



Preserving Great Taste

Crofters Food Ltd.

*7 Great North Road, Parry Sound, Ontario, Canada P2A 2X8
Producer of Natural Jams and Juices*

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PETITION FOR THE ADDITION OF NON-AMIDATED LOW-METHOXYL PECTINS TO §205.606 OF THE NATIONAL LIST.

JULY 15, 2005

Submitted By

Crofters Food Ltd.
7 Great North Road
Parry Sound, Ontario,
Canada P2A 2X8

PETITION FOR THE ADDITION OF NON-AMIDATED LOW-METHOXYL PECTINS TO §205.606 OF THE NATIONAL LIST.

1. Common Name: Pectin
2. Manufacturer's Name: Herbstreith & Fox
Pektin-Fabrik Neuenbürg
Turnstraße 37
D-75305 Neuenbürg/Württ
Germany
3. NOP Intended Use Category: Non-organically produced agricultural product.

4. Current Processing Use:

Low methoxyl pectins are used to provide the product structure (thickness) in fruit spreads and fruit preparations for industrial use (i.e. yogurt fruit base, ice-cream fruit etc.).

Low methoxyl pectins form a gel structure in fruit products by forming molecular chains through the formation of bonds with Ca ions. This unique Ca reactivity allows for the formation of a gel structure in products with relatively low sugar content (40 to 55 brix).

5. Pectin Source and Manufacturing Process:

Pectins can generally be described as complex carbohydrates existing as long-chain polysaccharides (MW 20,000 - 400,000) with varying degrees of esterification. High methoxyl pectins contain more than 50% polygalacturonic acid units, while low-methoxyl pectins generally contain less than 50% polygalacturonic acid units.

The natural, non-amidated, low methoxyl, apple pectins used by our facility are manufactured from apple pomace, a by-product of apple juice production (pressing). Apple pomace consists primarily of the solid cell wall material remaining from the fruit after all available liquid components are removed through maceration and pressing.

The pectins which are present in the cell wall material are extracted with acidified water. The resulting extract is filtered or strained to remove any remaining insoluble materials. Since pectins are not soluble in alcohol, the pectins dissolved in the acidic aqueous extract are precipitated out through the addition of alcohol. Variations in the pH of the extraction solutions, and the amount of alcohol used form the basis of fractionating different types of pectins. Both high-methoxyl and low-methoxyl pectins are extracted with acidified water. Low methoxyl pectins require a slightly longer extraction time than high methoxyl pectins, however the extraction method is the same.

In comparison, amidated low methoxyl pectins are extracted using ammonia instead of an acidic aqueous solution which results in the replacement of methoxyl groups on the pectin molecules with amide groups. Amidated pectins are therefore modified low methoxyl pectins which are distinctly unique and functionally different from acid-precipitated low methoxyl pectins. Amidated low methoxyl pectins are chemically modified with ammonia and are no longer representative of the original parent material which was gained through extraction.

6. Previous Reviews: Not Available

7. EPA, FDA Registration Numbers: Pectin is classified as GRAS by FDA (CFR § 184.1588).
8. CAS Number: 9000-69-5
9. Physical Properties:
Light beige powder, neutral odour. Soluble in water, insoluble in organic solvents.
10. MSDS: Attached
11. Research Information:
12. Petition Justification Statement:

This petition is based on two principles:

Pectins are currently listed in two different sections of the USDA NOP list of allowed and prohibited substances. Low-methoxyl pectins are listed as an allowable synthetic material in § 205.605 (b) (Non-agricultural (non organic) substances allowed as ingredients in or on processed products labeled as "organic" or "made with organic"...). High-methoxyl pectins are listed as an agricultural product in § 205.606 (Non-organically produced agricultural products allowed as ingredients in or on processed products labeled as "organic" or "made with organic"...).

It is our opinion that there should be a further subdivision of the low-methoxyl pectins into amidated and non-amidated categories. Non-amidated, low-methoxyl pectins should be included with the high methoxyl pectins in § 205.606 as an agricultural product since these pectins are extracted from an agricultural commodity in an unmodified form. Amidated low-methoxyl pectins would remain in § 205.605 (b) as a synthetic material since they have undergone a modification step from the original parent material.

