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Replace GB/T 19630.1—2005

Organic Products

Part 2: Processing

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Foreword

GB/T 19630 *Organic Products* include four parts:

- Part 1: Production;
- Part 2: Processing;
- Part 3: Labeling and Marketing;
- Part 4: Management System.

This is the second part of GB/T 19630.

This part was drafted according to the rules in GB/T1.1-2009.

This part replaces GB/T 19630.2-2005 *Organic Products Part 2: Processing*. Compared with GB/T 19630.2-2005, the main technical changes are as follows:

- Amendment of the scope to further specific that feed is in the scope of products which can be certified, and delete the related words which indicate organic textiles were only applicable on cotton and silk fiber origin ones;
- Addition of the stands GB 2721 Hygienic standard for food grade salt and GB/T 16764 Hygienic specification for formula feed enterprises into normative references;
- Addition of feed additives (see 3.3) and removal of ironing radiation (see 3.4 of 2005 version of this standard) in Terms and Definitions;
- Amendment of 4.1 and 4.2 of 2005 version of this standard to 4.1 “General Principles”. 1) to further specify maintaining the organic characteristics of processed products, from raw materials, processing stage and prevention of commingling with conventional products; 2) organic feedstuff processing plant shall meet the requirements of GB/T 16764; 3) Negative environmental impact should be reduced into minimum during organic processing;
- Addition of the requirements for ingredients, additives and aids in feedstuff processing (see 4.2.1.6);
- simplified the specific requirements on parallel production (see 4.2.2.2), and removal the specific requirements on flush (see 4.4.4.15 of 2005 version of this article);
- Addition of the requirements for disinfectants in pest control (see 4.2.3.3);
- moved the requirements on record keeping for storage and transportation into GB/T 19630.4 (see GB/T 19630.4-2011 4.2.6 l, 4.7.5 and 4.8.4 of 2005 version);
- Removal of the timing requirements on establishment and implementation of environmental management plan in textile processing (see 4.10.2 of 2005 version), removed the articles of textile processing on “Hygienic conditions of processing plant”, “Pest prevention and control”, “Storage”, “Transportation”, “Packaging”, and “ingredients, additives and aids” (see 4.10.21 of 2005 version);

- Adjustment of the materials of Appendix A on Allowed additives and aids and other materials in organic food processing, and separated it into Appendix A.1 “List of additives” and Appendix A.2 “List of aids” (see Appendix A);
- Addition of Appendix B on allowed additives in organic feedstuff processing (see Appendix B).

Please note that some sections of this part maybe relevant to patents. The distribution authority of this part shall not take the responsibilities of identifying these patents concerned.

This part was proposed by Certification and Accreditation Administration of the People’s Republic of China.

This part was drafted by Hangzhou WIT Assessment Co. Ltd, Organic Food Development and Certification Center of China, China Agricultural University, China Organic Food Certification Center, China National Accreditation Service for Conformity Assessment, Shandong Environmental Protection Bureau, Certification and Accreditation Administration of the People’s Republic of China.

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Previous issue replaced by this part is as following:

——GB/T 19630.3-2005.

Organic products

Part 2: Processing

1. Scope

This part of GB/T 19630 defines general criteria and requirements for organic processing.

This part applies to the organic processing, packaging, storage and transportation of food, feed and textile which use non processed products as raw materials produced in accordance with the requirements established in GB/T 19630.1.

2 Normative references

The following normative documents are essential for the implementation of this document. For dated references, only the dated version references apply. For undated references, the latest edition of the publications (including the list of revision) referred to apply.

GB 2721	Hygienic standard for food grade salt
GB 2760	Hygiene standards for the use of food additives
GB 4287	Waste discharge standards for textile and dyeing industry
GB5749	Sanitary standards for drinking water
GB14881	General sanitary criteria for food industry
GB16764	Hygiene standard for compound feedstuff plant
GB/T 18885	Technical requirements for ecological textile
GB/T 19630.1	Organic Products Part 1: Production

3 Terms and definitions

Terms and definitions listed hereafter apply to this part of GB/T 19630 *Organic Products*.

