

## C12H

### PASTEURISATION, STERILISATION, PRESERVATION, PURIFICATION, CLARIFICATION OR AGEING OF ALCOHOLIC BEVERAGES; METHODS FOR ALTERING THE ALCOHOL CONTENT OF FERMENTED SOLUTIONS OR ALCOHOLIC BEVERAGES (simulation ageing by flavouring [C12G 3/06](#))

#### Relationships with other classification places

Beer per se, brewing of beer, fermentation processes and post fermentation treatments for beer are classified in subclass [C12C](#).

While subclass [C12C](#) deals with the process of making beer with a low alcohol content, subclass [C12H](#) includes the process of removal of alcohol from beer to obtain low-alcohol or non-alcoholic beer.

Low alcohol beer is classified in group [C12C 12/04](#).

Non-alcoholic beverages per se are classified in main group [A23L 2/00](#).

While subclass [C12G](#) deals with deacidifying wine, preventing winestone precipitation or flavouring to simulate ageing, subclass [C12H](#) includes pasteurisation, sterilisation, preservation, purification, clarification, ageing of alcoholic beverages or altering the alcohol content of fermented solutions or alcoholic beverages.

Low alcohol wine is classified in group [C12G 1/14](#) and other low alcohol beverages are classified in group [C12G 3/00](#).

Post-fermentation treatment such as carbonation is subject matter of this subclass but is classified in subclass [C12H](#) when combined with subject matter of that subclass.

When classifying in this subclass, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned.

It is desirable to add the indexing codes of subclass [C12R](#) for microorganisms that are considered to be of interest for search.

#### References

##### Limiting references

*This place does not cover:*

Preparation of wine or sparkling wine	<a href="#">C12G 1/00</a>
Simulation of ageing by flavouring	<a href="#">C12G 3/06</a>
Simulation of ageing by flavouring	<a href="#">C12G 3/06</a>

##### Informative references

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

Preservation of foods or foodstuffs, in general	<a href="#">A23B 2/00</a>
Distillation or rectification of fermented solutions to obtain pure alcohol	<a href="#">B01D 3/00</a>
Recovery of by-products from wine or beer	<a href="#">C12F 3/06</a>
Preparation of alcoholic beverages other than wine or beer by varying the composition of fermented solutions	<a href="#">C12G 3/08</a>

## Glossary of terms

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

adsorption	capability of all solid substances to attract to their surfaces molecules of gases or solutions with which they are in contact
clarification	removal of the suspended material during aging
lagering	ageing or ripening of the beer by storing. During lagering, fermentation and clarification take place
sulfiting	process for adding sulfur dioxide (SO <sub>2</sub> )

## C12H 1/00

**Pasteurisation, sterilisation, preservation, purification, clarification, or ageing of alcoholic beverages (simulating ageing by flavouring [C12G 3/06](#))**

### Definition statement

*This place covers:*

Methods as well as apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification, ageing of alcoholic beverages (typically wine, beer, distilled alcoholic beverages).

### References

#### Limiting references

*This place does not cover:*

Preparation of beer	<a href="#">C12C</a>
Simulation of ageing by flavouring	<a href="#">C12C 3/06</a>
Recovery of by-products from fermented solutions (in particular derived from the preparation of alcoholic beverages)	<a href="#">C12F</a>
Preparation of wine and alcoholic beverages other than beer and wine	<a href="#">C12G</a>
Pitching / depitching machines and cellar tools	<a href="#">C12L</a>

#### Informative references

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

Subject-matter of general interest relating to chromatography	<a href="#">B01D 15/08</a>
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## Special rules of classification

Filtration is always to be classified in [C12H 1/063](#), irrespective of precipitation, adsorption, or the nature of the material to be separated.

**C12H 1/003****{by a biochemical process}****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, by a biochemical process.

**C12H 1/006****{using bacterial cultures}****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein bacterial cultures are used.