In addition to what we believe to be an inaccurate representation and listing of low-methoxyl pectins as synthetic materials in § 205.605 of the NOP, the result of the recent "Arthur Harvey" case will very likely prohibit the continued use of all low-methoxy pectins in products labeled as "organic". The separation of low-methoxyl pectins into two categories would allow for the continued use of non-amidated low-methoxyl pectins in products labeled as "organic".

We have attached regulatory information from the European Union for your review. Non-amidated pectins are permitted in organic products in the EU while amidated pectins are not. There is a clear definition between amidated and non-amidated pectins in the EU regulations which could similarly be done in the NOP.

ATTACHMENTS

- #1 Pectin Description
- #2 Pectin MSDS
- #3 ANNEX VI EEC/2092/91
- #4 EU Commission Directive 98/86/EC

1.0 PECTIN DEFINITIONS & DESCRIPTION

7194. Pectin. Mol wt 20,000-400,000. Polysaccharide substance present in cell walls of all plant tissues which functions as an intercellular cementing material. One of the richest sources of pectin is lemon or orange rind which contains about 30% of this polysaccharide. Occurs naturally as the partial methyl ester of α -(1 \rightarrow 4) linked D-polygalacturonate sequences interrupted with (1 \rightarrow 2)-L-rhamnose residues. Neutral sugars: D-galactose, L-arabinose, D-xylose and L-fucose form side chains on the pectin molecule. Structure studies: D. A. Rees, A. W. Wight, *J. Chem. Soc. B*, 1971, 1366. Secondary and tertiary structure in solution and in gels: D. A. Rees, E. J. Welsh, *Angew. Chem. Int. Ed.* 16, 214 (1977). Review and bibliography: Towle, Christensen, in *Industrial Gums*, R. L. Whistler, Ed. (Academic Press, New York, 2nd ed., 1973) p 429-461. Book: Z. I. Kertesz, *The Pectic Substances* (Interscience, New York, 1951).

Occurs as a coarse or fine powder, yellowish-white in color, practically odorless, and with a mucilaginous taste. Almost completely sol in 20 parts water, forming a viscous soln contg negatively charged, very much hydrated particles. Acid to litmus. Insol in alcohol or in diluted alcohol, and in other organic solvents. Dissolves more readily in water, if first moistened with alcohol, glycerol or sugar syrup, or if first mixed with 3 or more parts of sucrose. Stable under mildly acidic conditions; more strongly acidic or basic conditions cause depolymerization.

USE: In the preparation of jellies and similar food products: Owens *et al.*, "Factors Influencing Gelation with Pectin" in *Advances in Chemistry Series, Natural Plant Hydrocolloids* (A.C.S., Washington, 1954) pp 10-15.

THERAP CAT (VET): Antidiarrheal.

FROM : THE MERCK INDEX 12TH EDITION, 1996.
MERCK AND CO. INC., WHITEHOUSE STN, N.J.

Category of food	Maximum treatment level in food	Functional use
Bottled water that prior to ozonation meets the microbiological, physical, chemical, and radiological quality standards of § 165.110 (b)(2) through (b)(5) of this chapter.	Not to exceed current good manufacturing practice. Current good manufacturing practice results in a maximum residual level at the time of bottling of 0.4 milligram of ozone per liter of bottled water.	Antimicrobial agent, § 170.3 (o)(2) of this chapter.

[47 FR 50210, Nov. 5, 1982, as amended at 60 FR 57130, Nov. 13, 1995]

§ 184.1583 Pancreatin.

(a) Pancreatin (CAS Reg. No. 8049-47-6) is an enzyme preparation obtained from porcine or bovine pancreatic tissue. It is a white to tan powder. Its characterizing enzyme activity that of a peptide hydrolase (EC 3.4.21.36).

(b) The ingredient meets the general requirements and additional requirements in the Food Chemicals Codex, 3d ed. (1981), p. 110, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies are available from the National Academy Press, 2101 Constitution Ave. NW., Washington, DC 20418, or may be examined at the Office of Premarket Approval (HFS-200), Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740, and the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(c) In accordance with § 184.1(b)(1), the ingredient is used in food with no limitation other than current good manufacturing practice. The affirmation of this ingredient as GRAS as a direct food ingredient is based upon the following current good manufacturing practice conditions of use:

(1) The ingredient is used as an enzyme as defined in § 170.3(o)(9) of this chapter to hydrolyze proteins or polypeptides.

(2) The ingredient is used in food at levels not to exceed current good manufacturing practice.

[60 FR 32911, June 26, 1995]

§ 184.1585 Papain.

