

## **6 Fermentation industry: alcohol, brandy, beer, wine, vinegar, yeast, other fermenting agents and products, enzymes**

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- 6a Malt, hops, yeast, other fermenting agents**
  - 6b Mash and wort, preparation and fermentation; distillation and rectification of alcoholic and fermented liquids**
  - 6c Preparation of wine, sparkling wine and liqueurs**
  - 6d Preservation, clarification, aging**
  - 6e Vinegar manufacture**
  - 6f Barrel cleaning, pitching and pitch removing devices, barrel burners, bung devices, fermentation bungs, cellarage implements, materials for the lining of fermentation, storage, and transportation vessels**
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### **6a Malt, hops, yeast, other fermenting agents**

#### **Malt**

- 6a-1 Washing and steeping of barley for the preparation of malt, including soft water treatment
- 6a-2 Malting processes and control devices for malting purposes, kiln drying of malt (malt kilns 6a-6, 6a-7; kilns, in general 82a)
- 6a-2/01 production of special kinds of malt, e.g. sour malt, peel malt, malt produced by high-temperature germination, caramel malt, and amber malts
- 6a-3 Floor and multiple story malting and aeration devices
- 6a-4 Drum malting and aeration devices
- 6a-5 Box malting and aeration devices
- 6a-6 Stationary malt kilns and aeration devices (in general 82a-2)
- 6a-7 Mobile malt kilns and aeration devices (in general 82a-2)
- 6a-8 Malt turners
- 6a-9 Malt purification devices
- 6a-10 Germination vessels, aeration and malt charging devices, miscellaneous
- Hop (hop picking machines 45e-21)**
- 6a-11 Hop kilns (malt kilns 6a-6, 6a-7; general 82a-2)
- 6a-12 Hop containers
- 6a-13 Processing of hops, preserving and preparation of hop extract (6b-14)

#### **Yeast and ferments, in general, and other technically suitable**

**microorganisms** (microorganisms for therapeutic uses 30h-6, 30h-14; yeast preparations 6a-22/06; yeast containing materials 39b-20)

- 6a-14 Pure propagation and cultures of fermenting agents, such as yeast and other technically suitable microorganisms
- 6a-15/01 Pure propagation apparatus and yeast cultivating devices
- 6a-15/02 Fermentation vats and accessories, clearing devices
- 6a-15/03 Aeration processes and devices, valves (general 47g) and distributors
- 6a-16 Pitching yeast fermentation, preparation of sour sediments
- 6a-17/01 Production of yeast, especially baking, compressed, food and fodder yeast, combined processes for the production of yeast and alcohol (6b-16; 6b-17) from wheat, potatoes, etc.

6a-17/02	from molasses, sugar and distillers' wash
6a-17/03	from cellulose saccharification products
6a-18	Elimination of fermentation froth
6a-19	Yeast separation, cooling, washing, filtering, pressing and cutting
6a-20	Subsequent treatment of yeast, elimination of the bitter taste from beer yeast and refermenting thereof
6a-20/01	Processes and means for promoting or inhibiting fermentation
6a-21	Drying, preserving and storing of yeast, including wine yeast
	<b>Enzymes and enzyme preparations, malt and yeast extracts and preparations</b>
6a-22/01	from plants, in general
6a-22/02	from malt
6a-22/03	Malt extracts and preparations
6a-22/04	from microorganisms, in general
6a-22/05	from yeast
6a-22/06	Yeast extracts and preparations
6a-22/07	from animal body parts and fluids
6a-22/10	Miscellaneous

## **6b Mash and wort, preparation and fermentation; distillation and rectification of alcoholic and fermented liquids**

### **Preparation of mash and wort for yeast and other fermentation processes (6b-16)**

#### Raw material preparation

6b-1/01	Cold crushing, grinding, and comminuting under pressure
6b-1/02	Preparing and purifying molasses, sugar products, distillery water, cellulose-saccharification products and sulphite liquors
6b-1/03	Water treatment
6b-2	Raw material steaming, comminutors, also applicable to comminution under pressure and boiling apparatus

#### Saccharification processes (89i), malt processing

6b-3/01	Saccharification by means of enzymes or other microorganisms (chemical starch saccharification 89i-1/01; saccharification of cellulose by hydrolysis 89i-1/02)
6b-4	Mashing apparatus with horizontal stirring shafts, spiral cooling coils
6b-5	Mashing apparatus with vertical stirring shafts
6b-6	Special mashing apparatus, especially mash coolers and centrifugal mixers
6b-7	Hullers

