

C12H

PASTEURISATION; STERILISATION; PRESERVATION; PURIFICATION; CLARIFICATION; AGEING

Relationship between large subject matter areas

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

[C12C](#) deals with the process of making beer with a low alcohol content

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

Low alcohol of wine is classified in [C12G 1/00](#) and others low alcohol beverages are classified in [C12G 3/08](#).

Post-fermentation treatment such as carbonation is subject matter of this subclass but is classified in [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.

References relevant to classification in this subclass

This subclass/group does not cover:

Recovery of by- products from wine or beer	C12F 3/06
Simulation of ageing by flavouring	C12G 3/06
Preparation of alcoholic beverages other than wine or beer by varying the composition of fermented solutions	C12G 3/08

Informative references

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

Preservation of foods or foodstuffs, in general	A23L 3/00
Distillation or rectification of fermented solutions to obtain pure alcohol	B01D 3/00

Glossary of terms

In this subclass/group, 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 ₂)

C12H 1/00

Pasteurisation, sterilisation, preservation, purification, clarification, or ageing of alcoholic beverages (simulating ageing by flavouring C12G3/06)

Definition statement

This subclass/group covers:

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

References relevant to classification in this group

This subclass/group does not cover:

Simulation of ageing by flavouring	C12C 3/06
Preparation of beer	C12C
Preparation of wine and alcoholic beverages other than beer and wine	C12G

Recovery of by-products from fermented solutions (in particular derived from the preparation of alcoholic beverages)	C12F
Pitching / depitching machines and cellar tools	C12L

Informative references

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

Subject-matter of general interest relating to chromatography	B01D 15/08
---	----------------------------

Special rules of classification within this group

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

[N: by a biochemical process]

Definition statement

This subclass/group 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

[N: using bacterial cultures]

Definition statement

This subclass/group 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 subclass/group 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 relevant to classification in this group

This subclass/group does not cover:

Removal of yeast from (sparkling) wine by "degorgeage"	C12G 1/08
--	---------------------------

C12H 1/04

with the aid of ion-exchange material or inert clarification material, e.g. adsorption material

Definition statement

This subclass/group 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

[N: with the aid of inorganic added material]

Definition statement

This subclass/group 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.

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	C01B 33/00
---	----------------------------

Synonyms and Keywords

In patent documents the expression/word is often used with the meaning :

Silica gel	Silica hydrogel
Xerogel	Silica xerogel

C12H 1/0416

[N: with the aid of organic added material]

Definition statement

This subclass/group 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

[N: with the aid of a polymer]

Definition statement

This subclass/group 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 relevant to classification in this group

This subclass/group does not cover:

Use of ion-exchange material (in so far as the ion-exchange functionality is of essential importance)	C12H 1/0432
---	-----------------------------

C12H 1/0432

[N: with the aid of ion-exchange material]

Definition statement

This subclass/group 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 within this group

[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 subclass/group 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 within this group

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

[N: Separation by centrifugation]

Definition statement

This subclass/group 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.

Informative references

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

Centrifuges in general	B04B
------------------------	----------------------

C12H 1/063

[N: Separation by filtration]

Definition statement

This subclass/group 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 relevant to classification in this group

This subclass/group does not cover:

Post fermentation treatment of beer involving filtration	C12C 11/11
Yeast removal in wine or champagne production by degorgage type methods	C12G 1/08

C12H 1/08

by heating

Definition statement

This subclass/group 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.

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)	C12C 7/20 , C12C 7/24
--	---

C12H 1/10

Precipitation by chemical means

Definition statement

This subclass/group 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 subclass/group 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.

Informative references

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

Pasteurisation with non-precipitating compounds, by heating	C12H 1/14 , C12H 1/18
--	---

C12H 1/14

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

Definition statement

This subclass/group 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.

Informative references

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

Sulfiting must in winemaking	C12G 1/04
Preserving agents for non-alcoholic beverages	A23L 2/44
Preserving agents for beer	C12C 5/02

C12H 1/16

by physical means, e.g. irradiation

Definition statement

This subclass/group 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

[N: by irradiation]

Definition statement

This subclass/group 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.

Informative references

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

Preservation of non-alcoholic beverages by irradiation or electric treatment without heating	A23L 2/50
Preservation of non-alcoholic beverages by heating by irradiation or electric treatment	A23L 2/48

Special rules of classification within this group

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 subclass/group 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.

Informative references

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

Preservation of non-alcoholic beverages by heating	A23L 2/46
--	---------------------------

C12H 1/20

in containers allowing for expansion of the contents

Definition statement

This subclass/group 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 subclass/group 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 relevant to classification in this group

This subclass/group does not cover:

Simulation of ageing by flavouring	C12G 3/06
Beer flavouring preparations	C12C 5/026

Informative references

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

Containers	B65D
------------	----------------------

Special rules of classification within this group

If flavouring with wood material and storing are essential aspects, both symbols [C12H 1/22](#) and [C12G 3/065](#) should be given.