

## SECTION A — HUMAN NECESSITIES

### A23 FOODS OR FOODSTUFFS; THEIR TREATMENT, NOT COVERED BY OTHER CLASSES

#### Note(s)

1. Attention is drawn to the following places:
  - C08B.....Polysaccharides, derivatives thereof
  - C11.....Animal or vegetable oils, fats, fatty substances or waxes
  - C12.....Biochemistry, beer, spirits, wine, vinegar
  - C13.....Sugar industry.
2. Processes using enzymes or micro-organisms in order to:
  - i. liberate, separate or purify a pre-existing compound or composition, or to
  - ii. treat textiles or clean solid surfaces of materials
 are further classified in subclass C12S.

**A23B PRESERVING, e.g. BY CANNING, MEAT, FISH, EGGS, FRUIT, VEGETABLES, EDIBLE SEEDS; CHEMICAL RIPENING OF FRUIT OR VEGETABLES; THE PRESERVED, RIPENED, OR CANNED PRODUCTS** (preserving foodstuffs in general A23L 3/00; applying food preservatives in packages B65D 81/28)

- |             |   |             |  |
|-------------|---|-------------|--|
| <b>4/00</b> | <b>General methods for preserving meat, sausages, fish or fish products [2]</b>   | 4/20        | • • • Organic compounds; Micro-organisms; Enzymes (acid fermentation A23B 4/12) [5]                                    |
| 4/005       | • Preserving by heating [5]   | 4/22        | • • • • Micro-organisms; Enzymes [5]   |
| 4/01        | • • by irradiation or electric treatment [5]  | 4/24        | • • • Inorganic compounds [5]  |
| 4/015       | • Preserving by irradiation or electric treatment without heating effect [5]  | 4/26        | • Apparatus for preserving using liquids [5]   |
| 4/02        | • Preserving by means of inorganic salts (apparatus therefor A23B 4/26, A23B 4/32) [2]                                    | 4/28        | • • by injection of liquids [5]  |
| 4/023       | • • by kitchen salt or mixtures thereof with inorganic or organic compounds [5]   | 4/30        | • • by spraying of liquids [5]   |
| 4/027       | • • by inorganic salts other than kitchen salt or mixtures thereof with organic compounds, e.g. biochemical compounds [5] | 4/32        | • Apparatus for preserving using solids [5]  |
| 4/03        | • Drying; Subsequent reconstitution [5]   | <b>5/00</b> | <b>Preservation of eggs or egg products</b> (preserving dough or bakery products A21D)                                 |
| 4/033       | • • with addition of chemicals (A23B 4/037 takes precedence) [5]  | 5/005       | • Preserving by heating [5]  |
| 4/037       | • • Freeze-drying [5]   | 5/01        | • • by irradiation or electric treatment [5]   |
| 4/044       | • Smoking; Smoking devices [5]  | 5/015       | • Preserving by irradiation or electric treatment without heating effect [5]   |
| 4/048       | • • with addition of chemicals other than natural smoke [5]   | 5/02        | • Drying; Subsequent reconstitution [5]  |
| 4/052       | • • Smoke generators [5]  | 5/025       | • • with addition of chemicals (A23B 5/03, A23B 5/035 take precedence) [5]   |
| 4/056       | • • Smoking combined with irradiation or electric treatment, e.g. electrostatic smoking [5]                               | 5/03        | • • Freeze-drying [5]  |
| 4/06        | • Freezing; Subsequent thawing; Cooling [2]   | 5/035       | • • Spray-drying [5]   |
| 4/07        | • • Thawing subsequent to freezing [5]  | 5/04        | • Freezing; Subsequent thawing; Cooling  |
| 4/08        | • • with addition of chemicals before or during cooling [2]   | 5/045       | • • Thawing subsequent to freezing [5]   |
| 4/09        | • • • with direct contact between the food and the chemical, e.g. liquid N <sub>2</sub> , at cryogenic temperature [5]    | 5/05        | • • with addition of chemicals [5]   |
| 4/10        | • Coating with a protective layer; Compositions or apparatus therefor [2]   | 5/055       | • • • with direct contact between the food and the chemical, e.g. liquid N <sub>2</sub> , at cryogenic temperature [5] |
| 4/12        | • Preserving with acids; Acid fermentation [2]  | 5/06        | • Coating eggs with a protective layer; Compositions or apparatus therefor [5]   |
| 4/14        | • Preserving with chemicals not covered by groups A23B 4/02 or A23B 4/12 [2]  | 5/08        | • Preserving with chemicals [5]  |
| 4/16        | • • in the form of gases, e.g. fumigation; Compositions or apparatus therefor [5]   | 5/10        | • • in the form of gases, e.g. fumigation; Compositions or apparatus therefor [5]                                      |
| 4/18        | • • in the form of liquids or solids (apparatus therefor A23B 4/26, A23B 4/32) [5]  | 5/12        | • • in the form of liquids or solids [5]   |
|             |   | 5/14        | • • • Organic compounds; Micro-organisms; Enzymes [5]  |
|             |   | 5/16        | • • • • Micro-organisms; Enzymes [5]   |
|             |   | 5/18        | • • • Inorganic compounds [5]  |
|             |   | 5/20        | • • • Apparatus for preserving using liquids [5]   |
|             |   | 5/22        | • • • Apparatus for preserving using solids [5]  |

## A23B

- 7/00 Preservation or chemical ripening of fruit or vegetables [3]**
- 7/005 • Preserving by heating [5]
  - 7/01 • • by irradiation or electric treatment [5]
  - 7/015 • Preserving by irradiation or electric treatment without heating effect [5]
  - 7/02 • Dehydrating; Subsequent reconstitution (dried cooked potatoes A23L 1/216)
  - 7/022 • • with addition of chemicals (A23B 7/024-A23B 7/028 take precedence) [5]
  - 7/024 • • Freeze-drying [5]
  - 7/026 • • Spray-drying [5]
  - 7/028 • • Thin layer-, drum- or roller-drying [5]
  - 7/03 • • Drying raw potatoes
  - 7/04 • Freezing; Subsequent thawing; Cooling
  - 7/045 • • Thawing subsequent to freezing [5]
  - 7/05 • • with addition of chemicals [5]
  - 7/055 • • • with direct contact between the food and the chemical, e.g. liquid N<sub>2</sub>, at cryogenic temperature [5]
  - 7/06 • Blanching (machines therefor A23N 12/00) [1, 3]
  - 7/08 • Preserving with sugars (marmalade, jam, fruit jellies A23L 1/06)
  - 7/10 • Preserving with acids; Acid fermentation
  - 7/12 • • Apparatus for compressing sauerkraut
  - 7/14 • Preserving or ripening with chemicals not covered by group A23B 7/08 or A23B 7/10
  - 7/144 • • in the form of gases, e.g. fumigation; Compositions or apparatus therefor [3, 5]
  - 7/148 • • • in a controlled atmosphere, e.g. partial vacuum, comprising only CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O [3]
  - 7/152 • • • in a controlled atmosphere comprising other gases in addition to CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O [3]
  - 7/153 • • in the form of liquids or solids [5]
  - 7/154 • • • Organic compounds; Micro-organisms; Enzymes (acid fermentation A23B 7/10) [5]
  - 7/155 • • • • Micro-organisms; Enzymes [5]
  - 7/157 • • • Inorganic compounds [5]
  - 7/158 • • • Apparatus for preserving using liquids [5]
  - 7/159 • • • Apparatus for preserving using solids [5]
  - 7/16 • Coating with a protective layer; Compositions or apparatus therefor (A23B 7/08 takes precedence) [5]
- 9/00 Preservation of edible seeds, e.g. cereals**
- 9/02 • Preserving by heating [5]
  - 9/04 • • by irradiation or electric treatment [5]
  - 9/06 • Preserving by irradiation or electric treatment without heating effect [5]
  - 9/08 • Drying; Subsequent reconstitution [5]
  - 9/10 • Freezing; Subsequent thawing; Cooling [5]
  - 9/12 • • Thawing subsequent to freezing [5]
  - 9/14 • Coating with a protective layer; Compositions or apparatus therefor [5]
  - 9/16 • Preserving with chemicals [5]
  - 9/18 • • in the form of gases, e.g. fumigation; Compositions or apparatus therefor [5]
  - 9/20 • • • in a controlled atmosphere, e.g. partial vacuum, comprising only CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O [5]
  - 9/22 • • • in a controlled atmosphere comprising other gases in addition to CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O [5]
  - 9/24 • • in the form of liquids or solids [5]
  - 9/26 • • • Organic compounds; Micro-organisms; Enzymes [5]
  - 9/28 • • • • Micro-organisms; Enzymes [5]
  - 9/30 • • • Inorganic compounds [5]
  - 9/32 • • • Apparatus for preserving using liquids [5]
  - 9/34 • • • Apparatus for preserving using solids [5]