(a) Papain (CAS Reg. No. 9001-73-4) is a proteolytic enzyme derived from *Carica papaya* L. Crude latex containing the enzyme is collected from slashed unripe papaya. The food-grade product is obtained by repeated filtration of the crude latex or an aqueous solution of latex or by precipitation from an aqueous solution of latex. The resulting enzyme preparation may be used in a liquid or dry form.

(b) The ingredient meets the specifications of the Food Chemicals Codex, 3d Ed. (1981), pp. 107-110, which is incorporated by reference. Copies are available from the National Academy Press, 2101 Constitution Ave. NW., Washington, DC 20418, or available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC 20408.

(c) In accordance with § 184.1(b)(1), the ingredient is used in food with no limitation other than current good manufacturing practice. The affirmation of this ingredient as generally recognized as safe (GRAS) as a direct human food ingredient is based upon the following current good manufacturing conditions of use:

(1) The ingredient is used as an enzyme as defined in § 170.3(o)(9) of this chapter; processing aid as defined in § 170.3(o)(24) of this chapter; and texturizer as defined in § 170.3(o)(32) of this chapter.

(2) The ingredient is used in food at levels not to exceed current good manufacturing practice.

(d) Prior sanctions for this ingredient different from the uses established in this section do not exist or have been waived.

[48 FR 48806, Oct. 21, 1983]

§ 184.1588 Pectins.

(a) The pectins (CAS Reg. No. 9000-69-5) are a group of complex, high molecular weight polysaccharides found in plants and composed chiefly of partially methylated polygalacturonic acid units. Portions of the carboxy group occur as methyl esters, and the remaining carboxyl groups exist in the form of the free acid or as its ammonium, potassium, or sodium (CAS Reg. No. 9000-59-8) salts, and in some types

§ 184.1595

21 CFR Ch. I (4-1-04 Edition)

as the acid amide. Thus, the pectins regulated in this section are the high-ester pectins, low-ester pectins, amidated pectins, pectinic acids, and pectinates. Pectin is produced commercially by extracting citrus peel, apple pomace, or beet pulp with hot dilute acid (pH 1.0 to 3.5, 70° to 90 °C). The extract is filtered, and pectin is then precipitated from the clear extract with ethanol or isopropanol, or as the copper or aluminum salt. The acid extract is sometimes spray- or roller-dried, or it is concentrated to be sold as liquid pectin.

(b) The ingredients meet the specifications of the Food Chemical Codex, 3d Ed. (1981), p. 215, which is incorporated by reference. Copies are available from the National Academy Press, 2101 Constitution Ave. NW., Washington, DC 20418, or available for inspection at the Office of the Federal Register 800 North Capitol Street, NW., suite 700, Washington, DC 20408.

(c) In accordance with §184.1(b)(1), the ingredients are used in food with no limitation other than current good manufacturing practice. The affirmation of these ingredients as generally recognized as safe (GRAS) as direct human food ingredients is based upon the following current good manufacturing practice conditions of use:

(1) The ingredients are used as emulsifiers as defined in §170.3(o)(8) of this chapter and as stabilizers and thickeners as defined in §170.3(o)(28) of this chapter.

(2) The ingredients are used in food at levels not to exceed current good manufacturing practice.

(d) Prior sanctions for these ingredients different from the uses established in this section do not exist or have been waived.

[48 FR 51149, Nov. 7, 1983]

§ 184.1595 Pepsin.

(a) Pepsin (CAS Reg. No. 9001-75-6) is an enzyme preparation obtained from the glandular layer of hog stomach. It is a white to light tan powder, amber paste, or clear amber to brown liquid. Its characterizing enzyme activity is that of a peptide hydrolase (EC 3.4.23.1).

(b) The ingredient meets the general requirements and additional require-

ments for enzyme preparations in the Food Chemicals Codex, 3d ed. (1981), p. 110, which is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies are available from the National Academy Press, 2101 Constitution Ave. NW., Washington, DC 20418, or may be examined at the Office of Premarket Approval (HFS-200), Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740, and the Office of the Federal Register, 800 North Capitol St. NW., suite 700, Washington, DC.

(c) In accordance with §184.1(b)(1), the ingredient is used in food with no limitation other than current good manufacturing practice. The affirmation of this ingredient as GRAS as a direct food ingredient is based upon the following current good manufacturing practice conditions of use:

(1) The ingredient is used as an enzyme as defined in §170.3(o)(9) of this chapter to hydrolyze proteins or polypeptides.