3.1 Ingredients

Any materials, including food additives, used in food manufacturing and processing that are still present in final products even though their formats may be somewhat modified after being processed.

3.2 Food additives

Synthetic or natural substances which are added to food for the purpose of improving the color, fragrance, taste, shape and nutrition, as well as to satisfy the requirements of preserving and processing procedures.

3.3 Feed additives

Small amount or trace materials which are added during feed processing, manufacturing and usage, including nutritive and general additives.

3.4 Food processing aids

Any substance or materials (not including equipment and containers) used for certain technical purposes in food processing, preparation and handling. The substance or materials themselves not used as a food ingredients.

4. Requirements

4.1 General principles

4.1.1 All the organic processing and following processes referred to in this part shall be effectively controlled to maintain the integrity of organic processing, including:

- a) All ingredients shall be from organic farming system defined in GB/T 19630.1. Conventional agriculture ingredients used shall be kept to a minimum except required by relevant laws and regulations;
- b) The processing procedures shall maintain as much nutrition and original nature of the products as possible and,
- c) Organic processing and its following procedures shall be separated from the processing of conventional products either by time or by location.

4.1.2 Organic food processing shall meet the requirements of relevant laws and regulations. All organic food processing factories shall comply with the requirements prescribed in GB14881, and organic feed processing plants shall meet the requirements defined in GB/T 16764. Other processing factories shall comply with related national and sectional laws and regulations.

4.1.3 Negative environmental impact caused by organic processing shall be kept to a minimum level.

4.2 Food and feed

4.2.1 Ingredients, food additives and processing aids

4.2.1.1 Weight or volume of organic ingredients come from organic farming systems defined in GB/T 19630.1 shall account for no less than 95% of the total ingredients in final products.

4.2.1.2 When organic ingredients are not available, conventional agricultural ingredients may be allowed; but they shall not exceed 5% of the total ingredients. Once organic ingredients are available, they shall replace conventional agricultural ingredients immediately.

4.2.1.3 For the same ingredient, it is not allowed to use organic and conventional or conversion to organic ingredient at the same time.

4.2.1.4 Water and salt that are used as ingredients shall comply with GB 5749 and GB 2721 respectively and shall not be included in the calculation of the percentage of organic ingredients stipulated in 4.2.1.1.

4.2.1.5 For food processing, food additives and processing aids listed in Annex A1 and Annex A2 may be allowed and usage conditions shall meet the requirements set forth in GB2760.

4.2.1.6 For feed processing, feed additives listed in Annex B may be allowed and usage conditions shall meet the requirements set forth in GB2760.

4.2.1.7 For food processing if it is necessary to use the materials not listed, they shall meet the requirements of GB 2760 and be evaluated following the procedures specified in Annex B.

4.2.1.8 Minerals (including trace elements), vitamins and amino acids, are only allowed to use under the following circumstances:

- a) When alternative materials that are in accordance with this standard are not accessible;
- b) Products cannot be normally produced or stored, or quality cannot meet specific standards without usage of these materials; and,
- c) the use of these materials is required by other laws and/or regulations.

4.2.1.9 Ingredients, additives and processing aids from GMOs are prohibited.

4.2.2 Processing

4.2.2.1 Organic product processing shall not damage the main nutritional elements; techniques such as mechanical, refrigerating, heating, microwaving and smoking may be used, as well as microorganism fermentation. Extraction, concentration, sedimentation and filtration may also be used, but the extraction solvents shall be limited to water, ethanol, animal and plant oil, vinegar, carbon dioxide, nitrogen or carboxylic acid, and other chemical reagents shall not be added in the process of extraction and concentration.

4.2.2.2 Measures shall be taken to prevent the commingling of organic products with conventional products, or prohibited materials.