## A23C DAIRY PRODUCTS, e.g. MILK, BUTTER, CHEESE; MILK OR CHEESE SUBSTITUTES; MAKING THEREOF (obtaining protein compositions for foodstuffs A23J 1/00; preparation of peptides, e.g. of proteins, in general C07K 1/00)

### Note(s)

This subclass covers:

- the chemical aspects of making dairy products;
- the apparatus used for performing techniques provided for therein, e.g. for concentration, evaporation, drying, preservation, or sterilisation, unless such apparatus is specifically provided for in another subclass, e.g. A01J for treatment of milk or cream for manufacture of butter or cheese.

### Subclass index

DAIRY TECHNOLOGY.....	1/00-7/00
MILK PREPARATIONS; MILK SUBSTITUTES; CREAM; BUTTER.....	9/00, 11/00, 13/00, 15/00
CHEESE; CHEESE SUBSTITUTES.....	19/00, 20/00
BUTTERMILK; WHEY; OTHER DAIRY PRODUCTS.....	17/00, 21/00, 23/00

### General dairy technology

- 1/00 Concentration, evaporation or drying (A23C 3/00 takes precedence; products obtained thereby A23C 9/00; making butter powder A23C 15/14, cheese powder A23C 19/086; evaporating in general B01D 1/00) [3]**
- 1/01 • Drying in thin layers [3]
  - 1/03 • • on drums or rollers [3]
  - 1/04 • by spraying into a gas stream
  - 1/05 • • combined with agglomeration [3]
  - 1/06 • Concentration by freezing out the water
  - 1/08 • • Freeze drying [3]
  - 1/10 • Foam drying (A23C 1/04, A23C 1/08 take precedence) [3]
  - 1/12 • Concentration by evaporation [3]
  - 1/14 • combined with other treatment [3]
  - 1/16 • • using additives [3]

- 3/00 Preservation of milk or milk preparations** (of cream A23C 13/08; of butter A23C 15/18; of cheese A23C 19/097)
- 3/02 • by heating (A23C 3/07 takes precedence) [3]
  - 3/023 • • in packages [3]
  - 3/027 • • • progressively transported through the apparatus [3]
  - 3/03 • • the materials being loose unpacked [3]
  - 3/033 • • • and progressively transported through the apparatus [3]
  - 3/037 • • • • in direct contact with the heating medium, e.g. steam [3]
  - 3/04 • by freezing or cooling
  - 3/05 • • in packages [3]
  - 3/07 • by irradiation, e.g. by microwaves [3]
  - 3/08 • by addition of preservatives (additions of micro-organisms or enzymes A23C 9/12, of other substances A23C 9/152)
- 7/00 Other dairy technology**
- 7/02 • Chemical cleaning of dairy apparatus (cleaning in general B08B, e.g. B08B 3/08); Use of sterilisation methods therefor (sterilisation methods *per se* A61L) [3]
  - 7/04 • Removing unwanted substances from milk (by filtering A01J 9/02, A01J 11/06) [3]

#### **Dairy products; Processes specially adapted therefor**

- 9/00 Milk preparations; Milk powder or milk powder preparations** (A23C 21/06 takes precedence; preservation A23C 3/00; chocolate milk A23G 1/00; ice-cream, mixtures for preparation of ice-cream A23G 9/00; puddings, dry powder puddings A23L 1/187) [3]
- 9/12 • Fermented milk preparations; Treatment using micro-organisms or enzymes (whey preparations A23C 21/00) [3]
  - 9/123 • • using only micro-organisms of the genus lactobacteriaceae; Yoghurt (A23C 9/13 takes precedence) [3]
  - 9/127 • • using micro-organisms of the genus lactobacteriaceae and other micro-organisms or enzymes, e.g. kefir, koumiss (A23C 9/13 takes precedence) [3]
  - 9/13 • • using additives [3]
  - 9/133 • • • Fruit or vegetables [3]
  - 9/137 • • • Thickening substances [3]
  - 9/14 • in which the chemical composition of the milk is modified by non-chemical treatment [3]
- Note(s) [2006.01]**
- When classifying in this group, classification is also made in group B01D 15/08 insofar as subject matter of general interest relating to chromatography is concerned.
- 9/142 • • by dialysis, reverse osmosis or ultrafiltration (A23C 9/144 takes precedence) [3]
  - 9/144 • • by electrical means, e.g. electrodialysis [3]
  - 9/146 • • by ion-exchange [3]
  - 9/148 • • by molecular sieve or gel filtration [3]
  - 9/15 • Reconstituted or recombined milk products containing neither non-milk fat nor non-milk proteins (containing thickening substances A23C 9/154; mixtures of whey, with milk products or milk components A23C 21/06) [3]