(2) The ingredient is used in food at levels not to exceed current good manufacturing practice.

[60 FR 32911, June 26, 1995]

§ 184.1610 Potassium alginate.

(a) Potassium alginate (CAS Reg. No. 9005-36-1) is the potassium salt of alginic acid, a natural polyuronide constituent of certain brown algae. Potassium alginate is prepared by the neutralization of purified alginic acid with appropriate pH control agents.

(b) The ingredient meets the specifications of the Food Chemicals Codex, 3d Ed. (1981), p. 239, which is incorporated by reference. Copies are available from the National Academy Press, 2101 Constitution Ave. NW., Washington, DC 20418, or available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC 20408.

(c) In accordance with §184.1(b)(2), the ingredient is used in food only within the following specific limitations:

PECTIN PRODUCTION
GENERAL PROCESS.

Extraction



From the cell walls of the plants the insoluble protopectin will be extracted with acidified water in a heating process. For the largest possible yield of pectin it is essential to optimally adjust the different extraction parameters. Nearly completely de-pectinized raw material remains as residue.

Cleaning



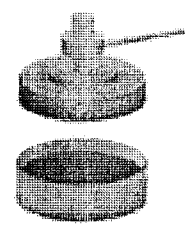
Next the pectin extract must be cleaned. Mechanical cleaning processes like filtration, etc. will separate the insoluble components from the extract

Precipitation



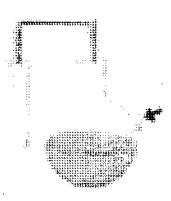
Pectin is insoluble in alcohol. This fact is used in precipitation. In special processes using alcohol the pectin is separated from its aqueous solution and washed. The concentration of the alcohol influences the yield and the purity of the pectin.

Pressing



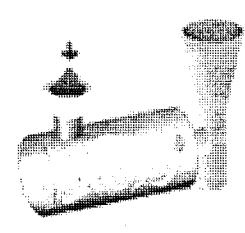
The pectin obtained in precipitation is now pressed. Unstandardized raw pectin and the alcoholic extract, with the sugars and the colouring agents of the pomace, are received.

Distillation



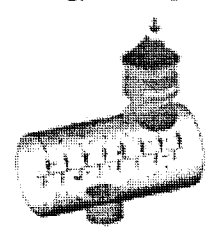
The alcoholic extract is distilled and the pure alcohol is returned to the precipitation cycle. The fruit extracts remain in the apple and citrus raw extract.

Drying



After pressing the pectin is carefully dried

Grinding, Sieving...



...Mixing

The dried pectin has a coarse structure. In grinding and sieving facilities it is carefully ground to a homogenous powder with even granulates and then mixed.

2.0 PECTIN MSDS



Material Health & Safety Data Sheet acc. to EG-Directive 91/155/EWG

Chemical Product and Company Identification

Trade Name: Pectins
Product Code: -
Supplier: Herbstreith & Fox KG
Pektin-Fabrik Neuenbürg
Turnstr. 37
D-75305 Neuenbürg
Tel: 0 70 82 - 79 13-0
Fax: 0 70 82 - 20 28 1
Emergency Telephone: Not available

Composition/Information on Ingredients:

Description: Pectins are made from carefully selected raw materials.
Major Component: Pectin (standardized with sugars)
CAS-Number: 09000-69-5
EINECS-Number: 0232-653-0

Hazards Identification:

Pectins are not classified as dangerous.
In rare cases allergic reactions may develop on prolonged or repeated contact with pectins.
Eye or skin contact may cause mild transient irritation, but is harmless.
Inhalation is harmless.

First-Aid Measures:

Eye Contact: In case of eye contact, rinse with plenty of water.
Skin Contact: Wash with water and soap if need is felt.
Inhalation: Fresh air if discomfort is felt.
Ingestion: No immediate treatment.
First Aid Facilities: Not applicable.
Advice to Doctor: none.

Fire-Fighting Measures:

Extinguish with dry powder, carbon dioxide, foam or water.

Accidental Release Measures:

Personal Precautions: Contaminated floors may be slippery.
Environmental Precautions: Not applicable.
Methods for Cleaning up: Collect spillages.
Vacuum-clean the soiled area, if possible.