4.2.2.3 Water used during the processing quality shall conform to the standard GB 5749.

4.2.2.4 Ionizing radiation is prohibited in the process of food processing and storage.

4.2.2.5 Asbestos filtrating materials or filtrating materials which could be penetrated by hazardous matters shall be prohibited in food processing.

4.2.3 Pest control

4.2.3.1 The following operations shall be adopted as priority measures to prevent and control pests:

- a) To eliminate pest propagation conditions;
- b) To prevent the contact of pests with processing and handling equipment; and,

c) To prevent pest propagation through control of such environmental factors as temperature, humidity, light, air and etc.

4.2.3.2 Pest catching facilities, including mechanical, hormonal, odorous, and sticky, physical barriers, diatomite, sound, light and electric equipment may be used to prevent and control pests.

4.2.3.3 The following materials may be used as disinfectant during processing: ethanol, calcium hypochlorite, sodium hypochlorite, chlorine dioxide and hydrogen peroxide. The disinfectant shall be approved by government authorities. Disinfectant which may have toxic and harmful residues shall not be used.

4.2.3.4 Ways of spraying and fumigation with Chinese herbs are recommended when emergency of severe pest strikes occurred in the processing and storage areas. Sulfur treatment is not allowed.

4.2.4 Packaging

4.2.4.1 Packaging materials made of wood, bamboo, plant stems, plant leaves and paper are recommended. Other packaging materials that comply with hygiene requirements may also be allowed.

4.2.4.2 Materials for packaging shall be food-grade. Packaging shall be simple and practical. Excessive packaging shall be avoided while recycling of packaging materials shall be considered.

4.2.4.3 Carbon dioxide and nitrogen may be allowed to be used as packing filling agents.

4.2.4.4 Packaging materials containing synthetic fungicide, preservative and fumigant are prohibited.

4.2.4.5 Organic products shall not be packed in bags or containers that have been in contact with any prohibited substance.

4.2.5 Storage

4.2.5.1 Certified products shall not be contaminated by other substances in the storage process.

4.2.5.2 Warehouses shall be clean, without pests and hazardous residues,.

4.2.5.3 Besides storage in ambient temperature, following storage measures may be allowed:

- a) Warehouse air conditioning;
- b) Temperature control;
- c) Drying;
- d) Humidity adjustment.

4.2.5.4 Organic products shall be stored separately. If they have to be stored together with conventional products, specific area(s) shall be assigned. Effective measures shall be adopted to prevent commingling with

other products.

4.2.6 Transportation

4.2.6.1 Vehicles shall be cleaned before loading organic products.

4.2.6.2 In the process of transportation, commingling or contamination with conventional products shall be avoided.

4.2.6.3 During the processes of transportation, loading and unloading, organic labeling and related description shall not be spoiled or destroyed in the package.

4.3 Textiles

4.3.1 Raw materials

4.3.1.1 Raw fiber materials of textiles shall be 100% organic;

4.3.1.2 Environmental impact shall be minimized when raw materials are processed into fibers;

4.3.1.3 Non-textile raw materials in a textile product shall be harmless to the environment and humans in the processes of production, utilization and wastes disposal.

4.3.2 Processing

4.3.2.1 Good manufacturing practice shall be adopted in textile processing so that environmental impact can be reduced to a minimal level;

4.3.2.2 Materials that are detrimental to human and the environment shall be prohibited; processing aids shall not contain carcinogenic, mutagenic, teratogenic and sensitizing elements. LD₅₀ of mammals shall be higher than 2000mg/kg;

4.3.2.3 Materials that are known to be bio-accumulative and are not biodegradable are prohibited;

4.3.2.4 Energy consumption in textile processing shall be minimized and renewable energy shall be used whenever possible;

