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GRAS Notice (GRN) No. 609

ORIGINAL SUBMISSION

<http://www.fda.gov/Food/IngredientsPackagingLabeling/GRAS/NoticeInventory/default.htm>

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#609



Soni & Associates Inc.

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GRN 000609

November 11, 2015

Office of Food Additive Safety (HFS-255)
Center for Food Safety and Applied Nutrition
Food and Drug Administration
5100 Paint Branch Parkway
College Park, MD 20740-3835

Subject: GRAS Notification for Rice Protein Concentrate

Dear Sir/Madam:

Pursuant to proposed 21 CFR 170.36 (62 FR 18960; April 17, 1997), SPRIM Strategy & Intelligent Innovation, Orlando, Florida, and Axiom Foods, Los Angeles, California, through Soni & Associates Inc. as its agent, hereby provides notice of a claim that the food ingredient rice protein concentrate described in the enclosed notification document is exempt from the premarket approval requirement of the Federal Food, Drug, and Cosmetic Act because it has been determined to be Generally Recognized As Safe (GRAS), based on scientific procedures.

As required, please find enclosed three copies of the notification. If you have any questions or require additional information, please feel free to contact me by phone at 772-299-0746 or by email at msoni@soniassociates.net and sonim@bellsouth.net.

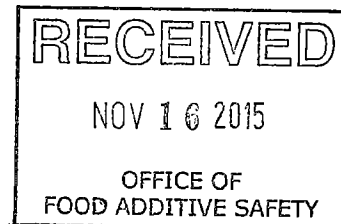
Sincerely,

(b) (6)



Madhu G. Soni, Ph.D., FATS

Enclosure: Three copies of the GRAS notice



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1. Claim of GRAS Status

1.1. Claim of Exemption

Axiom Foods has determined that the intended use of its rice protein concentrate (Oryzatein™) derived from brown rice, is Generally Recognized As Safe, consistent with Section 201(s) of the *Federal Food, Drug, and Cosmetic Act*. This determination is based on scientific procedures as described in the following sections. Therefore, the use of rice protein concentrate in conventional foods is exempt from the premarket approval requirements of the United States (U.S.) *Federal Food, Drug, and Cosmetic Act*.

Signed,

(b) (6)



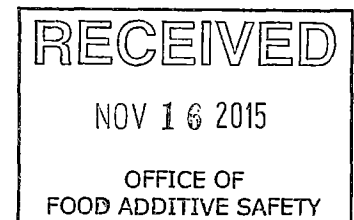
Date:

November 13, 2015

Madhu G. Soni, PhD, FACN, FATS

Agent for:

SPRIM Strategy & Intelligent Innovation, Orlando, Florida, and
Axiom Foods, Los Angeles, California



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1.2. Name and Address of Notifiers

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Director of Quality

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&

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1.3. Background

The purpose of this dossier is to (A) Establish the identity of rice protein 80 and 90% concentrate; (B) Estimate exposure under the intended conditions of use; (C) Document the literature pertaining to the safety of rice protein concentrate; and, (D) Assemble an independent panel of recognized experts (hereinafter referred to as the Expert Panel)¹ to review and issue an opinion on the GRAS status of rice protein concentrates as described in this dossier. As discussed below, the data and information summarized in this dossier demonstrate that the intended use of rice protein concentrate², produced using current Good Manufacturing Practices (cGMP), and meeting food-grade specifications, is GRAS, based on scientific procedures, as described herein.

1.4. Common or Usual Name of the Notified Substance

The common name of the substance of this notification is rice protein concentrate.

Trade name: Oryzatein™.

1.5. Conditions of Use

Axiom Foods (Los Angeles, CA) intends to use rice protein concentrate (Oryzatein™) containing 80 and 90% protein derived from brown rice (*Oryza sativa*) as a food ingredient,

¹Modeled after that described in section 201(s) of the Federal Food, Drug, and Cosmetic Act, As Amended. See also attachments (curriculum vitae) documenting the expertise of the Panel members.