Handling and Storage:

Handling: No special precautions are needed.
Storage: Store pectins in original bags, cool and dry.
Avoid excessive light.

Exposure Controls / Personal Protection:

Exposure Standards:	Not available.
Engineering Controls:	Not applicable.
Protective Equipment:	Not applicable.

Physical and Chemical Properties:

Appearance:	A powdery substance with a neutral odour.
Solubility:	Soluble in hot water.
Explosive:	By ignition of a dust cloud pectins can cause a weak dust explosion ($K_{St} < 200 \text{ bar.m/s}$).

Boiling Point:	Not applicable.	Melting Point:	Not applicable.
Flash Point:	Not applicable.	Flammability Limits:	Not applicable.
Vapour Pressure:	Not applicable.	Density:	Not applicable.

Stability and Reactivity: Pectins are stable under normal conditions of use.

Conditions to avoid:	None.
Materials to avoid:	None.
Hazardous decomposition Products:	None.

Toxicological Information: See section "Hazards Identification".

Ecological Information:

Pectins are believed not to be dangerous to the environment with respect to mobility, persistency and degradability, bioaccumulative potential, aquatic toxicity and other data relating to ecotoxicity.

Disposal Considerations:

Small quantities of waste are disposed of as domestic refuse. Greater quantities are disposed of in accordance with the local regulations.

Transport Information: Pectins are not considered dangerous in any transportation code.

Regulatory Information: Pectins are not classified as dangerous.

Other Information:

This data sheet complies with EU Directive 91/155.
A Product Description is available on request.

The information contained herein is furnished without warranty of any kind. Employers should use this information as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of this material and the safety and health of employees.

3.0 ANNEX VI EEC/2092/91

ANNEX VI^①

[3] → INTRODUCTION

For the purposes of this Annex, the following definitions will apply:

1. ingredients: substances as defined in Article 4 of this Regulation under the restrictions as referred to in Article 6 (4) of Council Directive 79/112/EEC of 18 December 1978 on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs for sale to the ultimate consumer;
2. ingredients of agricultural origin:
 - (a) single agricultural products and products derived therefrom by appropriate washing, cleaning, thermic and/or mechanical processes and/or by physical processes having the effect of reducing the moisture content of the product;
 - (b) also, products derived from the products mentioned under (a) by other processes used in food processing, unless these products are considered food additives or flavourings as defined under points 5 or 7 hereunder;
3. ingredients of non-agricultural origin: ingredients other than ingredients of agricultural origin and belonging to at least one of the following categories:
 3. 1. food additives, including carriers for food additives, as defined under points 5 and 6 hereunder;
 3. 2. flavourings, as defined under point 7 hereunder;
 3. 3. water and salt;
 3. 4. micro-organism preparations;
 3. 5. minerals (including trace elements) and vitamins;
4. processing aids: substances as defined in Article 1 (3) (a) of Council Directive 89/107/EEC²⁰ on the approximation of the laws of the Member States concerning food additives authorized for use in foodstuffs intended for human consumption;
5. food additives: substances as defined in Article 1 (1) and (2) of Directive 89/107/EEC and covered by that Directive or by a comprehensive Directive as referred to in Article 3 (1) of Directive 89/107/EEC;
6. carriers, including carrier solvents: food additives used to dissolve, dilute, disperse or otherwise physically modify a food additive without altering its technological function in order to facilitate its handling, application or use;
7. flavouring: substances and products as defined in Article 1 (2) of Council Directive 88/388/EEC of 22 June 1988 on the approximation of the laws of the Member States relating to flavourings for use in foodstuffs and to source materials for their production²¹, and covered by that Directive.

GENERAL PRINCIPLES

Sections A, B and C cover the ingredients and processing aids which may be used in the preparation of foodstuffs composed essentially of one or more ingredients of plant origin, referred to in Article 1 (1) (b) of this Regulation, with the exception of wines.

^① Regulation (EEC) No 207/93 which introduces Annex VI also lays down the minimal conditions that any amendment of Sections A and B has to satisfy and provides details concerning the use of any ingredient of agricultural origin not included in the Section C.

²⁰ OJ No L 40, 11.2.1989, p. 27.

²¹ OJ No L 184, 15.7.1988, p. 61.