4.3.2.5 Organic and conventional processing may be allowed to remain together if separation of the two may lead to substantial environmental or economic disadvantages while staying together won't lead to the risks of contamination with recycling liquids including alkalization, sizing and rinsing, etc. Processing organizations shall guarantee that organic textiles will not be contaminated by prohibited substances;

4.3.2.6 Processing organizations shall adopt effective sewage treatment technology to assure that the discharge of contaminants does not exceed the standard of GB4287;

4.3.2.7 An environmental management improvement plan shall be established and implemented.

4.3.2.8 Surfactant used to boil cocoon and scour wool shall be readily biodegradable.

4.3.2.9 Serous fluids shall be readily degradable or be recycled at 80% at least;

4.3.2.10 Sodium hydroxide or other alkaline materials may be allowed for mercerizing, but shall be recycled to the highest possible level;

4.3.2.11 Textile process oil and weaving and knitting oil (“needle” oil) shall come from readily biodegradable oil agents or that are extracted from plants.

4.3.3 Dyestuff and dyeing

4.3.3.1 Dyestuff that is derived from plant origin or mineral origin shall be used.

4.3.3.2 Hazardous dyestuff and materials that are prohibited by GB/T18885 shall not be permitted.

4.3.3.3 Natural thickening agents of printing and dyeing are permitted

4.3.3.4 Biological degradable softening agents are permitted.

4.3.3.5 Materials that can produce organic halogen in wastewater shall be prohibited in cleaning up the printing and dyeing equipment.

4.3.3.6 Heavy metal concentration in dyestuff shall not exceed the levels listed in Table 1.

Table 1 Maximum level of heavy metal concentrations in dyestuff

Name	concentration mg/kg	Name	Concentration mg/kg	Name	Concentration mg/kg
Sb	50	As	50	Ba	100
Pb	100	Cd	20	Cr	100
Fe	2500	Cu	250	Mn	1000
Ni	200	Hg	4	Se	20
Ag	100	Zn	1500	Sn	250

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4.3.4 Final products

4.3.4.1 Auxiliaries (such as lining, ornament, button, zipper, and suture) shall be materials that are harmless to the environment; and natural materials, wherever possible, shall be used.

4.3.4.2 Processing aids that are detrimental to humans and the environment shall not be used in processing final products (e.g. sand washing and water washing).

4.3.4.3 Concentration of hazardous materials in final products shall not exceed the standard of GB/T18885.

Appendix A

(Normative Appendix)

List of Approved Additives, Processing Aids and other substances Used in Food Processing

A.1 Additives

See table A.1.

Table A.1 List of Additives

Serial number	Substance	Note	Int'l Numbering System
1	Arabic gum	Thickening agent, used in various kinds of food other than food listed in GB 2760-2011 Annex A.3, at appropriate dosage.	414
2	Karaya gum	Stabilizing agent, for milk adjustment and water-oil form fat milky products and foods other than foods listed in A.3 of GB 2760-2011, at appropriate dosage.	416
3	Silicon dioxide	Anti-coagulator, used in egg powder, milk powder, cacao powder, cacao grease, sugar powder, plant powder, instant coffee, powdery soup materials and powdery essence. Referring to GB 2760-2011 for the limits.	551
4	Sulfur dioxide	Bleaching agents, preservative, antioxidant, for unsweetened fruit wine, the maximum limit is 50 mg / L; for sweetened fruit wine, the maximum limit is 100 mg / L; for red wine, the maximum limit is 100 mg / L, for white wine and rosé wine, the maximum limit is 150 mg / L. The maximum limits are counted in sulfur dioxide residues.	551
5	Glycerin	Water retention agent, emulsifier, used in various kinds of food other than food listed in GB 2760-2011 Annex A.3, at appropriate dosage.	422
6	Guar gum	Thickening agent, used in various kinds of food other than food listed in GB 2760-2011 Annex A.3, at appropriate dosage.; Referring to GB 2760-2011 for the limits. when adding to light cream and older infants and young children formula food	412
7	Pectin	Emulsifier, stabilizer, thickener for fermented milk, cream, butter and concentrated butter, wet raw noodle products (such as: noodles, dumpling skin and wonton skin, shaomai skin), dry raw noodle products and non-white sugar and syrup (such as: brown sugar, deep brown sugar and maple syrup), spice, and the products listed in GB 2760-2011 Annex A.3, at appropriate dosage. For fruit and vegetable juice (puree) refer to GB 2760-2011 for the limits	440