**C12H 1/02****combined with removal of precipitate or added materials, e.g. adsorption material****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein the precipitate, e.g. protein haze or colloidal haze, and/or added materials, e.g. PVPP or silica gel is/are removed.

**References****Limiting references***This place does not cover:*

Removal of yeast from (sparkling) wine by "degorgeage"	<a href="#">C12G 1/08</a>
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**C12H 1/04****with the aid of ion-exchange material or inert clarification material, e.g. adsorption material****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein ion-exchange and/or inert clarification material is removed.

**C12H 1/0408****{with the aid of inorganic added material}****Definition statement***This place covers:*

Methods as well as apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages e.g. wine, beer or distilled alcoholic beverages, wherein inorganic added clarification material is removed.

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

Silicon derived materials used in clarification, e.g. silica hydrogels and xerogels	<a href="#">C01B 33/00</a>
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**Synonyms and Keywords***In patent documents, the following words/expressions are often used with the meaning indicated:*

Silica gel	Silica hydrogel
Xerogel	Silica xerogel

**C12H 1/0416****{with the aid of organic added material}****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein added organic clarification material is removed.

**C12H 1/0424****{with the aid of a polymer}****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein added polymeric organic clarification material is removed.

**References****Limiting references***This place does not cover:*

Use of ion-exchange material (in so far as the ion-exchange functionality is of essential importance)	<a href="#">C12H 1/0432</a>
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**C12H 1/0432****{with the aid of ion-exchange material}****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein an ion-exchange material is removed.

**Special rules of classification**

[C12H 1/0432](#) takes precedence over [C12H 1/0408](#), [C12H 1/0416](#) and [C12H 1/0424](#), in so far as the ion-exchange functionality is of essential importance (factually and/or according to the disclosed information)

**Synonyms and Keywords**

*In patent documents various trademarks are often used: Amberlite or Dowex*

**C12H 1/06****Precipitation by physical means, e.g. by irradiation, vibrations****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein precipitate is generated by physical means (in particular by irradiation and/or vibration) and/or separated by filtration.

**Special rules of classification**

Until further notice, a large interpretation for the term "irradiation " is given. For instance the application of electric fields and magnetic fields is covered.

**C12H 1/061****{Separation by centrifugation}****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein precipitate is generated by physical means, in particular by irradiation and/or vibration, and removed by centrifugation.

**References****Informative references**

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

Centrifuges in general	<a href="#">B04B</a>
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**C12H 1/063****{Separation by filtration}****Definition statement**

*This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein

(a) precipitation is generated by physical means, in particular by irradiation and/or vibration, and removed by filtration, or (more generally)

(b) filtration is performed, irrespective of precipitation, adsorption, or the nature of the material to be separated.

**References****Limiting references**

*This place does not cover:*

Post fermentation treatment of beer involving filtration	<a href="#">C12C 11/11</a>
Yeast removal in wine or champagne production by degorgage type methods	<a href="#">C12G 1/08</a>

**C12H 1/08****by heating****Definition statement**

*This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein precipitate is generated by heating.

**References****Informative references**

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

Boiling and cooling of beer wort (whereby haze is formed)	<a href="#">C12C 7/20</a> , <a href="#">C12C 7/24</a>
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**C12H 1/10****Precipitation by chemical means****Definition statement**

*This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages, wherein precipitate is generated by chemical means.

## C12H 1/12

**without precipitation**

### Definition statement

*This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages not relying on or involving precipitation and/or removal of added materials.

### References

#### Informative references

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

Pasteurisation with non-precipitating compounds, by heating	<a href="#">C12H 1/14</a> , <a href="#">C12H 1/18</a>
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## C12H 1/14

**with non-precipitating compounds, e.g. sulfiting; Sequestration, e.g. with chelate-producing compounds**

### Definition statement

*This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages not relying on or involving precipitation and/or removal of added materials, wherein non-precipitating compounds e.g. sulfite or chelating agents, are used.