² Although products containing 90% protein are considered as isolate, in this document both the forms (80 and 90%) are referred as rice protein concentrate

formulation aid and texturizer in conventional foods such as Baked Goods and Baking Mixes; Beverages and Beverage Bases; Breakfast Cereals; Dairy Product Analogs; Fats and Oils; Grain Products and Pastas; Milk Products; Plant Protein Products; Processed Fruits and Fruit Juices; Processed Vegetables and Vegetable Juices; Soups and Soup Mixes at levels ranging from 0.96 to 34.3%. Axiom Foods also intends to market rice protein concentrate as a directly consumed supplemental protein at use levels of 15 to 25 g protein/serving in sports nutrition or meal replacement applications where consumers mix their own beverages.

Intake of rice protein concentrate from the Axiom Foods intended food-uses and use-levels in conjunction with food consumption data included in the National Center for Health Statistics' (NCHS) National Health and Nutrition Examination Surveys (NHANES) were determined. The intended use of rice protein concentrate by Axiom Foods in the above mentioned food categories is estimated to result for "users only" at mean and 90th percentile intakes of 10.3 g/person [181 mg/kg body weight (bw)/day] and 17.3 g/person (388 mg/kg bw/day), respectively. It should be noted that the RDI for protein varies from 10 g/day for infants to 56 g/day for adult males, while, for pregnant or breastfeeding adult women, the RDI is 71 g/day. The Institute of Medicine recommends that at least 10% of the daily calories, but not more than 35%, should come from protein sources. Rice protein is intended to be used as a source of plant protein that will substitute for other protein sources in the diet. As such, rice protein in the diet will not result in an overall increase of consumption of protein in the diet.

1.6. Basis for GRAS Determination

In accordance with 21 CFR 170.30, the intended use of rice protein concentrate has been determined to be generally recognized as safe (GRAS) based on scientific procedures. A comprehensive search of the scientific and regulatory literature was also conducted for this review. There is sufficient qualitative and quantitative scientific evidence, including human and animal data, to determine safety-in-use for rice protein concentrate. The safety determination of rice protein concentrate is based on the totality of available scientific evidence.

Determination of the safety and GRAS status of rice protein concentrate for direct addition to food under its intended conditions of use was made through the deliberations of an Expert Panel consisting of James T. Heimbach, Ph.D., John A. Thomas, Ph.D., and Robert L. Martin, Ph.D., who reviewed the information in this dossier as well as other information available to them. A comprehensive search of the scientific literature for safety and toxicity information on rice protein (*Oryza sativa*) and its concentrate and isolates was conducted through August 2015 and made available to the Expert Panel. These individuals are qualified by scientific training and experience to evaluate the safety of food and food ingredients. They critically reviewed and evaluated the publicly available information, including the potential human exposure to rice protein resulting from the intended use of Oryzatein™, and individually and collectively concluded that the available information on rice protein contains no evidence that demonstrates or suggests reasonable grounds to suspect a hazard to the public health under the intended use conditions of Oryzatein™. Following an independent, critical evaluation, the Expert Panel unanimously agreed to the decision described herein.

1.7. Availability of Information

The data and information that forms the basis of Axiom Food's rice protein concentrate GRAS determination will be available for the Food and Drug Administration's review and copying at the following address or will be provided to the FDA upon request:

Madhu G. Soni, Ph.D., FATS
Soni & Associates Inc.,
749 46th Square,
Vero Beach FL, 32968

Phone: (772) 299-0746; E-mail: sonim@bellsouth.net

2. Detailed Information about the Identity of Notified Substance

2.1. Substance Name

The name of the substance of this GRAS assessment is rice protein concentrate or rice protein isolate.

2.2. Trade or Common Names

Rice protein concentrate and isolate derived from the whole rice grain will be marketed by Axiom Foods, Inc. under the brand name Oryzatein™.

2.3. Product Details

Rice protein concentrate will be marketed in two different forms:

- 80% and 90% protein concentration levels (Oryzatein™ 80, and Oryzatein™ 90).
 - Pursuant to the USDA specifications, Oryzatein™ 80 is considered to be protein concentrates, while Oryzatein™ 90 is considered to be protein isolate. It should be noted that in this document both these forms are referred as rice protein concentrate.
- Non-Silk (= 200 mesh), Silk (= 325 mesh), Ultra (= 600 mesh).
- Organic
- The product is marketed as gluten-free

Similar to other protein derivatives, Oryzatein™ is the finished powdered substance that remains after the extraction, separation and drying of the protein from its source material, in this case, rice.