[15]→ Pending the adoption of rules in Sections A and B of (this Annex, and in order to cover specifically the preparation of foodstuffs composed of one or more livestock products, national rules shall apply. ←[15]

[17]→ Notwithstanding reference to any ingredient in Sections A and C or any processing aid in Section B, any processing practice, such as smoking, shall be carried out and any ingredient or such processing aid shall be used only in accordance with relevant Community legislation and/or national legislation compatible with the Treaty and, in the absence thereof, in accordance with the principles of good manufacturing practice for foodstuffs. ←[17]

SECTION A –

[17]→ **INGREDIENTS OF NON-AGRICULTURAL ORIGIN (REFERRED TO IN ARTICLE 5 (3) (c) and Article 5 (5a) (d) OF REGULATION (EEC) No 2092/91: ←[17]**

A. 1. Food additives, including carriers

<u>Name</u>	<u>Specific conditions²²</u>
[17]→ E 170 Calciumcarbonates	All authorised functions except colouring ←[17]
E 270 Lactic acid	-
E 290 Carbondioxyde	-
E 296 Malic acid	-
E 300 Ascorbic acid	-
[5]→E 306 Tocopherol-rich extract	anti-oxydant in fats and oils ←[5]
E 322 Lecithins	-
E 330 Citric acid	-
[5]→E 333 Calcium citrates	- ←[5]
E 334 Tartaric acid (L (+) -)	-
E 335 Sodium tartrate	-
E 336 Potassium tartrate	-
[5]→E 341(i) Monocalciumphosphate	raising agent for self raising flour ←[5]
E 400 Alginic acid	-
E 401 Sodium alginate	-
E 402 Potassium alginate	-
E 406 Agar	-
[5]→E 407 Carrageenan	- ←[5]
E 410 Locust beam gum	-
E 412 Guar gum	-
E 413 Tragacanth gum	-
E 414 Arabic gum	-
E 415 Xanthan gum	-
E 416 Karaga gum	-
[17]→E 422 Glycerol	Plant extracts ←[17]
E 440 (i) Pectin	-
E 500 Sodiumcarbonates	-
E 501 Potassiumcarbonates	-
E 503 Ammoniumcarbonates	-
E 504 Magnesiumcarbonates	-
[17]→E 516 Calcium sulphate	Carrier ←[17]
[5]→E 524 Sodiumhydroxyde	surface treatment of Laugengebäck ←[5]
[17]→E 551 Silicon dioxide	Anti-caking agent for herbs and spices ←[17]
E 938 Argon	-
E 941 Nitrogen	-
E 948 Oxygen	-

²² CR-carrier

A. 2. Flavourings within the meaning of Directive 88/388/EEC

Substances and products as defined in Article 1 (2) (b) (i) and 1 (2) (c) of Directive 88/388/EEC labelled as natural flavouring substances or natural flavouring preparations, according to Article 9 (1) (d) and (2) of that Directive.

A. 3. Water and salt

Drinking water

Salt (with sodium chloride or potassium chloride as basic components), generally used in food processing

A. 4. Micro-organism preparations

- (i) Any preparations of micro-organisms normally used in food processing, with the exception of micro-organisms genetically modified within the meaning of Article 2 (2) of Directive 90/220/EEC⁶ ;

[17]→”←[17]

A. 5. Minerals (including trace elements) and vitamins

[12]→Minerals (trace elements included), vitamins, aminoacids and other nitrogen compounds, only authorized as far their use is legally required in the foodstuffs in which they are incorporated.←[12]

SECTION B –

[17]→PROCESSING AIDS AND OTHER PRODUCTS WHICH MAY BE USED FOR PROCESSING OF INGREDIENTS OF AGRICULTURAL ORIGIN FROM ORGANIC PRODUCTION, REFERRED TO IN ARTICLE 5 (3) (d) AND ARTICLE 5 (5a) (e) OF REGULATION (EEC) No 2092/91←[17]

<u>Name</u>	<u>Specific conditions</u>
Water	-
Calcium chloride	coagulation agent
Calcium carbonate	-
Calcium hydroxide	-
Calcium sulphate	coagulation agent
Magnesium chloride (or nigari)	coagulation agent
Potassium carbonate	drying of grapes
[5]→Sodium carbonate	sugar production
[12]→Citric acid	oil production and hydrolysis of starch←[12]
Sodium hydroxide	[12]→sugar production oil production from rape seed (<i>Brassica spp</i>) only during a period expiring on 31 March 2002←[12]
Sulphuric acid	sugar production←[5]
[17]→Isopropanol (propan-2-ol)	in the crystallisation process in sugar preparation; in due respect of the provisions of Directive 88/344/EEC as last amended by Directive 97/60/EEC for a period expiring on 31/12/2006←[17]
Carbon dioxide	-