Serial number	Substance	Note	Int'l Numbering System
8	Potassium alginate	Thickening agent, used in various kinds of food other than food listed in GB 2760-2011 Annex A.3, at appropriate dosage.	402
9	Sodium alginate	Thickening agent for fermented milk, cream, butter and concentrated butter, wet raw noodle products (such as: noodles, dumpling skin and wonton skin, shaomai skin), dry raw noodle products and fruit and vegetable juice (puree) spice, and the products listed in GB 2760-2011 Annex A.3, at appropriate dosage; for non-white sugar and syrup (such as: brown sugar, deep brown sugar and maple syrup) refer to GB 2760-2011 for the limits	401
10	Carob bean gum	Thickening agent, used in various kinds of food other than food listed in GB 2760-2011 Annex A.3, at appropriate dosage; Referring to GB 2760-2011 for the limits. when adding to infants formula foods	410
11	xanthan gum	Thickening agent used in various kinds of food other than food listed in GB 2760-2011 Annex A.3, at appropriate dosage; stabilizer and thickener for light cream, fruit and vegetable juice (puree) and spice, at appropriate dosage; for butter and concentrated butter, wet raw noodle products (such as: noodles, dumpling skin and wonton skin, shaomai skin), dry raw noodle products and, non-white sugar and syrup (such as: brown sugar, deep brown sugar and maple syrup) refer to GB 2760-2011 for the limits	415
12	Potassium metabisulphite	Bleaching agent, preservative, antioxidant, for unsweetened fruit wine, the maximum limit is 50 mg / L; for sweetened fruit wine, the maximum limit is 100 mg / L; for red wine, the maximum limit is 100 mg / L, for white wine and ros é wine, the maximum limit is 150 mg / L. The maximum limits are counted in sulfur dioxide residues.	224
13	(L+)-tartaric acid, tartaric acid	Acidity regulator used in various kinds of food other than food listed in GB 2760-2011 Annex A.3, at appropriate dosage	334
14	Potassium bitartrate	Leavening agent for wheat flour and its products, bakery products goods, used at appropriate dosage	336
15	Carrageenan	Thickening agent used in various kinds of food other than food listed in GB 2760-2011 Annex A.3, at appropriate dosage. Emulsifier and stabilizer for light cream, butter and concentrated butter, wet raw noodle products (such as: noodles, dumpling skin and wonton skin, shaomai skin), fruit and vegetable juice (puree) and spice, used at appropriate dosage; for dry raw noodle products, non-white sugar and	407