2.4. Botanical Source Identification

The protein is derived from non-GMO *Oryza sativa* whole-grain brown rice. Products were DNA tested by high-performance thin-layer chromatography to verify their natural origin. *Oryza sativa* possesses a long, well documented history of use with domestication, commercialization, and consumption dating back more than 9,000 years. According to Molina et al. (2011) all present rice variants can be accurately traced to its original consumption in Asia, starting with two species of wild rice.

2.5. Compositional Analysis of Oryzatein™

2.5.1. Nutrition Information

The nutritional composition of rice protein concentrates 80 and 90% along with rice are summarized in Table 1. As described below, two different concentrates (80 and 90%) are derived by hydrolysis and separation processes. As per the USDA definition, the first form of protein (80%) is classified as a concentrate while the second form of protein (90%) is classified as an isolate. Given the extent of the protein concentration, other components of the concentrate, such as carbohydrates and proteins, are likely to vary. As summarized in Table 1, the levels of carbohydrates, including dietary fiber and other carbohydrates, are higher in protein concentrates with lower protein levels. Except for protein and carbohydrate variation, all other constituents of both the products are similar.

Table 1. Nutritional Composition of Oryzatein™ Concentrates

Nutrient	Content per 100 g		
	<i>Oryza sativa</i> ¹	Oryzatein™ 80	Oryzatein™ 90
Total Calories	370	390	390
Calories from fat		3	3.5
Total Fat (g)	2.92	0.3	0.38
Saturated Fat (g)	0.58	0.18	0.20
Cholesterol (mg)	0.00	<0.8	<0.08
Sodium (mg)	7.00	93.1	99.3
Total Carbohydrates (g)	77.24	11.2	7.54
Dietary Fiber (g)	3.50	6.33	6.4
Sugars (g)	0.85	4.84	<0.35
Protein (g)	7.94	85.9	91.01
Vitamin A (IU)	0.00	<30	<30
Vitamin C (mg)	0.00	<0.44	<0.44
Calcium (mg)	23.00	14.3	14.8
Iron (mg)	1.47	5.1	7.7
Phosphorous %	0.333	0.19	0.20
Potassium %	0.223	0.002	0.001
Magnesium %	0.143	0.007	0.008
Manganese %		0.003	0.0003

1. Source: United States Department of Agriculture. National Nutrient Database for Standard Reference Release 24. 2011. <http://www.ars.usda.gov/Services/docs.htm?docid=8964>

2.5.2. Amino Acid Profile

The typical amino acid profile (essential, conditionally essential and non-essential) of rice protein concentrates (80 and 90%), along with its source material (i.e., *O. sativa*), is summarized in Table 2. Except for some differences in a few amino acids, overall the amino acid profile of rice protein concentrate is similar to the amino acid composition of rice summarized in Table 2. This information suggests that the manufacturing process does not significantly affect the percent concentration of these amino acids in the final product.

Table 2. Amino Acid Profile of Rice Protein Concentrates (Oryzatein™)

AMINO ACIDS	<i>Oryza sativa</i>		Oryzatein™	
	% of Total Amino Acid ¹	g/100g ¹	Oryzatein™ 80 - 80 Silk (% of Total Amino Acid) ²	Oryzatein™ 90 - 90 Silk (% of Total Amino Acids) ²
Essential				
Phenylalanine	5.16	0.410	4.74	5.38
Valine ³	5.87	0.466	5.44	6.18
Threonine	3.67	0.291	3.17	3.57
Tryptophan	1.27	0.101	0.99	1.12
Methionine	2.25	0.179	2.45	2.66
Isoleucine ³	4.23	0.336	3.84	4.40
Leucine ³	8.28	0.657	7.23	8.21
Lysine	3.82	0.303	2.82	3.21
Histidine	2.54	0.202	1.84	2.09
Conditionally Essential				
Arginine	7.58	0.602	6.37	7.64
Cysteine	1.21	0.096	1.88	2.09
Glycine	4.93	0.391	3.82	4.33
Proline	4.69	0.372	3.95	4.49
Tyrosine	3.75	0.298	4.21	4.84
Others				
Aspartic Acid	9.36	0.743	8.21	9.33
Alanine	5.83	0.463	5.14	5.67
Glutamic	20.38	1.618	15.22	17.22
Serine	5.18	0.411	4.24	4.75
Total Amino Acids				
	100	7.939	85.56	97.15