- 9/152 • containing additives (fermented milk preparations containing additives A23C 9/13) [3]
  - 9/154 • • containing thickening substances, eggs or cereal preparations; Milk gels [3]
  - 9/156 • • Flavoured milk preparations (A23C 9/154 takes precedence) [3]
  - 9/158 • • containing vitamins or antibiotics [3]
  - 9/16 • Agglomerating or granulating milk powder; Making instant milk powder; Products obtained thereby (A23C 1/05, A23C 9/18 take precedence) [3]
  - 9/18 • Milk in dried and compressed or semi-solid form [3]
  - 9/20 • Dietetic milk products not covered by groups A23C 9/12-A23C 9/18 [3]
- 11/00 Milk substitutes, e.g. coffee whitener compositions** (cheese substitutes A23C 20/00; butter substitutes A23D; cream substitutes A23L 1/19)
- 11/02 • containing at least one non-milk component as source of fats or proteins (A23C 19/055, A23C 21/04 take precedence) [3]
  - 11/04 • • containing non-milk fats but no non-milk proteins (A23C 11/08, A23C 11/10 take precedence) [3]
  - 11/06 • • containing non-milk proteins (A23C 11/08, A23C 11/10 take precedence) [3]
  - 11/08 • • containing caseinates but no other milk proteins nor milk fats [3]
  - 11/10 • • containing or not lactose but no other milk components as source of fats, carbohydrates or proteins, e.g. soy milk [3]
- 13/00 Cream; Cream preparations** (ice-cream A23G 9/00); **Making thereof** (coffee whitener compositions A23C 11/00; cream substitutes A23L 1/19)
- 13/08 • Preservation [3]
  - 13/10 • • by addition of preservatives (A23C 13/14, A23C 13/16 take precedence) [3]
  - 13/12 • Cream preparations
  - 13/14 • • containing milk products or milk components [3]
  - 13/16 • • containing, or treated with, micro-organisms, enzymes, or antibiotics; Sour cream [3]
- 15/00 Butter; Butter preparations; Making thereof** (butter substitutes A23D)
- 15/02 • Making thereof
  - 15/04 • • from butter oil or anhydrous butter [3]
  - 15/06 • • Treating cream prior to phase inversion [3]
  - 15/12 • Butter preparations
  - 15/14 • • Butter powder; Butter oil, i.e. melted butter, e.g. ghee [3]
  - 15/16 • • Butter having reduced fat content [3]
  - 15/18 • Preservation [3]
  - 15/20 • • by addition of preservatives [3]
- 17/00 Buttermilk; Buttermilk preparations** (A23C 9/14 takes precedence; preservation A23C 3/00) [3]
- 17/02 • containing, or treated with, micro-organisms or enzymes [3]
- 19/00 Cheese; Cheese preparations; Making thereof** (cheese substitutes A23C 20/00; casein A23J 1/20)
- 19/02 • Making cheese curd [3]
  - 19/024 • • using continuous procedure [3]
  - 19/028 • • without substantial whey separation from coagulated milk [3]
  - 19/032 • • characterised by the use of specific micro-organisms, or enzymes of microbial origin [3]

**A23C**

- 19/04 • • characterised by the use of specific enzymes of vegetable or animal origin (A23C 19/032 takes precedence) [3]
- 19/045 • • Coagulation of milk without rennet or rennet substitutes [3]
- 19/05 • • Treating milk before coagulation; Separating whey from curd (A23C 19/097 takes precedence) [3]
- 19/055 • • Addition of non-milk fats or non-milk proteins [3]
- 19/06 • • Treating cheese curd after whey separation; Products obtained thereby (A23C 19/097 takes precedence) [3]
- 19/064 • • Salting [3]
- 19/068 • • Particular types of cheese [3]
- 19/072 • • • Cheddar type [3]
- 19/076 • • • Soft unripened cheese, e.g. cottage or cream cheese [3]
- 19/08 • • • Process cheese preparations; Making thereof, e.g. melting, emulsifying, sterilizing [3]
- 19/082 • • • • Adding substances to the curd before or during melting; Melting salts [3]
- 19/084 • • • • Treating the curd, or adding substances thereto, after melting (adding non-milk components A23C 19/093) [3]
- 19/086 • • Cheese powder; Dried cheese preparations [3]
- 19/09 • • Other cheese preparations; Mixtures of cheese with other foodstuffs (preservation A23C 19/097) [3]
- 19/093 • • • Addition of non-milk fats or non-milk proteins [3]
- 19/097 • • Preservation [3]
- 19/10 • • Addition of preservatives [3]
- 19/11 • • • of antibiotics [3]
- 19/14 • • Treating cheese after having reached its definite form, e.g. ripening, smoking (preservation A23C 19/097)
- 19/16 • • Covering the cheese surface, e.g. with paraffin wax
- 20/00 Cheese substitutes** (A23C 19/055, A23C 19/093 take precedence) [3]
- 20/02 • containing neither milk components, nor caseinate, nor lactose, as sources of fats, proteins or carbohydrates [3]
- 21/00 Whey; Whey preparations** (A23C 1/00, A23C 3/00, A23C 9/14 take precedence) [3]
- 21/02 • containing, or treated with, micro-organisms or enzymes [3]
- 21/04 • containing non-milk components as source of fats or proteins [3]
- 21/06 • Mixtures of whey with milk products or milk components [3]
- 21/08 • containing other organic additives, e.g. vegetable or animal products [3]
- 21/10 • containing inorganic additives [3]
- 23/00 Other dairy products**

**A23D EDIBLE OILS OR FATS, e.g. MARGARINES, SHORTENINGS, COOKING OILS** (obtaining, refining, preserving C11B, C11C; hydrogenation C11C 3/12)

- 7/00 Edible oil or fat compositions containing an aqueous phase, e.g. margarines** [5]
- 7/005 • characterised by ingredients other than fatty acid triglycerides [6]
- 7/01 • • Other fatty acid esters, e.g. phosphatides [6]
- 7/015 • Reducing calorie content; Reducing fat content [6]
- 7/02 • characterised by the production or working-up [5]
- 7/04 • • Working-up [5]
- 7/05 • • • characterised by essential cooling [6]
- 7/06 • Preservation of finished products [5]
- 9/00 Other edible oils or fats, e.g. shortenings, cooking oils** [5]
- 9/007 • characterised by ingredients other than fatty acid triglycerides [6]
- 9/013 • • Other fatty acid esters, e.g. phosphatides [6]
- 9/02 • characterised by the production or working-up [5]
- 9/04 • • Working-up [5]
- 9/05 • • • Forming free-flowing pieces [6]
- 9/06 • Preservation of finished products [5]

**A23F COFFEE; TEA; THEIR SUBSTITUTES; MANUFACTURE, PREPARATION, OR INFUSION THEREOF**

- 3/00 Tea; Tea substitutes; Preparations thereof**
- 3/06 • Treating tea before extraction (reducing or removing alkaloid content A23F 3/36); Preparations produced thereby (tea extract preparations A23F 3/16) [3]
- 3/08 • • Oxidation; Fermentation [3]
- 3/10 • • • Fermentation with addition of micro-organisms or enzymes [3]
- 3/12 • • Rolling or shredding tea leaves [3]
- 3/14 • • Tea preparations, e.g. using additives (flavouring A23F 3/40) [3]
- 3/16 • Tea extraction; Tea extracts; Treating tea extract; Making instant tea [3]
- 3/18 • • Extraction of water soluble tea constituents (isolation of tea flavour or tea oil A23F 3/42) [3]
- 3/20 • • Removing unwanted substances (reducing or removing alkaloid content A23F 3/38) [3]
- 3/22 • • Drying or concentrating tea extract [3]
- 3/24 • • • by freezing out the water [3]
- 3/26 • • • by lyophilisation [3]
- 3/28 • • • by spraying into a gas stream [3]
- 3/30 • • Further treatment of dried tea extract; Preparations produced thereby, e.g. instant tea (flavouring A23F 3/40) [3]
- 3/32 • • • Agglomerating, flaking or tableting [3]
- 3/34 • Tea substitutes, e.g. mate; Extracts or infusions thereof [3]
- 3/36 • Reducing or removing alkaloid content; Preparations produced thereby; Extracts or infusions thereof [3]
- 3/38 • • Reducing or removing alkaloid content from tea extract [3]
- 3/40 • Tea flavour; Tea oil; Flavouring of tea or tea extract (synthetic tea flavours A23L 1/226) [3]
- 3/42 • • Isolation of tea flavour or tea oil [3]