### References

#### Informative references

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

Preserving agents for non-alcoholic beverages	<a href="#">A23B 70/10</a>
Preserving agents for beer	<a href="#">C12C 5/02</a>
Sulfiting must in winemaking	<a href="#">C12G 1/04</a>

## C12H 1/16

**by physical means, e.g. irradiation**

### Definition statement

*This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages not relying on or involving precipitation and/or removal of added materials, wherein physical means (in particular irradiation and/or vibration) are applied.

**C12H 1/165****{by irradiation}****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages not relying on or involving precipitation and/or removal of added materials, wherein irradiation is applied.

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

Preservation of non-alcoholic beverages by heating by irradiation or electric treatment	<a href="#">A23B 70/35</a>
Preservation of non-alcoholic beverages by irradiation or electric treatment without heating	<a href="#">A23B 70/50</a>

**Special rules of classification**

Until further notice, a large interpretation for the term "irradiation " is given. For instance the application of electric fields and magnetic fields is covered.

**C12H 1/18****by heating****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages not relying on or involving precipitation and/or removal of added materials, wherein heating is applied.

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

Preservation of non-alcoholic beverages by heating	<a href="#">A23B 70/30</a>
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**C12H 1/20****in containers allowing for expansion of the contents****Definition statement***This place covers:*

Methods or apparatus pertaining to pasteurisation, sterilisation, preservation, purification, clarification or ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages not relying on or involving precipitation and/or removal of added materials, wherein heating is applied and a flexible container allowing for expansion of the contents is used.



## C12H 1/22

### Ageing or ripening by storing, e.g. lagering of beer

#### Definition statement

*This place covers:*

Methods for ageing of alcoholic beverages, e.g. wine, beer or distilled alcoholic beverages.

Apparatus, e.g. tanks or barrels, specifically adapted for ageing of alcoholic beverages.

#### References

##### Informative references

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

Containers	<a href="#">B65D</a>
Beer flavouring preparations	<a href="#">C12C 5/026</a>

#### Special rules of classification

If flavouring with wood material and storing are essential aspects, both symbols [C12H 1/22](#) and [C12G 3/07](#) should be given.

## C12H 3/04

### using semi-permeable membranes

#### Definition statement

*This place covers:*

Methods for reducing the alcohol content of fermented solutions or alcoholic beverages to obtain low alcohol or non-alcoholic beverages other than beer, wine (derived from grapes) or sparkling wine (derived from grapes) wherein membranes are used (e.g. ultrafiltration, dialysis, electrodialysis, osmosis, reverse osmosis), and apparatus specifically adapted therefor.

#### References

##### Informative references

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

Reverse osmosis process	<a href="#">B01D 65/00</a>
Semi-permeable membrane for separation processes	<a href="#">B01D 67/00</a> - <a href="#">B01D 71/00</a>

## C12H 6/00

### Methods for increasing the alcohol content of fermented solutions or alcoholic beverages

#### Definition statement

*This place covers:*

Methods for preparing alcoholic beverages other than beer, wine (derived from grapes) or sparkling wine (derived from grapes), by increasing the alcohol content;

## Definition statement

Apparatus specifically adapted therefor.

**C12H 6/02****by distillation****Definition statement**

*This place covers:*

Methods for preparing alcoholic beverages other than beer, wine (derived from grapes) or sparkling wine (derived from grapes), by increasing the alcohol content by distillation.

Apparatus specifically adapted therefor.

**References****Informative references**

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

Processes specially adapted for distillation or rectification of fermented solutions	<a href="#">B01D 3/001</a>
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**C12H 6/04****by freezing****Definition statement**

*This place covers:*

Methods for preparing alcoholic beverages other than beer, wine (derived from grapes) or sparkling wine (derived from grapes), by increasing the alcohol content by refrigeration and separation of the crystals thus formed (i.e. freeze-concentration);

Apparatus specifically adapted therefor.