⁶ OJ No L 117, 8.5.1990, p. 15

Nitrogen	-
Ethanol	solvent
Tannic acid	filtration aid
Egg white albumen	-
Casein	-
Gelatin	-
Isinglass	-
Vegetable oils	[5]→greasing, releasing or anti-foaming agent←[5]
Silicon dioxide gel or colloidal solution	-
Activated carbon	-
Talc	-
Bentonite	-
Kaolin	-
Diatomaceous earth	-
Perlite	-
Hazelnut shells	-
[5]→Rice meal	-←[5]
Beeswax	releasing agent
Carnauba wax	releasing agent

[17]→Preparations of micro-organisms and enzymes:

Any preparations of micro-organisms and enzymes normally used as processing aids in food processing, with the exception of micro-organisms genetically modified within the meaning of Article 2 (2) of Directive 90/220/EEC, and with the exception of enzymes derived from genetically modified organisms within the meaning of article 2(2) of Directive 90/220/EEC. ←[17]

SECTION C

[18]→ .←[18]

[19]→ INGREDIENTS OF AGRICULTURAL ORIGIN WHICH HAVE NOT BEEN PRODUCED ORGANICALLY, REFERRED TO IN ARTICLE 5(4) OF REGULATION (EEC) No 2092/91

C.1. Unprocessed vegetable products as well as products derived therefrom by processes referred to under definition 2(a) of the introduction of this annex:

C.1.1. Edible fruits, nuts and seeds:

Acorns	<i>Quercus</i> spp
Cola nuts	<i>Cola acuminata</i>
Gooseberries	<i>Ribes uva-crispa</i>
Maracujas (passion fruit)	<i>Passiflora edulis</i>
Raspberries (dried)	<i>Rubus idaeus</i>
Red currants (dried)	<i>Ribes rubrum</i>

C.1.2. Edible spices and herbs:

Nutmeg	<i>Myristica fragrans</i> , until 31.12.2000 only
Pepper green	<i>Piper nigrum</i> , until 30.4.2001 only
Pepper (Peruvian)	<i>Schinus molle</i> L.
Horseradish seeds	<i>Armoracia rusticana</i>
Lesser galanga	<i>Alpinia officinarum</i>
Safflower flowers	<i>Carthamus tinctorius</i>
Watercress herb	<i>Nasturtium officinale</i>

C.1.3. Miscellaneous:

Algae, including seaweed, permitted in conventional foodstuffs preparation

C.2. Vegetable products, processed by processes as referred to under definition 2(b) of the introduction of this annex

C.2.1. Fats and oils whether or not refined, but not chemically modified, derived from plants other than:

Cocoa	<i>Theobroma cacao</i>
Coco	<i>Cocos nucifera</i>
Olive	<i>Olea europaea</i>
Sunflower	<i>Helianthus annuus</i>
Palm	<i>Elaeis guineensis</i>
Rape	<i>Brassica napus, rapa</i>
Safflower	<i>Carthamus tinctorius</i>
Sesame	<i>Sesamum indicum</i>
Soya	<i>Glycine max</i>

C.2.2. The following sugars, starches and other products from cereals and tubers:

Beet sugar, until 1/4/2003 only

Fructose

Rice paper

Unleavened bread paper

Starch from rice and waxy maize, not chemically modified.

C.2.3. Miscellaneous:

Coriander, smoked *Coriandrum sativum*, until 31.12.2000 only

Pea protein *Pisum spp*

Rum: only obtained from cane sugar juice

Kirsch prepared on the basis of fruits and flavourings as referred to in section A.2 of this annex

Mixtures of crops permitted in conventional foodstuffs preparation, and giving coloring and tasting qualities to confectionary, only for preparation of "Gummi Bärchen", until 30.9.2000 only

Mixtures of the following peppers : *Piper nigrum*, *Schinus molle* and *Schinus terebinthifolium*, until 31.12.2000 only

C.3. Animal products:

Aquatic organisms, not originating from aquaculture, and permitted in conventional foodstuffs preparation

Buttermilk powder until 31.08.2001 only

Gelatin

Honey until 28.02.2001 only

Lactose until 31.08.2001 only

Whey powder "*herasuola*" ←[19]

4.0 EU COMMISSION DIRECTIVE 98/86/EC

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Eingang

Legislation

English edition

Contents

I Acts whose publication is obligatory

- ★ Commission Directive 98/86/EC of 11 November 1998, amending Commission Directive 96/77/EC laying down specific purity criteria on food additives other than colours and sweeteners⁽¹⁾ 1

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⁽¹⁾ Text with EEA relevance.