5/00	<b>Coffee; Coffee substitutes; Preparations thereof [3]</b>	5/22	• • Reducing or removing alkaloid content from coffee extract [3]
5/02	• Treating green coffee; Preparations produced thereby (roasting A23F 5/04; removing unwanted substances A23F 5/16; reducing or removing alkaloid content A23F 5/20; extraction A23F 5/24) [3]	5/24	• Extraction of coffee (isolation of coffee flavour or coffee oil A23F 5/48); Coffee extracts (with reduced alkaloid content A23F 5/20); Making instant coffee (methods of roasting extracted coffee A23F 5/06) [3]
5/04	• Methods of roasting coffee (machines therefor A23N 12/00) [3]	5/26	• • Extraction of water soluble constituents [3]
5/06	• • of roasting extracted coffee [3]	5/28	• • Drying or concentrating coffee extract [3]
5/08	• Methods of grinding coffee (coffee mills A47J 42/00) [3]	5/30	• • • by freezing out the water [3]
5/10	• Treating roasted coffee; Preparations produced thereby (removing unwanted substances A23F 5/16; reducing or removing alkaloid content A23F 5/20; coffee extraction, making instant coffee A23F 5/24) [3]	5/32	• • • by lyophilisation [3]
5/12	• • Agglomerating, flaking or tableting (of coffee extract or instant coffee A23F 5/38) [3]	5/34	• • • by spraying into a gas stream [3]
5/14	• • using additives, e.g. milk, sugar; Coating, e.g. for preserving (flavouring A23F 5/46) [3]	5/36	• • Further treatment of dried coffee extract; Preparations produced thereby, e.g. instant coffee (removing unwanted substances A23F 5/18; flavouring A23F 5/46) [3]
5/16	• Removing unwanted substances (reducing or removing alkaloid content A23F 5/20) [3]	5/38	• • • Agglomerating, flaking or tableting [3]
5/18	• • from coffee extract [3]	5/40	• • • using organic additives, e.g. milk, sugar [3]
5/20	• Reducing or removing alkaloid content; Preparations produced thereby; Extracts or infusions thereof [3]	5/42	• • • using inorganic additives [3]
		5/44	• Coffee substitutes [3]
		5/46	• Coffee flavour; Coffee oil; Flavouring of coffee or coffee extract (synthetic coffee flavours A23L 1/234) [3]
		5/48	• • Isolation of coffee flavour or coffee oil [3]
		5/50	• • • from coffee extract [3]

**A23G COCOA; COCOA PRODUCTS, e.g. CHOCOLATE; SUBSTITUTES FOR COCOA OR COCOA PRODUCTS; CONFECTIONERY; CHEWING GUM; ICE-CREAM; PREPARATION THEREOF [1, 2006.01]**

**Note(s)**

- In this subclass, the following term is used with the meaning indicated:
  - "ice-cream" includes any edible frozen or congealed semi-liquid or pasty substance, e.g. slush-ice.
- In this subclass, subject matter which cannot be completely classified in a single one of the main groups should be classified in each relevant main group.

1/00	<b>Cocoa; Cocoa products, e.g. chocolate; Substitutes therefor</b> (kitchen equipment for cocoa preparation A47J, e.g. apparatus for making beverages A47J 31/00)	1/28	• • • Apparatus for removing chocolate from the moulds (discharging baked goods from tins A21B 3/18) [1, 7]
1/02	• Preliminary treatment, e.g. fermentation of cocoa (machines for roasting cocoa A23N 12/00)	1/30	• Cocoa products, e.g. chocolate; Substitutes therefor [2006.01]
1/04	• Apparatus specially adapted for manufacture or treatment of cocoa or cocoa products (machines for roasting cocoa A23N 12/00; crushing or grinding apparatus in general B02C) [3]	1/32	• • characterised by the composition [2006.01]
1/06	• • Apparatus for preparing or treating cocoa beans or nibs	1/34	• • • Cocoa substitutes [2006.01]
1/08	• • Cocoa butter presses (presses for squeezing out liquid from liquid-containing material in general B30B)	1/36	• • • characterised by the fats used (containing dairy products A23G 1/46) [2006.01]
1/10	• • Mixing apparatus; Roller mills for preparing chocolate	1/38	• • • Cocoa butter substitutes [2006.01]
1/12	• • Chocolate-refining mills, i.e. roll refiners	1/40	• • • characterised by the carbohydrates used, e.g. polysaccharides (containing dairy products A23G 1/46) [2006.01]
1/14	• • Longitudinal conches	1/42	• • • containing micro-organisms or enzymes; containing paramedical or dietetical agents, e.g. vitamins (containing dairy products A23G 1/46) [2006.01]
1/16	• • Circular conches	1/44	• • • containing peptides or proteins (containing dairy products A23G 1/46) [2006.01]
1/18	• • Apparatus for conditioning chocolate masses for moulding	1/46	• • • containing dairy products [2006.01]
1/20	• • Apparatus for moulding, cutting, or dispensing chocolate	1/48	• • • containing plants or parts thereof, e.g. fruits, seeds, extracts (containing gums A23G 1/40) [2006.01]
1/21	• • • Apparatus for moulding hollow products, open shells or other articles having cavities, e.g. open cavities [3, 7]	1/50	• • characterised by shape, structure or physical form, e.g. products with an inedible support (liquid products, solid products in the form of powders, flakes or granules for making liquid products A23G 1/56) [2006.01]
1/22	• • • Chocolate moulds (A23G 1/21 takes precedence) [3]	1/52	• • • Aerated, foamed, cellular or porous products [2006.01]
1/24	• • • Tapping or jolting tables [1, 7]		
1/26	• • • Conveying devices for chocolate moulds [1, 7]		