Serial number	Substance	Note	Int'l Numbering System
		syrup (such as: brown sugar, deep brown sugar and maple syrup) and infants and young children foods, referring to GB 2760-2011 for the limits	
16	Ascorbic acid	Antioxidant for concentrated fruit and vegetable juice (puree) and various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage. Flour treatment agent for wheat flour, referring to GB 2760-2011 for the limit	300
17	Calcium hydrogen phosphate	Leavening agent for wheat flour and its products, wet raw noodle products (such as: noodles, dumpling skin and wonton skin, shaomai skin), bakery products and puffed food, referring to GB 2760-2011 for the limits	341ii
18	Calcium sulfate	Stabilizer, coagulant, thickener and acidity regulator for bean products, used at appropriate dosage.; for bread, cakes, biscuits, cured meat products (such as: bacon, salted and smoked meat, duck, Chinese ham, sausage, etc.), meat sausage, referring to GB 2760-2011 for the limits	516
19	Calcium chloride	Coagulant, stabilizer and thickener, for cream and bean products, used at appropriate dosage; for canned fruits, jams, canned vegetables, decorative candy (such as: process modeling, or used in cake decorating), toppings (non-fruit material), sweet juice, flavored syrups, referring to GB 2760-2011 for the limits	509
20	Potassium chloride	For salt and salt substitutes, referring to GB 2760-2011 for the limit	508
21	Magnesium chloride	Stabilizer and coagulant for bean products, used at appropriate dosage	511
22	Gelatin	Thickening agent for various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage.	
23	Citric acid	Acidity regulator, which shall be the product of carbohydrate fermentation. For infant formula, infant supplementary food and various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage	330
24	Potassium citrate	Acidity regulator, for infant formula, infant supplementary food and various kinds of food other than food listed in GB 2760-2011 Annex A, used at appropriate dosage	332ii
25	Sodium citrate	Acidity regulator, for infant formula, infant supplementary food and various kinds of food other than food listed in GB 2760-2011 Annex A, used at appropriate dosage	331iii
26	Malic acid	Acidity regulator, non-GMO product, for infant formula, infant supplementary food and various kinds of food other	296

Serial number	Substance	Note	Int'l Numbering System
		than food listed in GB 2760-2011 Annex A, used at appropriate dosage	
27	Calcium hydroxide	Acidity regulator for milk powder (including sugar added milk powder), cream powder (including its modulation products) and infant formula foods production, used at appropriate dosage	526
28	Agar	Thickening agent for various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage.	406
29	Lactic acid	Acidity regulator, non-GMO product, for infant formula foods and various kinds of food other than food listed in GB 2760-2011 Annex A3, used at appropriate dosage	270
30	Sodium lactate	Water retention agent, acidity regulator, antioxidant, leavening agent, thickener and stabilizer, for various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage; used for wet raw noodle products (such as: noodles, dumpling skin and wonton skin, shaomai skin), referring to GB 2760-2011 for the limit	325
31	Calcium carbonate	Leavening agent and flour treatment agent for various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage	170i
32	Potassium carbonate	Acidity regulator, for infants, young children and various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage; used for wet raw noodle products (such as: noodles, dumpling skin and wonton skin, shaomai skin), referring to GB 2760-2011 for the limit	501i
33	Sodium carbonate	Acidity regulator for wet raw noodle products (such as: noodles, dumpling skin and wonton skin, shaomai skin), dry raw flour products and various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage	550i
34	Ammonium hydrogen carbonate	Leavening agent for various kinds of food other than food listed in GB 2760-2011 Annex A.3 used at appropriate dosage	503ii
35	Potassium nitrate	Color fixative and preservative for meat, the maximum usage is 80mg/kg and the maximum residue is 30mg/kg (count in the residues of sodium nitrite)	252
36	Sodium nitrite	Color fixative and preservative for meat, the maximum usage is 80mg/kg and the maximum residue is 30mg/kg (count in the residues of sodium nitrite)	250
37	Annatto extract	Coloring agent for processed cheese, grease or oil products (only vegetable fats powder), frozen drinks (edible ice excluded), jam, chocolate and chocolate products, in addition to the main raw material of cocoa butter, powder, syrup,	160b

Serial number	Substance	Note	Int'l Numbering System
		butter, stuffing and other cocoa products other than the cocoa butter, chocolate and cocoa butter substitutes and such chocolate similar product, candy, batter (e.g.: drag batter for fish and poultry), breaded, fried flour powder, referring to GB 2760-2011 for the limit	

A.2 Processing aids

See table A.2.