1. Source: United States Department of Agriculture. National Nutrient Database for Standard Reference Release 24; 2011

2. Source: Axiom Amino Acid Profile

3. Branched Chain Amino Acid

2.6. Physical and Chemical Properties of Oryzatein™

Appearance	Light beige to medium beige
Taste	Bland to sweet taste
Odor	Clean odor
Texture	Free flowing

2.7 Production Process

Oryzatein™ is derived from the bran + germ + endosperm extracted from whole-grain brown rice through a low-heat process. A flow chart of this process is depicted in Figure 1. Manufacturing processes are performed in compliance with ISO 9001 and 22000 and GFSI standards. The manufacturing facility is ISO 22000 and BRC certified, following both United States-based manufacturing quality processes and controls, as well as the Codex Standard for Rice adopted in 1995. All source material is tested on receipt and after production. Briefly, the manufacturing process as follow:

1. Whole-grain brown rice is received, tested and approved for further processing.
2. Hydrolyzed process to obtain whole brown rice protein (40-60% concentration)
 - a. The enzyme amylase is used to separate protein from syrup solids. Only the whole brown rice protein concentrate is kept.
 - i. The amylase is a GRAS (21 CFR §184.1027) enzyme preparation produced by Novozymes through submerged fermentation of *Bacillus licheniformis* under well-controlled conditions in closed fermentation tanks.
3. Crude Protein¹ is tested for gluten.
 - a. If passes the test (ELISA test with a technical standard <20 ppm): crude rice protein is retained and submitted to step 4/ If not: rejected.
4. Separation process to obtain whole brown rice protein concentrate (80-90% concentration).
5. Drying process: This is a kill step with a dual function of heat-inactivating any enzyme residues.
 - a. The protein is washed, separated, dried and sterilized using a thermometer control, more than 80°C, time more than 2 hours
 - b. milled into the appropriate mesh
 - c. Testing for microbial purity: Aerobic Plate Count, Yeast and Mold, *E. coli*, Coliforms and *Salmonella*.
 - d. If passes: Packaged/ If not: passes through the kill step again.
6. Packaging process:
 - a. Sampling and finished product testing for gluten and Proximates.
 - i. Pesticides have been tested regularly and are found to not be present in the finished product at detectible levels.

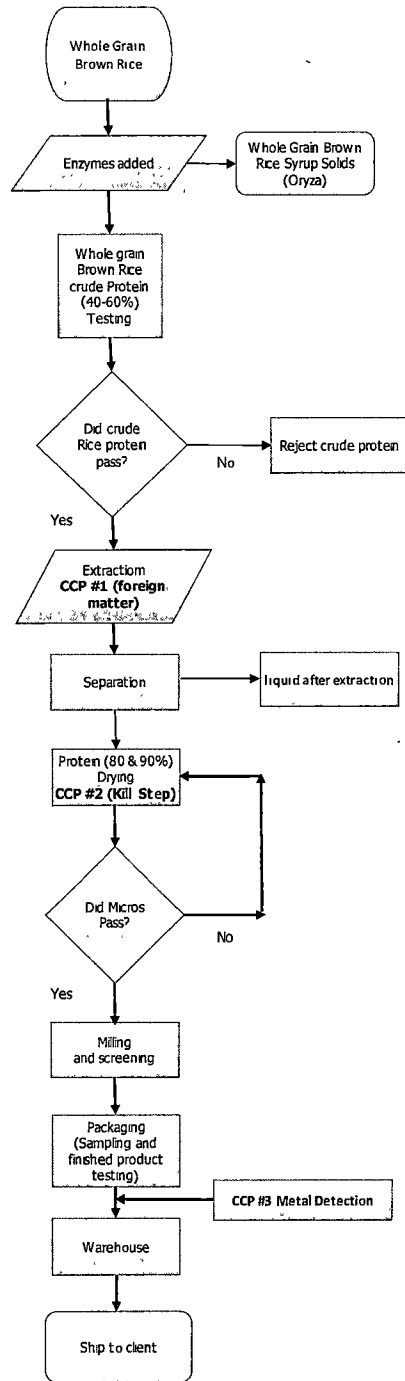
The enzyme processing aid (amylase) is GRAS for the intended use. Additionally, the source microorganisms are regarded as safe for food-grade enzyme preparations (Pariza and Johnson, 2001). All raw materials and processing aids used in the manufacture of rice protein are suitable food-grade materials and/or are used in accordance with applicable U.S. federal regulations for such uses. The derivation of protein from rice for the intended uses

¹ Crude Protein: rice absent of sugars, once they are removed

as described here follows in-step with the macronutrient, historical safety usage, and laboratory analyses with both whey protein and soy protein.