## A23G

- 1/54 • • • Composite products, e.g. layered, coated, filled [2006.01]
- 1/56 • • Liquid products; Solid products in the form of powders, flakes or granules for making liquid products, e.g. for making chocolate milk [2006.01]
- 3/00 Sweetmeats; Confectionery; Marzipan; Coated or filled products** (chewing gum A23G 4/00) [1, 2006.01]
- 3/02 • Apparatus specially adapted for manufacture or treatment of sweetmeats or confectionery; Accessories therefor
- 3/04 • • Sugar-cookers
- 3/06 • • Batch-rolling, rope-forming, or sizing machines
- 3/08 • • Candy batch cooling tables
- 3/10 • • Candy-pulling machines
- 3/12 • • Apparatus for moulding candy in the plastic state
- 3/14 • • Fondant beating or creaming machines
- 3/16 • • Apparatus for casting fondant in bulk
- 3/18 • • Apparatus for moulding fondants
- 3/20 • • Apparatus for coating or filling sweetmeats or confectionery
- 3/22 • • • Apparatus for coating by casting
- 3/24 • • • Apparatus for coating by dipping
- 3/26 • • • Apparatus for coating by tumbling
- 3/28 • • Apparatus for decorating sweetmeats or confectionery (applying liquids to surfaces in general B05)
- 3/32 • Processes for preparing caramel or sugar colours (colouring or flavouring foodstuffs A23L 1/27)
- 3/34 • Sweetmeats, confectionery or marzipan; Processes for the preparation thereof [2006.01]
- 3/36 • • characterised by the composition [2006.01]
- 3/38 • • • Sucrose-free products [2006.01]
- 3/40 • • • characterised by the fats used (containing dairy products A23G 3/46) [2006.01]
- 3/42 • • • characterised by the carbohydrates used, e.g. polysaccharides (containing dairy products A23G 3/46) [2006.01]
- 3/44 • • • containing peptides or proteins (containing dairy products A23G 3/46) [2006.01]
- 3/46 • • • containing dairy products [2006.01]
- 3/48 • • • containing plants or parts thereof, e.g. fruits, seeds, extracts (containing gums A23G 3/42) [2006.01]
- 3/50 • • characterised by shape, structure or physical form, e.g. products with supported structure (composite structures including chocolate, e.g. as layer, coating or filler A23G 1/54) [2006.01]
- 3/52 • • • Aerated, foamed, cellular or porous products [2006.01]
- 3/54 • • • Composite products, e.g. layered, coated, filled [2006.01]
- 3/56 • • • Products with edible or inedible supports, e.g. lollipops [2006.01]
- 4/00 Chewing gum** (medicinal preparations characterised by chewing gum form A61K 9/68) [2006.01]
- 4/02 • Apparatus specially adapted for manufacture or treatment of chewing gum [2006.01]
- 4/04 • • for moulding or shaping [2006.01]
- 4/06 • characterised by the composition [2006.01]
- 4/08 • • of the chewing gum base [2006.01]
- 4/10 • • characterised by the carbohydrates used, e.g. polysaccharides (containing dairy products A23G 4/16) [2006.01]
- 4/12 • • containing micro-organisms or enzymes; containing paramedical or dietetical agents, e.g. vitamins (containing dairy products A23G 4/16) [2006.01]
- 4/14 • • containing peptides or proteins (containing dairy products A23G 4/16) [2006.01]
- 4/16 • • containing dairy products [2006.01]
- 4/18 • characterised by shape, structure or physical form, e.g. aerated products [2006.01]
- 4/20 • • Composite products, e.g. centre-filled [2006.01]
- 7/00 Other apparatus specially adapted for the chocolate or confectionery industry**
- 7/02 • Cooling or drying apparatus
- 9/00 Frozen sweets, e.g. ice confectionery, ice-cream; Mixtures therefor** [2]
- 9/04 • Production of frozen sweets, e.g. ice-cream (packages B65D 85/78) [2]
- 9/06 • • characterised by using carbon dioxide or carbon dioxide snow as cooling medium [2]
- Note(s)**
- Group A23G 9/06 takes precedence over groups A23G 9/08-A23G 9/14.
- 9/08 • • Batch production (continuous production A23G 9/14) [2]
- 9/10 • • • using containers which are rotated or otherwise moved in a cooling medium [2]
- 9/12 • • • using means for stirring the contents in a non-moving container [2]
- 9/14 • • Continuous production (A23G 9/20 takes precedence) [2]
- 9/16 • • • the products being within a cooled chamber, e.g. drum [2]
- 9/18 • • • the products being on the outer wall of a cooled body, e.g. drum or endless band [2]
- 9/20 • • the products being mixed with gas, e.g. soft-ice [2]
- 9/22 • • Details, component parts or accessories of apparatus insofar as not peculiar to a single one of the preceding groups [2]
- 9/24 • • • for coating or filling the products [2]
- 9/26 • • • for producing frozen sweets on sticks [2]
- 9/28 • • • for portioning or dispensing [2]
- 9/30 • • • Cleaning; Keeping clean; Sterilisation [2]
- 9/32 • characterised by the composition [2006.01]
- 9/34 • • characterised by carbohydrates used, e.g. polysaccharides (characterised by the dairy products used A23G 9/40) [2006.01]
- 9/36 • • containing micro-organisms or enzymes; containing paramedical or dietetical agents, e.g. vitamins (characterised by the dairy products used A23G 9/40) [2006.01]
- 9/38 • • containing peptides or proteins (characterised by the dairy products used A23G 9/40) [2006.01]
- 9/40 • • characterised by the dairy products used [2006.01]
- 9/42 • • containing plants or parts thereof, e.g. fruits, seeds, extracts (containing gums A23G 9/34) [2006.01]
- 9/44 • characterised by shape, structure or physical form (liquid products, solid products in the form of powders, flakes or granules for making liquid products A23G 9/52) [2006.01]
- 9/46 • • Aerated, foamed, cellular or porous products [2006.01]
- 9/48 • • Composite products, e.g. layered, coated, filled [2006.01]

- 9/50 • • Products with edible or inedible supports, e.g. cornets [2006.01]

- 9/52 • Liquid products; Solid products in the form of powders, flakes or granules for making liquid products [2006.01]

**A23J PROTEIN COMPOSITIONS FOR FOODSTUFFS; WORKING-UP PROTEINS FOR FOODSTUFFS; PHOSPHATIDE COMPOSITIONS FOR FOODSTUFFS [4]**

**1/00 Obtaining protein compositions for foodstuffs; Bulk opening of eggs and separation of yolks from whites [4]**

- 1/02 • from meat  
 1/04 • from fish or other sea animals  
 1/06 • from blood [2]  
 1/08 • from eggs  
 1/09 • • separating yolks from whites  
 1/10 • from hair, feathers, horn, skins, leather, bones, or the like  
 1/12 • from cereals, wheat, bran, or molasses  
 1/14 • from leguminous or other vegetable seeds; from press-cake or oil-bearing seeds  
 1/16 • from waste water of starch-manufacturing plant or like wastes  
 1/18 • from yeasts  
 1/20 • from milk, e.g. casein (curds or cheese A23C); from whey  
 1/22 • • Drying casein

**3/00 Working-up of proteins for foodstuffs**

**Note(s)**

In groups A23J 3/04-A23J 3/20, in the absence of an indication to the contrary, classification is made in the last appropriate place.

- 3/04 • Animal proteins [5]  
 3/06 • • Gelatine [5]  
 3/08 • • Dairy proteins [5]  
 3/10 • • • Casein (drying casein A23J 1/22) [5]  
 3/12 • • from blood [5]  
 3/14 • Vegetable proteins [5]  
 3/16 • • from soybean [5]  
 3/18 • • from wheat [5]  
 3/20 • Proteins from micro-organisms or unicellular algae [5]

**Note(s)**

Subject matter classified in groups A23J 3/22-A23J 3/30 is also classified in groups A23J 3/04-A23J 3/20, if the nature of the protein is of interest.

- 3/22 • by texturising [5]  
 3/24 • • using freezing [5]  
 3/26 • • using extrusion or expansion [5]  
 3/28 • • using coagulation from or in a bath, e.g. spun fibres [5]  
 3/30 • by hydrolysis [5]  
 3/32 • • using chemical agents [5]  
 3/34 • • • using enzymes [5]

**7/00 Phosphatide compositions for foodstuffs, e.g. lecithin [4]**

**A23K FEEDING-STUFFS SPECIALLY ADAPTED FOR ANIMALS; METHODS SPECIALLY ADAPTED FOR PRODUCTION THEREOF**

**1/00 Animal feeding-stuffs**

- 1/02 • from molasses  
 1/04 • from blood  
 1/06 • from distillers' or brewers' waste  
 1/08 • from waste products of dairy plant  
 1/10 • from meat, fish, or bones; from kitchen waste  
 1/12 • from hydrolysates of wood or straw  
 1/14 • from vegetable materials, e.g. potatoes or roots without ensilaging  
 1/16 • supplemented with accessory food factors; Salt blocks  
 1/165 • • with steroids, hormones, or enzymes  
 1/17 • • with antibiotics

- 1/175 • • with inorganic substances; Salt blocks  
 1/18 • specially adapted for particular animals  
 1/20 • Cakes or briquettes  
 1/22 • containing chemicals which are converted to proteins by cattle, e.g. ammonium salts, urea  
 1/24 • Poultry grit [2]