Table A.2 List of processing aids

No.	Name	Conditions	INS
1	Nitrogen	Used in food preservation, non-petroleum sources only	941
2	Carbon dioxide	Preservatives, processing aids, non-petroleum products. For carbonated beverages, and other fermented wine added with gas	290
3	Kaolin	Clarifying agent and filter aid, for wine, fruit wine, rice wine, and tune liquor preparation and fermentation process	559
4	Immobilized tannin	Clarifying agent for the processing of the tune liquor and the fermentation process	
5	Silica gel	Clarifying agent for beer, wine, fruit wine, tune liquor and rice wine	
6	Diatomaceous earth	Filter aid	
7	Activated carbon	Processing aid	
8	Sulfuric acid	Flocculant, for the processing of beer	
9	Calcium chloride	Processing aids, used in bean products processing	509
10	Bentonite	Adsorbent, filter aid and clarifying agent, for the processing and fermentation of wine, fruit wine, rice wine, and tune liquor	
11	Calcium hydroxide	Used as the corn flour additives and sugar processing aid	526
12	Sodium hydroxide	Acidity regulator and processing aid	524
13	Edible tannin	Filter aid, clarifying agent and bleaching agent for rice wine, beer, wine and tune liquor process and oil bleaching process	181
14	Calcium carbonate	Processing aids	170i
15	Potassium carbonate	For grape drying	501i
16	Magnesium carbonate	Processing aid for flour processing	504i
17	Sodium carbonate	For sugar production	500i
18	Cellulose	For the production of white gelatin	
19	Hydrochloric acid	For the production of white gelatin	507

20	Ethanol	Raw material shall come from organic origins	
21	Pearl rock	Filter aid, for the processing and fermentation process of beer, wine, fruit wine and tune liquor	
22	Tale	Mold release agents, used in the processing of candy	553iii

A.3 Flavoring agents

Flavoring agents including:

- a) Volatile (essential) oils extracted by means of solvents such as oil, water, ethanol, carbon dioxide and mechanical and physical processes;
- b) Natural smoke flavor;
- c) Natural flavoring preparations are only approved based on Annex C-*Guidelines for evaluation of additives and food processing aids* of.

A.4 Microorganism products

Microorganism products including:

- a) Natural microorganism and its products; GMOs and products therefrom are excluded;
- b) Fermenting agent: bleachers and chemical solvents are not used in production of fermenting agents.

A.5 Other ingredients

Other ingredients including:

- a) Drinking water
- b) Salt
- c) Minerals (including trace elements) and vitamin shall be used only when they are legally required or where severe dietary or nutritional deficiency can be demonstrated.

Appendix B

(Normative Appendix)

List of Approved Additives Used in Feed Processing

Table B.1 List of feed additives

No.	Name	Note	INS
1	Iron	Ferrous sulfate, ferrous carbonate	
2	Iodine	Calcium iodate, calcium iodate hexahydrate, potassium iodide, sodium iodide	
3	Cobalt	Sulfate, cobalt chloride, cobalt	
4	Copper	Copper sulfate pent hydrate, copper oxide (for ruminants)	
5	Manganese	Manganese carbonate, manganese oxide, manganese sulphate, manganese chloride	
6	Zinc	Zinc carbonate, zinc oxide, zinc sulfate	
7	Molybdenum	Sodium molybdate	
8	Selenium	Sodium selenite	
9	Sodium	Sodium chloride, sodium sulfate	
10	Calcium	Calcium carbonate (rock powder, shell)	
11	Phosphorous	Calcium lactate, Dicalcium phosphate, calcium dihydrogen phosphate, tricalcium phosphate,	
12	Magnesium	Magnesium oxide, magnesium chloride, magnesium sulfate	
13	Sulfur	Sodium sulfate	
14	Vitamins	Vitamins derived from natural feed ingredients. When feeding monogastric animals, natural identical synthetic vitamins are allowed to use. If natural source of vitamins can't be obtained for ruminants, natural identical synthetic vitamins are allowed to use	
15	Microorganism	<i>Bacillus licheniformis</i> , <i>Bacillus subtilis</i> , <i>Bifidobacterium bifidum</i> , <i>Enterococcus faecalis</i> , <i>Enterococcus feces</i> , <i>lactate Enterococcus</i> , <i>Lactobacillus acidophilus</i> , <i>Lactobacillus casei</i> , <i>Lactococcus bacteria</i> , <i>Lactobacillus plantarum</i> , <i>Pediococcus acidilactici</i> <i>pentose piece</i> <i>The cocci utilis</i> yeast, <i>Saccharomyces cerevisiae</i> , <i>R. palustris</i> , <i>Bulgaria Lactobacillus</i> (only for pigs, chicks and silage)	
16	Enzyme	Feed additives for silage	
17	Sorbate acid	Preservative	200
18	Formic acid	Preservative for silage, only allowed to use when full fermentation cannot be achieved due to the weather condition	236
19	Acetic acid	Preservative for silage, only allowed to use when full fermentation cannot be achieved due to the weather condition	260
20	Lactic acid	Preservative for silage, only allowed to use when full fermentation cannot be achieved due to the weather condition	270