#### Preparation of wort for beer manufacture

6b-8/01	Brewing processes and beer manufacture in general
6b-8/02	Manufacture of special beers, e.g. strong beers, top fermentation beers, vitamin beers, etc.
6b-8/03	Beer colouring materials and colouring
6b-9	Pre-mashing and charging, including pre-cooling
6b-10	Stirring and spent grain removers
6b-11	Clarification processes and vats, mash distributors, centrifugation and filtration
6b-12	Steam-heated brewing kettles and accessories
6b-13	Fire-heated brewing kettles and accessories, vapour condensers (firing 24a-13)
6b-14	Beer wort treatment and related devices such as hop boilers, hop strainers, sterilising vessels, etc. (6a-13)
	<b>Cooling the beer wort (coolers, in general, 17f)</b>
6b-15/01	Settling vats
6b-15/02	Cooling vessels

- 6b-15/03 Special cooling processes and installations, if not dealt with under 17e and 17f, and 64c-14/01
- 6b-15/08 Storage cellar cooling
- Fermentation of mash and wort, treatment thereof, and beer carbonation**
- Fermentation processes (6a-16)
- 6b-16/01 for alcohol production
- 6b-16/02 for the production of higher alcohols, acetone derivatives, lactic acid, butyric acid, acetic acid, citric acid, glycerine, etc.
- 6b-16/03 Special fermentation processes, biological production of fats and proteins
- 6b-17 Storage vessels and tapping devices therefor (6f-5)
- 6b-18 Cooling apparatus for fermentation and storage vessels (6b-4; 6b-5; 6b-6)
- 6b-19 Production of carbon dioxide for use in fermentation
- 6b-20 Carbonation of beer with carbon dioxide
- Non-alcoholic and low alcohol-content beverages in which fermentation takes place (produced without fermentation 53k-1/30; mineral waters 85a-2 – 85a-5)
- 6b-21/01 Production by dealcoholisation of beer
- 6b-21/02 Production by special brewing and fermenting processes using malt and beer yeast
- 6b-21/03 Beer-like and other fermented beverages
- Distillation and rectification of alcoholic and fermented liquids including the addition of liquids and substances, and denaturing and purification of fermentation products**
- 6b-22 Discontinuous distillation of alcoholic and fermented liquors, retorts (distillation, in general, 12a)
- 6b-23 Continuous distillation of fermented liquors and the like
- 6b-24 Discontinuous rectification of alcohol and the like
- 6b-25 Continuous rectification of alcohol and the like, separation of head and tail products
- 6b-26 Combined distillation and rectification
- 6b-26/10 Production of anhydrous alcohols by azeotropic distillation with liquid additives such as gasoline or benzene, and by distillation with added lime, gypsum or other water-absorbing salts (12a-5; 12o-11, 12o-12)
- 6b-27/01 Dephlegmators and other distilling accessories
- 6b-27/02 Alcohol preparation from baking oven fumes
- 6b-28 Auxiliary apparatus for the distillation, rectification and purification of fermentation products
- 6b-29 Denaturing of alcohol
- 6b-30 Elimination of impurities from alcohols and other fermentation products by processes other than distillation (6b-22 – 6b-26)
- 6c Preparation of wine, sparkling wine and liqueurs (aging of wine 6d-6)**
- 6c-1 Preparation and treatment of wine in general (wine presses 58a-5, 58b-10)
- 6c-1/01 Sparkling wine preparation and carbonation of wine and other alcoholic beverages with carbon dioxide (carbonation of beer with carbon dioxide 6b-20)
- 6c-2 Yeast removal from wine
- 6c-3 Preparation and treatment of alcoholic beverages other than beer and wine, e.g. of fruit and berry wines, liqueurs
- 6c-4 Preparation of bouquet substances
- 6d Preservation, clarification, aging**
- 6d-1 Pasteurisation of beer and wine in bottles (milk 53e-1)
- 6d-2 Pasteurisation of beer in barrels or other large containers (30i; 53e-1; 53e-2)
- 6d-3 Preservation and clarification of beer, wine and the like (6b-14; 6b-15)

6d-6 Aging of alcoholic liquids

**6e Vinegar manufacture** (wood vinegar 12r-2; acetic acid 12o-12)

6e (Not subdivided)

**6f Barrel cleaning, pitching and pitch removing devices, barrel burners, bung devices, fermentation bungs, cellarage implements, materials for the lining of fermentation, storage, and transportation vessels** (brewer's pitch 22h-8)

6f-1 Devices for cleaning and drying barrels and the like

6f-2 Chemical agents and methods for the treatment of barrage, cellarage implements and beer feeding pipes (mechanical cleaning of beer feeding pipes 64b-7; prevention of milkstone 53e-7)

6f-2/01 Materials for the lining of fermentation, storage, and transportation vessels

6f-3 Barrel pitching and pitch removing devices, barrel burners, barrel rolling devices

6f-4 Fermentation bungs (bungs, 64c-21 – 64c-26)

6f-5 Cellarage implements