**3/00 Processes specially adapted for preservation of materials in order to produce animal feeding-stuffs**

- 3/02 • of green fodder (mechanical aspects of methods specially adapted for storing agricultural or horticultural crops A01F 25/00)  
 3/03 • • using chemicals for ensilaging  
 3/04 • of potatoes; of roots

**A23L FOODS, FOODSTUFFS, OR NON-ALCOHOLIC BEVERAGES, NOT COVERED BY SUBCLASSES A21D OR A23B-A23J; THEIR PREPARATION OR TREATMENT, e.g. COOKING, MODIFICATION OF NUTRITIVE QUALITIES, PHYSICAL TREATMENT (shaping or working, not fully covered by this subclass, A23P); PRESERVATION OF FOODS OR FOODSTUFFS, IN GENERAL (preservation of flour or dough for baking A21D) [4, 2006.01]**

**1/00 Foods or foodstuffs; Their preparation or treatment (preservation thereof in general A23L 3/00) [4]**

- 1/01 • General methods of cooking foods, e.g. by roasting or frying (methods specialized to particular food, see the relevant subgroups) [2]

- 1/015 • Removal of unwanted matter, e.g. deodorisation, detoxification (A23L 1/211 takes precedence) [4]
- 1/025 • Physical treatment, e.g. with wave energy, irradiation, electrical means, magnetic fields (cooking A23L 1/01; preserving A23L 3/00, A23B) [4]
- 1/03 • containing additives (A23L 1/05, A23L 1/30, A23L 1/308 take precedence) [4, 5]
- 1/035 • • Emulsifiers [4]
- 1/05 • containing gelling or thickening agents (A23L 1/06 takes precedence) [5]
- 1/052 • • of vegetable origin [5]
- 1/0522 • • • Starch; Modified starch; Starch derivatives, e.g. esters, ethers [5]
- 1/0524 • • • Pectin; Derivatives thereof [5]
- 1/0526 • • • from seeds, e.g. locust bean gum, guar gum (A23L 1/0522, A23L 1/0524 take precedence) [5]
- 1/0528 • • • from corms, tubers or roots, e.g. glucomannan (A23L 1/0522 takes precedence) [5]
- 1/053 • • • Exudates, e.g. gum arabic, gum acacia, gum karaya, tragacanth [5]
- 1/0532 • • • from seaweeds, e.g. alginates, agar, carrageenan [5]
- 1/0534 • • • Cellulose; Derivatives thereof, e.g. ethers [5]
- 1/054 • • of microbial origin, e.g. xanthan, dextran [5]
- 1/056 • • of animal origin, e.g. chitin [5]
- 1/0562 • • • Proteins, e.g. gelatin, collagen [5]
- 1/058 • • Synthetic resins, e.g. polyvinylpyrrolidone [5]
- 1/059 • • Inorganic additives, e.g. silica [5]
- 1/06 • Marmalades; Jams; Jellies; Other similar fruit or vegetable compositions; Simulated fruit products [4]
- 1/064 • • derived from fruit or vegetable solids [4]
- 1/068 • • derived from fruit or vegetable juices [4]
- 1/072 • • Simulated fruit products [4]
- 1/076 • Products from apiculture, e.g. royal jelly or pollen; Substitutes therefor [4]
- 1/08 • • Honey; Honey substitutes [2]
- 1/09 • containing carbohydrate syrups; containing sugars; containing sugar alcohols, e.g. xylitol; containing starch hydrolysates, e.g. dextrin (A23L 1/076, A23L 1/236 take precedence) [4, 5]
- 1/10 • containing cereal-derived products [2]
- 1/105 • • Fermentation of farinaceous cereal or cereal material; Addition of enzymes or micro-organisms (A23L 1/16, A23L 1/185, A23L 1/238 take precedence) [4]
- 1/16 • • Types of pasta, e.g. macaroni, noodles [2]
- 1/162 • • • Par-boiled or instant pasta [4]
- 1/164 • • Flakes or other shapes of the ready-to-eat type (A23L 1/18 takes precedence) [2]
- 1/168 • • Cereal granules or flakes to be cooked and eaten hot, e.g. oatmeal [2]
- 1/172 • • Cereal germ products [2]
- 1/176 • • Farinaceous granules for dressing meat, fish or the like [2]
- 1/18 • • Puffed cereals, e.g. popcorn, puffed rice
- 1/182 • • Products in which the original granular shape is maintained, e.g. par-boiled rice [2]
- 1/185 • Malt products (malt products of pulse A23L 1/202; preparation of malt for brewing C12C) [2]
- 1/186 • • Fermentation of cereal malt, or of cereal by malting [4]
- 1/187 • Puddings; Dry powder puddings [2]
- 1/19 • Cream substitutes [2]
- 1/20 • Treatment of pulse, i.e. fruits of leguminous plants, for production of fodder or food; Preparation of products from legumes; Chemical means for rapid cooking of these foods, e.g. treatment with phosphates [2]
- 1/201 • • Rapid cooking pulse [4]
- 1/202 • • Malt products; Fermented malt products (A23L 1/22 takes precedence; malt products of cereals A23L 1/185) [2]
- 1/211 • • Removing bitter or other undesirable substances [4]
- 1/212 • Preparation of fruits or vegetables (of pulse A23L 1/20; treating harvested fruit or vegetables in bulk A23N) [2]
- 1/214 • • of tuberous or like starch containing root crops [2]
- 1/216 • • • of potatoes [2]
- 1/2165 • • • • Unshaped dry products, e.g. powders, flakes, granules or agglomerates [4]
- 1/217 • • • • Roasted or fried products, e.g. snacks or chips [4]
- 1/218 • • by pickling, e.g. sauerkraut, pickles [2]
- 1/22 • Spices; Flavouring agents or condiments; Artificial sweetening agents; Table salts; Dietetic salt substitutes [2, 5]
- 1/221 • • Natural spices, flavouring agents, or condiments; Extracts thereof [2]
- 1/222 • • • from fruit, e.g. essential oils [2]
- 1/223 • • • Dried spices [2]
- 1/224 • • • • Onions [2]
- 1/225 • • • Mustard [2]
- 1/226 • • Synthetic spices or flavouring agents or condiments [2]
- 1/227 • • • containing amino acids [2]
- 1/228 • • • • containing glutamic acids [2]
- 1/229 • • • containing nucleotides [2]
- 1/23 • • • prepared by fermentation [2]
- 1/231 • • • Meat flavours [2]
- 1/232 • • • Smoke flavours [2]
- 1/234 • • • Coffee or cocoa flavours [2]
- 1/235 • • • Fruit flavours [2]
- 1/236 • • Artificial sweetening agents [2]
- 1/237 • • Table salts; Dietetic salt substitutes [2]
- 1/238 • • Soya sauce [2]
- 1/24 • • Salad dressings; Mayonnaise; Ketchup [2]
- 1/27 • Colouring or decolouring of foods [2]
- 1/272 • • Retaining or modifying natural colour by use of additives, e.g. optical brighteners (A23L 1/275 takes precedence) [2]
- 1/275 • • Addition of dyes or pigments with or without optical brighteners [2]
- 1/277 • • Removing colour by chemical reaction, e.g. bleaching [2]
- 1/28 • Edible extracts or preparations of fungi (for medicinal purposes A61K)
- 1/29 • Modifying nutritive qualities of foods; Dietetic products (A23L 1/09 takes precedence; dietetic salt substitutes A23L 1/22) [4, 5]
- 1/30 • • containing additives (A23L 1/308 takes precedence) [2]
- 1/302 • • • Vitamins [4]
- 1/303 • • • • Vitamins A or D [4]
- 1/304 • • • Inorganic salts, minerals, trace elements [4]
- 1/305 • • • Amino acids, peptides or proteins [4]
- 1/307 • • Reducing nutritive value; Dietetic products with reduced nutritive value [4]