Figure 1. Flow Chart for the Manufacturing Process of Rice Protein

Oryzatein® HACCP Flow



2.7. Food Grade Specifications

The food-grade specifications for rice protein concentrates 80 and 90% (Oryzatein™) are summarized in Table 3. To demonstrate conformance with the food-grade specifications, Axiom Foods has provided batch analysis data from five batches of rice protein concentrates 80 and 90%. Analytical results for typical food grade specifications, along with the results of analyses from five batches for each analysis parameter are presented in Tables 4-8. All tested samples were within GMP specification for all parameters, indicating that the production process is consistently in control.

Additionally, the specifications indicated below cover the two levels of protein concentration offered by the manufacturer, 80%, and 90%, respectively. As part of the manufacturing process illustrated in the Figure 1, the process that results in these two concentration variants is identical. The sole variable that determines overall protein concentration, and thereby the product variant, is the amount of time the material is subjected to hydrolysis and separation. As a result, carbohydrates and fibers are reduced as protein concentration increases through a hexane-free fractioning process used to isolate protein. The microorganisms and heavy metals are tested prior to and after processing. Axiom Foods assures that all final products (concentrates and isolates) marketed will be in compliance with the standard specifications summarized in this document (Table 3).

Table 3. Food Grade Specifications of Rice Protein Concentrates*

Parameters	Oryzatein™ 80	Oryzatein™ 90
Proximates		
Protein (dry basis) (%)	≥ 80	≥ 90
pH	4.5-7.0	4.5-7.0
Fat (%)	≤ 5	≤ 2.5
Fiber (%)	≤ 18	≤ 10
Moisture (%)	≤ 6	≤ 6
Ash (%)	≤ 3.5	≤ 2.5
Total Carbohydrate (%)	≤ 18	≤ 10
Gluten	<20 ppm	<20 ppm
Heavy Metals (ppm)		
Arsenic (As) (ppm)	<0.20	<0.20
Cadmium (Cd) (ppm)	<0.30	<0.30
Lead (Pb) (ppm)	<0.25	<0.25
Mercury (Hg) (ppm)	<0.045	<0.045
Microbiology		
Total Plate Count (cfu/g)	≤15,000	≤15,000
Coliform (cfu/g)	≤30	≤30
Yeast and Molds (cfu/g)	≤100	≤100
Salmonella (cfu/10 g)	Negative	Negative
E. coli (cfu/10 g)	Negative	Negative
Staph aureus (cfu/10g)	Negative	Negative
Mycotoxins		
Aflatoxin B1 (µg/kg)	<5	<5
Aflatoxin B2 (µg/kg)	<5	<5
Aflatoxin G1 (µg/kg)	<5	<5
Aflatoxin G2 (µg/kg)	<5	<5
Ochratoxin A (µg/kg)	<5	<5

*Based on information provided by Axiom Foods

2.7.1. Chemical Analysis: Proximates

Analytical data for proximate levels from five lots each of rice protein concentrates 80 and 90% are summarized in Table 4. In one lot (Lot No.: 20150716-5) the levels of fiber (7.4 g/100 g) was slightly higher than the total carbohydrate 7.13%. The difference is minor may be related to analytical method.

Table 4. Batch Analysis Data for Rice Protein Concentrates 80 and 90%*					
Proximates:	Lot No.:	Lot No.:	Lot No.:	Lot No.:	Lot No.:
Oryzatein 80	(b) (6)				
Protein (dry basis) (%)	87.8	88.7	84.7	85.9	82.8
pH	5.68	5.65	5.66	5.67	5.72
Fat (%)	0.34	0.35	0.34	0.34	0.33
Fiber (%)	6.4	6.5	6.5	6.6	6.8
Moisture (%)	1.50	1.40	1.27	1.76	1.94
Ash (%)	0.83	0.97	0.83	0.84	0.82
Carbohydrate (%)	9.5	8.6	12.9	11.2	14.1
Proximates:	Lot No.:	Lot No.:	Lot No.:	Lot No.:	Lot No.:
Oryzatein 90	(b) (6)				
Protein (dry basis) (%)	90.53	90.95	91.15	91.37	90.97
pH	5.74	5.66	5.70	5.70	5.65
Fat (%)	0.39	0.44	0.37	0.35	0.35
Fiber (%)	7.5	6.6	5.3	5.3	7.4
Moisture (%)	1.80	1.15	1.33	1.40	1.19
Ash (%)	0.95	0.98	0.94	0.88	1.00
Carbohydrate (%)	8.07	8.05	7.35	7.13	7.13
*Based on information provided by Axiom Foods					