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Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.
The titles of all other Acts are printed in bold type and preceded by an asterisk.

L 334/24

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Official Journal of the European Communities

9.12.93

E 440 (i) PECTIN

Definition	Pectin consists mainly of the partial methyl esters of polygalacturonic acid and their ammonium, sodium, potassium and calcium salts. It is obtained by extraction in an aqueous medium of natural strains of appropriate edible plant material, usually citrus fruits or apples. No organic precipitant shall be used other than methanol, ethanol and propane-2-ol
Eindex	232-553-0
Assay	Content not less than 65 % of galacturonic acid on the ash-free and anhydrous basis after washing with acid and alcohol
Description	White, light yellow, light grey or light brown powder
Identification	
A. Solubility	Soluble in water forming a colloidal, opalescent solution. Insoluble in ethanol
Purity	
Loss on drying	Not more than 12 % (105 °C, 2 hours)
Acid insoluble ash	Not more than 1 % (insoluble in approximately 3N hydrochloric acid)
Sulphur dioxide	Not more than 50 mg/kg on the anhydrous basis
Nitrogen content	Not more than 1,0 % after washing with acid and ethanol
Free in ethanol, ethanol and propane-2-ol	Not more than 1 %, singly or in combination, on the anhydrous basis
Arsenic	Not more than 3 mg/kg
Lead	Not more than 5 mg/kg
Mercury	Not more than 1 mg/kg
Cadmium	Not more than 1 mg/kg
Heavy metals (as Pb)	Not more than 20 mg/kg

E 440 (ii) AMIDATED PECTIN

Definition	Amidated pectin consists mainly of the partial methyl esters and amides of polygalacturonic acid and their ammonium, sodium, potassium and calcium salts. It is obtained by extraction in an aqueous medium of appropriate natural strains of edible plant material, usually citrus fruits or apples and treatment with ammonia under alkaline conditions. No organic precipitant shall be used other than methanol, ethanol and propane-2-ol
Assay	Content not less than 65 % of galacturonic acid on the ash-free and anhydrous basis after washing with acid and alcohol
Description	White, light yellow, light greyish or light brownish powder

9.12.93

EN

L 334/23

Identification

A. Solubility Soluble in water forming a colloidal, opalescent solution. Insoluble in ethanol

Purity

- Loss on drying Not more than 12% (105°C, 2 hours)
- Acid-insoluble ash Not more than 1% (insoluble in approximately 3N hydrochloric acid)
- Degree of acidification Not more than 25% of total carboxyl groups
- Sulphur dioxide residue Not more than 50 mg/kg on the anhydrous basis
- Nitrogen content Not more than 2,5% after washing with acid and ethanol
- Free methanol, ethanol and propan-2-ol Not more than 1% single or in combination, on a volatile matter-free basis
- Arsenic Not more than 3 mg/kg
- Lead Not more than 5 mg/kg
- Mercury Not more than 1 mg/kg
- Cadmium Not more than 1 mg/kg
- Heavy metals (as Pb) Not more than 20 mg/kg

E 442 AMMONIUM PHOSPHATIDES

Synonyms

Ammonium salts of phosphoric acid, mixed ammonium salts of phosphorylated glycerides

Definition

A mixture of the ammonium compounds of phosphoric acids derived from edible fat and oil (usually partially hardened rapeseed oil). One or two or three glyceride moieties may be attached to phosphorus. Moreover, two phosphorus esters may be linked together as phosphatidyl phosphatides

Assay

The phosphorus content is not less than 3% and not more than 3,4% by weight; the ammonium content is not less than 1,2% and not more than 1,5% (calculated as N)

Description

Unctuous semi-solid

Identification

A. Solubility

Soluble in fats. Insoluble in water. Partially soluble in ethanol and in acetone

B. Positive tests for glycerol, for fatty acid and for phosphate

Purity

- Petroleum ether insoluble matter Not more than 2,5%
- Arsenic Not more than 3 mg/kg