- 1/308 • • • Addition of substantially indigestible substances, e.g. dietary fibres (A23L 1/05 takes precedence) [4, 5]
- 1/31 • Meat products; Meat meal [4]
- 1/311 • • Meat meal or powder; Granules, agglomerates or flakes [4]
- 1/312 • • from offal, e.g. rinds, skins, marrow, tripes, feet, ears or snouts (glands or bones as ingredients of processed meat A23L 1/317) [4]
- 1/313 • • Meat extracts [2]
- 1/314 • • containing additives [4]
- 1/315 • • Poultry products, e.g. poultry sausages [2]
- 1/317 • • Comminuted or emulsified meat products, including sausages; Reformed meat from comminuted meat products [4]
- 1/318 • • Tenderised or flavoured meat pieces, e.g. obtained by injecting solutions; Macerating solutions [4]
- 1/32 • Egg products [2]
- 1/322 • • Egg rolls [4]
- 1/325 • Food-from-the-sea products; Fish products; Fish meal; Fish-egg substitutes [4]
- 1/326 • • Fish meal or powder; Granules, agglomerates or flakes [4]
- 1/327 • • Fish extracts [4]
- 1/328 • • Fish eggs, e.g. caviar; Fish-egg substitutes [4]
- 1/33 • • Shell-fish [2]
- 1/333 • • Molluscs [2]
- 1/337 • • Edible seaweed [2]
- 1/36 • Food consisting mainly of nut meats or seeds [2]
- 1/38 • • Peanut butter
- 1/39 • Soups; Sauces (A23L 1/238, A23L 1/24 take precedence) [4]
- 1/40 • • Soup concentrates, e.g. powders, cakes
- 1/48 • Food compositions or treatment thereof not covered by the preceding subgroups [4]
- 2/00 Non-alcoholic beverages; Dry compositions or concentrates therefor; Their preparation** (soup concentrates A23L 1/40; preparation of non-alcoholic beverages by removal of alcohol C12H 3/00) [2]
- 2/02 • containing fruit or vegetable juices [2]
- 2/04 • • Extraction of juices (machines or apparatus for extracting juice A23N 1/00, A47J 19/00) [2]
- 2/06 • • • from citrus fruits [2]
- 2/08 • • Concentrating or drying of juices [2]
- 2/10 • • • by heating or contact with dry gases [2]
- 2/12 • • • by freezing [2]
- 2/14 • • • and sublimation [2]
- 2/38 • Other non-alcoholic beverages [2, 6]
- 2/385 • Concentrates of non-alcoholic beverages [6]
- 2/39 • • Dry compositions [6]
- 2/395 • • • in a particular shape or form [6]
- 2/40 • Effervescence-generating compositions [2]
- 2/42 • Preservation of non-alcoholic beverages [6]
- 2/44 • • by adding preservatives [6]
- 2/46 • • by heating [6]
- 2/48 • • • by irradiation or electric treatment [6]
- 2/50 • • by irradiation or electric treatment without heating [6]
- 2/52 • Adding ingredients (adding preservatives A23L 2/44) [6]
- 2/54 • • Mixing with gases [6]
- 2/56 • • Flavouring or bittering agents (sweeteners A23L 2/60) [6]
- 2/58 • • Colouring agents [6]
- 2/60 • • Sweeteners [6]
- 2/62 • • Clouding agents; Agents to improve the cloud-stability [6]
- 2/64 • • Re-adding volatile aromatic ingredients [6]
- 2/66 • • Proteins [6]
- 2/68 • • Acidifying substances [6]
- 2/70 • Clarifying or fining of non-alcoholic beverages; Removing unwanted matter [6]
- 2/72 • • by filtration [6]
- 2/74 • • • using membranes, e.g. osmosis, ultrafiltration [6]
- 2/76 • • by removal of gases [6]
- 2/78 • • by ion-exchange [6]
- 2/80 • • by adsorption [6]
- 2/82 • • by flocculation [6]
- 2/84 • • using micro-organisms or biological material, e.g. enzymes [6]
- 3/00 Preservation of foods or foodstuffs, in general, e.g. pasteurising, sterilising, specially adapted for foods or foodstuffs** (preserving foods or foodstuffs in association with packaging B65B 55/00)
- 3/005 • by heating using irradiation or electric treatment (drying or kilning A23L 3/40) [5]
- 3/01 • • using micro-waves or dielectric heating [5]
- 3/015 • by treatment with pressure variation, shock, acceleration or shear stress [5]
- 3/02 • by heating materials in packages which are progressively transported, continuously or stepwise, through the apparatus (A23L 3/005 takes precedence) [5]
- 3/04 • • with packages on endless chain or band conveyers
- 3/06 • • with packages transported along a helical path
- 3/08 • • with packages on a revolving platform
- 3/10 • by heating materials in packages which are not progressively transported through the apparatus (A23L 3/005 takes precedence) [5]
- 3/12 • • with packages in intercommunicating chambers through which the heating medium is circulated
- 3/14 • • with packages moving on the spot
- 3/16 • by heating loose unpacked materials (A23L 3/005 takes precedence) [5]
- 3/18 • • while they are progressively transported through the apparatus
- 3/20 • • • with transport along plates
- 3/22 • • • with transport through tubes
- 3/24 • • with the materials in spray form
- 3/26 • by irradiation without heating
- 3/28 • • with ultra-violet light
- 3/30 • • by treatment with ultrasonic waves
- 3/32 • by treatment with electric currents without heating effect
- 3/34 • by treatment with chemicals
- 3/3409 • • in the form of gases, e.g. fumigation; Compositions or apparatus therefor [5]
- 3/3418 • • • in a controlled atmosphere, e.g. partial vacuum, comprising only CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O [5]
- 3/3427 • • • in which an absorbent is placed or used (packages for foodstuffs with provision for absorbing fluids B65D 81/26) [5]
- 3/3436 • • • • Oxygen absorbent [5]
- 3/3445 • • • in a controlled atmosphere comprising other gases in addition to CO<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub> or H<sub>2</sub>O [5]
- 3/3454 • • in the form of liquids or solids [5]
- 3/3463 • • • Organic compounds; Micro-organisms; Enzymes [5]

**Note(s)**

In groups A23L 3/3472-A23L 3/3562, in the absence of an indication to the contrary, classification is made in the last appropriate place.

