstituted pyrrolidine, piperidine, morpholine, thiomorpholine, piperazine or a polymethyleneimine with four or more  $CH_2$  groups, [A01N 33/00](#) - [A01N 41/12](#))**

### Glossary of terms

*In this place, the following terms or expressions are used with the meaning indicated:*

|                       |  |
|-----------------------|--|
| Hetero ring           | Ring having at least one halogen, nitrogen, oxygen or sulfur atom as ring member   |
| Bridged               | The presence of at least one fusion other than ortho, peri and spiro   |
| Condensed rings       | Two rings that at least have one shared ring member, i.e. spiro and bridged are considered condensed   |
| Condensed ring system | A ring system in which all rings are condensed among themselves  |
| Number of rings       | The number of rings in a condensed ring system equals the number of scissions necessary to convert the ring system into one acyclic system. The relevant rings in a condensed system are chosen according to the following consecutive criteria: (i) lowest number of ring members; (ii) highest number of heteroatoms as ring members (ring members shared by 2 or more rings are regarded as being a member of each of these rings). |

## A01N 43/82

**five-membered rings with three ring hetero atoms**

### Special rules of classification

NB: The lower IPC subgroups [A01N43/824](#)-[A01N43/836](#) are not used.

## A01N 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](#))**

### Definition statement

*This place covers:*

Active ingredients such as steroids or gibberellins.

## A01N 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](#))**

### Definition statement

*This place covers:*

Active ingredients such as (thio)carbamates, (thio)ureas or guanidines.

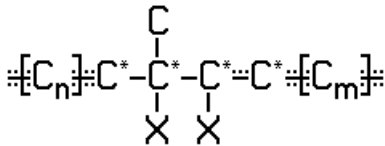
## A01N 47/02

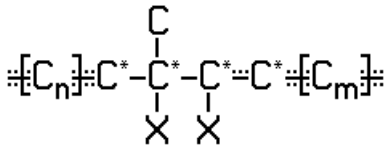
**the carbon atom having no bond to a nitrogen atom**

### Special rules of classification

This subgroup does not cover O-CF<sub>3</sub> or S-CF<sub>3</sub> substituents. These are to be treated as if they were -O/S-CH<sub>3</sub>-groups. -S(=O)<sub>1,2</sub>-CF<sub>3</sub> is classified in [A01N 47/02](#) (or, when S binds to N, [A01N 47/04](#)). Other -O/S-CHal<sub>3</sub> (Hal defining identical or different halogens) are classified in [A01N 47/02](#) or [A01N 47/04](#).

## A01N 49/00

**Biocides, pest repellants or attractants, or plant growth regulators, containing compounds containing the group**  **, wherein m+n>=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



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](#))

### Definition statement

*This place covers:*

Active ingredients containing an acyclic terpenoid (isoprenoid) structure such as methoprene or geraniol.

## A01N 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**

### Definition statement

*This place covers:*

Active ingredients comprising nitroguanidine compounds such as clothianidin or imidacloprid

## A01N 53/00

**Biocides, pest repellants or attractants, or plant growth regulators containing cyclopropane carboxylic acids or derivatives thereof**

### Special rules of classification

The lower IPC subgroups of **A01N53/02-A01N53/14** are not used.

## A01N 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](#))**

### Special rules of classification

The lower IPC subgroup **A01N55/10** is not used. Organosilicon compounds are classified in [A01N 55/00](#).

## A01N 59/00

**Biocides, pest repellants or attractants, or plant growth regulators containing elements or inorganic compounds**

### Definition statement

*This place covers:*

Inorganic halogen compounds (in particular hypochlorite or hypobromite) not covered by subgroups [A01N 59/02](#) - [A01N 59/26](#), hydrogen peroxide, silica and carbonates. Halogen releasing compounds (e.g. hydantoin derivatives or trichloroisocyanurate) are classified under [A01N 59/00](#) in addition to classification under [A01N 27/00-A01N 57/00](#).

## A01N 59/04

**Carbon disulfide; Carbon monoxide; Carbon dioxide (treatment of plants with carbon dioxide [A01G 7/02](#))**

### Definition statement

*This place covers:*

This subgroup also covers bicarbonates.

## A01N 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**

### Definition statement

*This place covers:*

Active ingredients which have no specified or well-defined chemical structure, are comprised of complex mixtures or are only defined by their method of preparation. For example mineral oils ([A01N 61/02](#)), humic acids or tannins are classified in this group.

## A01N 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](#))**

### Special rules of classification

In case the document relates to the organism or microorganism itself, classification in [A01N 63/00](#) is given (except when it concerns fungi, which are classified in [A01N 63/04](#)).

## A01N 63/02

**Fermentates or substances produced by, or extracted from, microorganisms or animal material**

### Definition statement

*This place covers:*

This subgroup also covers genetically modified crops containing genes derived from microorganisms in case the given trait determines or contributes to the desired pesticidal activity.

## A01N 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](#))**

### Definition statement

*This place covers:*

Active ingredients of undetermined or complex constitution which are derived from plant materials such as extracts (including seed extracts), essential oils or fermentates.

### Special rules of classification

[A01N 65/00](#) is obligatory for biocides derived from plant materials, either as main classification or as combination-set.

Groups [A01N 65/03-A01N 65/48](#) are only used as an additional internal classification or as combination-sets in cases where the invention is directed to materials derived from a specific plant

species or family. In such cases classification is also done in [A01N 65/00](#). For biocides derived from tobacco classification in [A01N 65/385](#) is obligatory.