No.	Name	Note	INS
21	Propionic acid	Preservative for silage, only allowed to use when full fermentation cannot be achieved due to the weather condition	280
22	Citric acid	Preservative	330
23	Calcium stearate	Natural sources, binder agent and anti-caking agent	470
24	Silicon dioxide	Binders and anti-caking agent	551b

Appendix C

(Informative Appendix)

Guidelines for evaluation of organic additives and processing aids

Additives and Processing Aids listed in Annex A cannot cover all materials that are in compliance with the principle of organic production. When certain types of material are not listed in Annex A, certification bodies shall evaluate them according to the following principles to confirm whether they may be used in organic food processing.

C.1 Necessity

Additive and processing aids are only allowed in organic food production if the additive or processing aid concerned is essential to the production and shall comply with the following principles:

- a) the organic authenticity of the product is respected; and,
- b) the product cannot be produced or preserved without them.

C.2 Criteria for additives and processing aids verification

Verification of additives and processing aids should meet the following conditions:

- a) There are no other acceptable technologies available to process or preserve the organic products;
- b) The use of additives or processing aids will minimize physical or mechanical damage to the foodstuff as a substitute for other technologies which would result in such damage;
- c) The hygiene of the product cannot be guaranteed effectively by other methods (such as reduction in distribution time or improvement of storage facilities);
- d) There are no natural sources available of acceptable quality and quantity which can replace the use of additives or processing aids;
- e) Additives or processing aids do not compromise the integrity of the product;
- f) The additives or processing aids do not confuse the customer by giving the impression that the final product is of higher quality than is the raw material. This refers primarily, but not exclusively, to coloring and flavoring agents; and,
- g) Additives and processing aids shall not influence the overall quality of the product

C.3 Step-by-Step Procedure for the Use of Additives and Processing Aids

C.3.1 In replacing additives or processing aids, the preferred first choice is:

- a) Crops or processed products grown or processed in accordance with this Standard - e.g. flour used as a thickening agent or plant oil as a releasing agent. These products do not need other additives; and,
- b) Foods or raw materials of plant and animal origin which are produced only by mechanical or simple physical procedures - e.g. salt.

C.3.2. The second choice is:

- a) Isolated food substance that is produced physically or by enzymes - e.g. starch, tartrates, pectin; and,
- b) Purified products of raw materials of non-agricultural origin and micro-organisms - e.g. acerola fruit extract, enzymes and micro-organism preparations such as yeast cultures.

C.3.3 In organic products the following categories of additives and processing aids are not allowed:

- a) "Nature identical" substances;
- b) Synthetic substances primarily judged as being unnatural or as a "new construction" of food compounds such as acetylated cross-linked starches;
- c) Additives or processing aids produced by means of genetic engineering; and,
- d) Synthetic coloring and synthetic preservatives

Carriers and preservatives used in the preparation of additives and processing aids shall also be taken into consideration.