2.7.2. Microbiological Analysis

The analytical results for microbial contaminants from five manufacturing lots of rice protein concentrate 80 and 90% are presented in Table 5.

Table 5. Batch Analysis Data for Microbial Contaminants in Rice Protein Concentrate *						
Microbiology: Oryzatein 80	Testing Method	Lot No.: (b) (6)	Lot No.:	Lot No.:	Lot No.:	Lot No.:
Aerobic Plate Count (cfu/g)	USP 2021	<100	100	100	100	200
Coliform (cfu/g)	AOAC 991.14	<10	<10	<10	<10	<10
Yeast and Molds (cfu/g)	AOAC 997.02	<10	<10	<10	<10	<10
<i>Salmonella</i> (cfu/10g)	USP 2022	Negative	Negative	Negative	Negative	Negative
<i>E. coli</i> (cfu/10 g)	USP 2022	Negative	Negative	Negative	Negative	Negative
<i>Staph aureus</i> (/10g)	USP 2022	Negative	Negative	Negative	Negative	Negative
Oryzatein 90		(b) (6)				
Aerobic Plate Count (cfu/g)	USP 2021	1400	1100	1000	600	<100
Coliform (cfu/g)	AOAC 991.14	<10	<10	<10	<10	<10
Yeast and Molds (cfu/g)	AOAC 997.02	<10	<10	<10	<10	<10
<i>Salmonella</i> (cfu/10g)	USP 2022	Negative	Negative	Negative	Negative	Negative
<i>E. coli</i> (cfu/10 g)	USP 2022	Negative	Negative	Negative	Negative	Negative
<i>Staph aureus</i> (/10g)	USP 2022	Negative	Negative	Negative	Negative	Negative

*Based on information provided by Axiom Foods

2.7.3. Heavy Metals

Analytical results for heavy metals from five lots of rice protein concentrates 80% and 90% are summarized in Table 6. The results of these analysis show that the levels of these heavy metals are low and comply with the standard product specifications. Axiom recognizes that lot-to-lot variations happen, depending upon the source of the material. However, the final product will comply with the standard specifications summarized in Table 3 and also included in Table 6. Although rice is known to behave differently than most crops because it takes up arsenic from soil and water more readily than other foods, the arsenic levels in rice protein as well as the source material (rice) were found to be low. Given the recent concerns related to arsenic levels in foods, including rice, Axiom Foods has implemented a policy to test each batch of rice, the source material for protein extract, for the arsenic levels. Axiom has also provided inorganic arsenic analysis data for five lots each of Oryzatein™ 80 and Oryzatein™ 90 by employing the EPA1632 method. The results of this analysis revealed that inorganic arsenic from each of all ten batches were below levels of detection (<0.015 ppm).

Table 6. Batch Analysis Data for Heavy Metals in Rice Protein Concentrate

Heavy Metals:	Standard Specifications	Testing Method	Lot No.:	Lot No.:	Lot No.:	Lot No.:	Lot No.:
Oryzatein 80			(b) (6)				
Arsenic (As) (ppm)	<0.20	AOAC 993.14	0.016	0.015	0.021	0.018	ND
Cadmium (Cd) (ppm)	<0.30	AOAC 993.14	0.014	0.013	0.013	0.014	0.012
Lead (Pb) (ppm)	<0.25	AOAC 993.14	0.032	0.029	0.030	0.057	0.026
Mercury (Hg) (ppm)	<0.045	DMA	0.012	0.012	0.013	0.012	0.012
Oryzatein 90			20150716-1	20150716-2	20150716-3	20150716-4	20150716-5
Arsenic (As) (ppm)	<0.20	AOAC 993.14	0.025	0.015	0.022	0.019	0.029
Cadmium (Cd) (ppm)	<0.30	AOAC 993.14	0.017	0.010	0.014	0.067	0.012
Lead (Pb) (ppm)	<0.25	AOAC 993.14	0.054	0.051	0.042	0.031	0.040
Mercury (Hg) (ppm)	<0.045	DMA	0.014	0.014	0.015	0.014	0.013

*Based on information provided by Axiom Foods

2.7.4. Mycotoxins and Pesticides Testing

The results of mycotoxin testing from five batches and pesticide analysis from five batches are summarized in Tables 7 and 8, respectively. These investigations suggest that the levels of mycotoxins and pesticides are low enough to assure that rice protein concentrates 80 as well as 90% is safe for human consumption.