- 3/3472 • • • • Compounds of undetermined constitution obtained from animals or plants [5]
- 3/3481 • • • • Organic compounds containing oxygen [5]
- 3/349 • • • • • with singly-bound oxygen [5]
- 3/3499 • • • • • with doubly-bound oxygen [5]
- 3/3508 • • • • • containing carboxyl groups [5]
- 3/3517 • • • • • • Carboxylic acid esters [5]
- 3/3526 • • • • Organic compounds containing nitrogen [5]
- 3/3535 • • • • Organic compounds containing sulfur [5]
- 3/3544 • • • • Organic compounds containing hetero rings [5]
- 3/3553 • • • • Organic compounds containing phosphorus [5]
- 3/3562 • • • • Sugars; Derivatives thereof [5]
- 3/3571 • • • • Micro-organisms; Enzymes [5]
- 3/358 • • • • Inorganic compounds [5]
- 3/3589 • • • • Apparatus for preserving using liquids [5]
- 3/3598 • • • • Apparatus for preserving using solids [5]
- 3/36 • • Freezing; Subsequent thawing; Cooling [5]
- 3/365 • • Thawing subsequent to freezing [5]
- 3/37 • • with addition of chemicals [5]
- 3/375 • • • • with direct contact between the food and the chemical, e.g. liquid N<sub>2</sub>, at cryogenic temperature [5]
- 3/40 • • by drying or kilning; Subsequent reconstitution [4, 5]
- 3/42 • • with addition of chemicals before or during drying [5]
- 3/44 • • Freeze-drying [5]
- 3/46 • • Spray-drying [5]
- 3/48 • • Thin layer-, drum- or roller-drying [5]
- 3/50 • • Fluidised-bed drying [5]
- 3/52 • • Foam-drying [5]
- 3/54 • • using irradiation or electric treatment, e.g. ultrasonic waves [5]

**A23N MACHINES OR APPARATUS FOR TREATING HARVESTED FRUIT, VEGETABLES, OR FLOWER BULBS IN BULK, NOT OTHERWISE PROVIDED FOR; PEELING VEGETABLES OR FRUIT IN BULK; APPARATUS FOR PREPARING ANIMAL FEEDING-STUFFS** (machines for cutting straw or fodder A01F 29/00; disintegrating, e.g. shredding, B02C; severing, e.g. cutting, splitting, slicing, B26B, B26D)

**Subclass index**

APPARATUS FOR DRAINING.....	1/00
MACHINES FOR STONING OR REMOVING SEED CONTAINING SECTIONS.....	3/00, 4/00
MACHINES FOR HULLING, HUSKING, CRACKING, OR PEELING.....	5/00, 7/00
APPARATUS FOR PREPARING ANIMAL FEEDING-STUFFS.....	17/00
MACHINES FOR OTHER TREATMENT.....	11/00-15/00

- 1/00 Machines or apparatus for extracting juice**  
(preparation of non-alcoholic beverages, e.g. by adding ingredients to fruit or vegetable juices, A23L 2/00; apparatus for making beverages A47J 31/00; extracting presses B30B)
- 1/02 • combined with disintegrating or cutting
- 3/00 Machines for coring or stoning fruit, characterised by their feeding device** (A23N 4/00 takes precedence) [2]
- 3/02 • with feeder-drums
- 3/04 • with endless feeder-belts
- 3/06 • with feeder-tables
- 4/00 Machines for stoning fruit or removing seed-containing sections from fruit, characterised by their stoning or removing device** (for peeling fruit and removing seed-containing sections A23N 7/08; domestic devices for stoning fruit A47J 23/00, for coring fruit A47J 25/00) [2, 3]
- 4/02 • for stoning fruit [2]
- 4/04 • • for peaches, plums, apricots or the like [2]
- 4/06 • • for cherries or the like (A23N 4/04 takes precedence) [2]
- 4/08 • • for dates, olives or the like oblong fruits [2]
- 4/10 • • for fruit with very small pips e.g. raisins [2]
- 4/12 • for coring fruit [2]
- 4/14 • • for apples, pears or the like [2]
- 4/16 • • for tomatoes or the like [2]
- 4/18 • • for citrus fruits [2]
- 4/20 • • for pineapples [2]
- 4/22 • for both splitting and stoning [2]
- 4/24 • for removing seed-containing sections from cut fruit [2]
- 5/00 Machines for hulling, husking, or cracking nuts**
- 5/01 • for peanuts [2]
- 5/03 • for coconuts (A23N 5/08 takes precedence) [2]
- 5/08 • for removing fleshy or fibrous hulls of nuts (for peanuts A23N 5/01)
- 7/00 Peeling vegetables or fruit** (devices for skinning onions A23N 15/08; peeling machines of the household type A47J 17/00) [3]
- 7/01 • using chemical substances, e.g. lye [2, 3]
- 7/02 • Peeling potatoes, apples or similarly shaped vegetables or fruit (A23N 7/01 takes precedence) [3]
- 7/04 • Peeling asparagus (A23N 7/01 takes precedence) [3]
- 7/08 • for peeling fruit and removing seed-containing sections
- 7/10 • Driving mechanisms
- 11/00 Removing pith from stems**

- 12/00 Machines for cleaning, blanching, drying or roasting fruits or vegetables, e.g. coffee, cocoa, nuts** (methods for treating, e.g. roasting, coffee or cocoa A23F, A23G; cleaning, e.g. washing, or drying grain B02B 1/00; separating solids from solids for cleaning B07B; cleaning in general B08B; heating devices *per se*, *see* the relevant classes, e.g. F24; drying machines in general F26B) [3]
- 12/02 • for washing or blanching (A23N 12/06 takes precedence; blanching methods A23B 7/06) [3]
- 12/04 • • for blanching [3]
- 12/06 • for washing or blanching, combined with subsequent drying [3]
- 12/08 • for drying or roasting (A23N 12/06 takes precedence) [3]
- 12/10 • • Rotary roasters [3]
- 12/12 • • Auxiliary devices for roasting machines [3]
- 15/00 Machines or apparatus for other treatment of fruits or vegetables for human purposes; Machines or apparatus for topping or skinning flower bulbs** [2]
- 15/01 • for stripping brussels' sprouts from stalks [2]
- 15/02 • for stemming, piercing or stripping fruit; Removing sprouts of potatoes
- 15/04 • Devices for topping fruit or vegetables (topping onions A23N 15/08) [2]
- 15/06 • Devices for other treatment of fruit, e.g. marking, maturing, polishing
- 15/08 • Devices for topping or skinning onions or flower bulbs [2]
- 15/10 • for shelling peas or beans [2]
- 15/12 • for snipping or stringing beans [3]
- 17/00 Apparatus specially adapted for preparing animal feeding-stuffs**
- 17/02 • Fodder mashers (household implements for mashing potatoes or other foodstuffs A47J 19/04)
- A23P SHAPING OR WORKING OF FOODSTUFFS, NOT FULLY COVERED BY A SINGLE OTHER SUBCLASS** (shaping substances in a plastic state in general B29C)

**Note(s)**

Attention is drawn to subclasses A01J, A21C, A22C, A47J, B02C, in addition to other subclasses of A23, in connection with the shaping or working of foodstuffs.

- 1/00 Shaping or working of foodstuffs**
- 1/02 • Agglomerating; Granulating; Tableting [4]
- 1/04 • Encapsulation of particles, e.g. foodstuff additives (flavouring agents A23L 1/22) [4]
- 1/06 • Making free-flowing or instant powder (A23P 1/02, A23P 1/04 take precedence) [4]
- 1/08 • Coating of foodstuffs; Coatings therefor; Making of laminated, multilayered or stuffed foodstuffs [4]
- 1/10 • Other shaping methods, e.g. moulding [4]
- 1/12 • • Extruding [4]
- 1/14 • • Puffing or expanding (A23L 1/164, A23L 1/18, A23L 1/217 take precedence) [4]
- 1/16 • • Foaming or whipping (cream substitutes A23L 1/19) [4]