

## C05D

### INORGANIC FERTILISERS NOT COVERED BY SUBCLASSES [C05B](#), [C05C](#); FERTILISERS PRODUCING CARBON DIOXIDE

#### Definition statement

*This place covers:*

Materials that affect the growth of plants solely by supplying nutrients ordinarily required for growth or materials that are used to prevent or cure mineral deficiencies in plants as listed below:

- Inorganic fertilisers containing potassium; manufacture from potassium chloride or sulphate or double or mixed salts thereof; from minerals or volcanic rocks;
- Calcareous fertilisers; from limestone, calcium carbonate, calcium hydrate, slaked lime, calcium oxide or waste calcium compounds;
- Inorganic fertilisers containing magnesium;
- Fertilisers producing carbon dioxide, e.g., comprising bicarbonates;
- Other inorganic fertilisers, for example fertilisers containing trace elements;
- Mixtures of inorganic fertilisers covered by more than one of main groups [C05D 1/00](#) - [C05D 9/00](#).

Preparation, treatment or modification of any of the materials above: e.g., by chemical means (e.g. addition of stabilisers, preservatives), physical means (e.g., irradiation, concentration, purification, separation) or combination of both chemical and physical means, with the proviso that the resultant product is proper for classification in this subclass.

Methods of preparing inorganic fertilisers or fertilisers that produce carbon dioxide covered by this subclass in general.

#### Relationships with other classification places

In contrast to fertilisers ([C05](#)), plant growth regulators ([A01N](#)) are those materials which alter a plant through chemical modification of plant metabolism, for example auxins.

Soil-conditioning materials or soil-stabilising materials are classified in group [C09K 17/00](#) and covers mixtures of soil-conditioning materials or soil-stabilising materials with fertilisers where the composition in question is characterised by the soil-conditioning or soil-stabilising properties.

Mixtures of soil-conditioning materials or soil-stabilising materials with fertilisers where the composition in question is characterised by the fertilising activity are classified in subclass [C05G](#).

While the subject matter of subclass [C05D](#) deals with inorganic fertilisers not covered by subclasses [C05B](#) and [C05C](#) per se, group [A01C 3/00](#) deals with methods of treating manure/methods of manuring per se and group [A01C 21/00](#) deals with methods of fertilising per se.

Any apparatus for preparing fertilisers may be classified in those areas of class [C05](#) that are specific for such apparatus – e.g. in group [C05B 1/10](#) – apparatus for the manufacture of superphosphates. Otherwise, individual apparatus should be classified in the relevant area of the IPC, e.g. in group [F26B 17/00](#).

#### References

##### References out of a residual place

*Examples of places in relation to which this place is residual:*

Phosphatic fertilisers	<a href="#">C05B</a>
Nitrogenous fertilisers	<a href="#">C05C</a>

### Informative references

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

Harrows with means for distributing fertilisers	<a href="#">A01B 25/00</a>
Fertiliser distributors	<a href="#">A01C 15/00</a>
Mowers combined with dispensing apparatus, e.g. for fertilisers	<a href="#">A01D 43/14</a>
Horticulture; Cultivation of vegetables, flowers, rice, fruit, vines, hops or seaweed; Forestry; Watering	<a href="#">A01G</a>
Root feeders; injecting fertilisers into roots	<a href="#">A01G 29/00</a>
Processes or devices for granulating materials, in general	<a href="#">B01J 2/00</a>
Potassium containing inorganic compounds	<a href="#">C01D</a>
Magnesium containing inorganic compounds	<a href="#">C01F 5/00</a>
Calcium containing inorganic compounds	<a href="#">C01F 11/00</a>
Lime, magnesia or dolomite and aspects of processing	<a href="#">C04B 2/00</a>
Treatment of molten slag	<a href="#">C04B 5/00</a>
Organic fertilisers not covered by subclasses <a href="#">C05B</a> or <a href="#">C05C</a> , e.g. fertilisers from waste or refuse	<a href="#">C05F</a>
Soil-conditioning or soil-stabilising materials	<a href="#">C09K 17/00</a>

### Special rules of classification

- An ingredient in a mixture of fertilisers, or a single fertiliser which contains more than one of the chemical elements on which the subdivision into subclasses is based, is classified only in the first of the appropriate places. Thus, a nitrophosphate or an ammoniated superphosphate is classified in subclass [C05B](#) but not in subclass [C05C](#), magnesium phosphate is classified in subclass [C05B](#) but not in subclass [C05D](#), and calcium cyanamide in subclass [C05C](#) but not in subclass [C05D](#).
- Information relative to the form in which the fertiliser is presented, e.g. granulation, coating, etc. is always given in addition to the chemical composition of the fertilisers.
- Any ingredient in a mixture that is considered to present information of interest for search is also classified using a combination of classification symbols. If a document concerns embodiments comprising mixtures whose elements are covered individually by different subclasses, groups or subgroups, the document is classified with C-Sets.

The following rules apply:

- The first element of the C-Sets corresponds to the first relevant (sub)group mentioned in the classification scheme independently of the importance or relevance of the element in the whole fertiliser mixture.
- The following element or elements of the C-Sets are added sequentially in the order in which they appear in the classification scheme to the first element using a ",".

Example: a fertiliser containing a mixture of superphosphate ([C05B 1/02](#)), ammonium nitrate ([C05C 1/00](#)) and potassium chloride ([C05D 1/02](#)) will be given the C-Sets [C05B 1/02](#), [C05C 1/00](#), [C05D 1/02](#).