Table 7. Batch Analysis Data for Mycotoxins in Rice Protein 80 and 90% Concentrates*

Oryzatein 80Mycotoxins	Testing Method	Lot Number:	Lot Number:	Lot Number:	Lot Number:	Lot Number:
		(b) (6)				
Aflatoxin B1 (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg
Aflatoxin B2 (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg
Aflatoxin G1 (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg
Aflatoxin G2 (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg
Ochratoxin A (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg

Oryzatein 90 Mycotoxins	Testing Method	Lot Number:	Lot Number:	Lot Number:	Lot Number:	Lot Number:
		(b) (6)				
Aflatoxin B1 (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg
Aflatoxin B2 (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg
Aflatoxin G1 (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg
Aflatoxin G2 (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg
Ochratoxin A (µg/kg)	AOAC 999.07 Modified	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg	<5µg/kg

*Based on information provided by Axiom Foods

Table 8. Batch Analysis Data for Pesticides in Rice Protein Concentrate 80 and 90%

Pesticide	Methods	Lot No.:	Lot No.:	Lot No.:	Lot No.:	Lot No.:
		(b) (6)				
Oryzatein 80 Screened Pesticides	AOAC 2007.01	ND	ND	ND	ND	ND
		(b) (6)				
Oryzatein 90 Screened Pesticides	AOAC 2007.01	ND	ND	ND	ND	ND

ND-Not detected because under the limit of detection; **Based on information provided by Axiom Foods. Over 225 pesticides, its metabolites or degradation products were measured with the detection limits from 0.05 to 0.01 ppm.

2.7.5. Product Stability

Stability of rice protein concentrate 80% was evaluated at different time points following storage of Oryzatein™ 80 for over a period of two years. The rice protein concentrate samples were analyzed at 0 (study initiation), 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 and 24 months. No significant changes in the peroxide value with fat extraction, taste, and odor were noted that would suggest any safety concerns. Shelf life studies performed on concentration 80% show that the product is stable and in compliance with regulations, and consistent with the packaging notations which claim a 24 months shelf life in unopened bags, stored at temperatures below 80°F (27°C). This data also indicate that rice protein 90% derived using similar process is also likely to be stable.

3. Intended Use and Consumer Exposure

3.1. Intended Technological Effects

Rice protein concentrate is intended to be used as a substitute for, and/or in conjunction with, soy protein and whey protein in conventional food products. Target product

categories include food products needing protein-source properties such as promotion of ease of dry flow, masking of off-flavors, texturing of meat analogues, retention of oils and gelation, and increase of water-solubility. These applications are those defined in 21 CFR §170.3(o) (14) formulation aids, (20) nutrient supplements, (28) stabilizers and thickeners, and (32) texturizers.

3.2. Intended Uses and Estimated Daily Intake

Axiom Foods intends to use rice protein concentrate as a food ingredient in multiple specific food categories. The intended use levels and the food categories to which rice protein concentrate will be added are summarized in Table 9. Rice protein concentrate will be added to Baked Goods and Baking Mixes; Beverages and Beverage Bases; Breakfast Cereals; Dairy Product Analogs; Fats and Oils; Grain Products and Pastas; Milk Products; Plant Protein Products; Processed Fruits and Fruit Juices; Processed Vegetables and Vegetable Juices; Soups and Soup Mixes at levels ranging from 0.96 to 34.3%. The use levels are based on purity criteria of 80% protein concentrate, for 90% concentrate the use levels will be adjusted accordingly. Axiom Foods does not intend to add rice protein concentrate to meat and poultry products or other products that come under USDA jurisdiction. Additionally, rice protein concentrate will not be added to infant formula or foods targeted to children.