Example: a fertiliser containing a mixture of either superphosphate ([C05B 1/02](#)) or ammonium nitrate ([C05C 1/00](#)) with potassium chloride ([C05D 1/02](#)) will be given the C-Sets [C05B 1/02](#), [C05D 1/02](#) and [C05C 1/00](#), [C05D 1/02](#).

## Glossary of terms

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

fertiliser (fertiliser material)	natural or artificial substance containing the chemical elements that improve growth and productiveness of plants.
inorganic compound	a compound devoid of a carbon atom and containing a non-metallic element or a compound containing a carbon atom, and satisfying one of the following criteria: the compound cannot have a carbon atom having direct bonding to another carbon atom, or the compound cannot have direct bonding between a carbon atom and a halogen or hydrogen atom, or the compound cannot have direct bonding between a carbon atom and a nitrogen atom by a single or double bond. The following are exceptions to the above and are to be considered as inorganic compounds: compounds consisting of only carbon atoms, (e.g. fullerenes), cyanogen, cyanogen halides, cyanamide, phosgene, thiophosgene, hydrocyanic acid, isocyanic acid, isothiocyanic acid, fulminic acid, unsubstituted carbamic acid, and salts of the previously mentioned acids and which contain the same limitations as to a carbon atom.

## Synonyms and Keywords

*In patent documents, the following words/expressions are often used as synonyms:*

- "amendment", "plant food", "plant nutrient", "agricultural chemical", "enrichment" and "fertiliser"

*In patent documents, the following words/expressions are often used with the meaning indicated:*

enrichment	fertiliser
soil amendment	composition capable of modifying the chemical (pH) or physical (structure) condition of soils for agricultural purposes

## C05D 1/00

**Fertilisers containing potassium ([C05D 7/00](#) takes precedence)**

## Relationships with other classification places

Inorganic compounds of potassium	<a href="#">C01D</a>
----------------------------------	----------------------

## References

### Limiting references

*This place does not cover:*

Fertilisers producing carbon dioxide	<a href="#">C05D 7/00</a>
--------------------------------------	---------------------------

## Special rules of classification

This group contains potassium containing fertilizer compounds which do not fall neither under the definition of the former subclasses [C05B](#), [C05C](#) nor under the definition of the subgroups [C05D 1/005](#), [C05D 1/02](#), [C05D 1/04](#).

Examples of these compounds are generic references to potassium cations, potassium oxide, potassium hydroxide etc.

Documents classified in [C05D 1/005](#) should also have an additional code of the pertinent group(s) corresponding to the specific post treatment involved.

## C05D 3/00

**Calcareous fertilisers ([C05D 7/00](#) takes precedence)**

### References

#### Limiting references

*This place does not cover:*

Fertilisers producing carbon dioxide	<a href="#">C05D 7/00</a>
Calcium phosphates	<a href="#">C05B 1/00</a> , <a href="#">C05B 3/00</a> , <a href="#">C05B 5/00</a> , <a href="#">C05B 13/00</a> , <a href="#">C05B 17/00</a>

## C05D 3/04

**from blast-furnace slag or other slags containing lime or calcium silicates**

### References

#### Limiting references

*This place does not cover:*

Thomas phosphate	<a href="#">C05B 5/00</a>
------------------	---------------------------

## C05D 5/00

**Fertilisers containing magnesium ([C05D 7/00](#) takes precedence)**

### References

#### Limiting references

*This place does not cover:*

Fertilisers producing carbon dioxide	<a href="#">C05D 7/00</a>
Fertilisers based in magnesium phosphate	<a href="#">C05B 9/00</a>

## C05D 9/00

**Other inorganic fertilisers**

### Definition statement

*This place covers:*

All remaining inorganic fertilisers for which no relevant classification entry exists in the preceding groups. Some examples of fertilizers to be classified here are compounds of sodium, sulphur, chloride, silica per se or in the form of bentonite or diatomaceous earth, silicates, fullers' earth and materials

## Definition statement

such as ashes, chars, clays (vermiculite, kaolin, etc.) or zeolites, etc. with the proviso that these compounds could not be classified in a previous specific class.

**Special rules of classification**

Mixtures of these fertilizers with other fertilizers belonging individually to other groups of the classification will be given a Combination Class as explained under the corresponding passage for the class [C05](#).

**Glossary of terms**

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

Fuller's earth	The term is used here in reference to claylike earthy materials which main use is to decolorize, filter or purify oils and fats. This term refers sometimes also to bentonite.
----------------	--

**C05D 9/02****containing trace elements****Definition statement**

*This place covers:*

Fertilizers containing compounds of elements which as trace element are essential or beneficial for plants.

The following elements are classified here: iron, manganese, boron, zinc, molybdenum, nickel, cobalt or copper.

The elements chromium, selenium, iodine and silicon are also classified under this entry if the purpose of the fertilization is to provide trace elements to plants. Eventually, other elements serving this purpose would be classified here.

**Special rules of classification**

Mixtures of these fertilizers with other fertilizers belonging individually to other groups of the classification will be given a Combination Class as explained under the corresponding passage for the class [C05](#).

**Glossary of terms**

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

Trace element; microelement; oligoelement	Elements essential or beneficial for plant life in very small (trace) quantities; for classification purposes these elements are: Fe, Mn, Zn, Cu, Ni, Cl, B, Mo, Si, Se
---	---

**Synonyms and Keywords**

*In patent documents, the following words/expressions are often used as synonyms:*

- "trace element" , "microelement" and "oligoelement"