Table 9. Summary of the Individual Proposed Food-Uses and Use-Levels of Rice Protein Concentrate (80%) in the U.S. Using NHANES 2011-2012 Data

Food Category	Food-Uses	Proposed Use Level of Rice Protein Concentrate (%) ¹
Baked Goods and Baking Mixes	Breads	4.8
	Rolls	4.8
	Bagels	4.4
	English Muffins	4.4
Beverages and Beverage Bases	Non-Milk Based Meal Replacements	1.04
Breakfast Cereals	Ready-to-Eat Breakfast Cereals	4.4 - 16
Dairy Product Analogs	Soy/Imitation Milks	1.04
Fats and Oils	Margarine ²	17.12
	Salad Dressings	8
Grain Products and Pastas	Health Bars and Grain-Based Bars Containing Fruit and Vegetable ³	20
Milk Products	Flavored Milk Drinks	1.04
	Milk-Based Meal Replacements	1.04
	Yogurt (Regular and Frozen) ²	1.1 - 2.0
Plant Protein Products	Meat Alternatives	1 - 34.3
Processed Fruits and Fruit Juices	Fruit Juice ²	1.04
	Fruit Nectars	1.04
	Fruit-Flavored Drinks	1.04
	Fruit Smoothies	20
Processed Vegetables and Vegetable Juices	Vegetable/Tomato Juice Including Vegetable Smoothies ⁴	20
Soups and Soup Mixes	Prepared Soups, Dry Soup Mixes, and Condensed Soups	0.96

¹ Use levels are calculated based on the purity criteria of 80% protein

² These food-uses represent non-standardized food products; however, in order to obtain a conservative intake estimate, surrogate codes for the standardized food products were chosen.

³ It should be noted that there were no food codes identified for grain-based bars containing vegetable. However, for this assessment, it is assumed that the estimated consumption of grain-based bars containing

fruit would also reflect the intake of grain-based bars containing vegetable.

⁴ There were no food codes identified for vegetable smoothies within the NHANES dataset; however, the intake estimate for vegetable-based juices is expected to be representative of the intake from both vegetable-based juices and vegetable smoothies. It was assumed that a consumer of vegetable-based juices would drink a vegetable smoothie in replacement of a vegetable-based juice.

Estimates for the intake of rice protein concentrate were based on the proposed food uses and use levels in conjunction with food consumption data included in the U.S. National Center for Health Statistics' (NCHS) National Health and Nutrition Examination Surveys (NHANES) 2011-2012 (USDA, 2014; CDC, 2015). In consultation with PRIM and Axiom Foods, these intake estimates were performed by Intertek Scientific and Regulatory Consultancy, Canada. Calculations for the mean and 90th percentile all-person and all-user intakes were performed for the proposed food uses of rice protein concentrate and the percentage of consumers were determined. Similar calculations were used to estimate the total intake of rice protein concentrate resulting from all proposed food uses of rice protein concentrate combined. In both cases, the per person and per kilogram body weight intakes were performed for different age groups.

Based on the exposure estimates, approximately 98% of the total U.S. population was identified as potential consumers of rice protein concentrate from the proposed food uses. Consumption of proposed food uses by the total U.S. population resulted in an estimated mean all-person and all-user intake of rice protein concentrate of 10.1 g/person/day (178 mg/kg bw/day) and 10.3 g/person/day (181 mg/kg bw/day), respectively. The 90th percentile all-person and all-user intakes of rice protein concentrate from the proposed food uses by the total population were 17.2 g/person/day (385 mg/kg bw/day) and 17.3 g/person/day (388 mg/kg b/day), respectively. Of the individual population groups, male adults were determined to have the greatest mean and 90th percentile all-user intakes of rice protein concentrate on an absolute basis, at 11.2 and 20.5 g/person/day, respectively, while infants had the lowest mean and 90th percentile all-user intakes of 7.1 and 13.4 g/person/day, respectively. On a body weight basis, infants were identified as having the highest mean and 90th percentile all-user intakes, corresponding to 519 and 959 mg/kg bw/day, respectively. A summary of dietary intake calculations from the intended food categories is presented in Table 10 and 11. For safety assessment purposes the highest 90th percentile intake of 20.5 g/person/day, noted in male adults is considered. Complete intake estimate analysis report is included as Appendix I.

Population Group	Age Group (Years)	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	% Users	n	Mean	90 th Percentile
Infants	0 to 3	5.9	12.4	83.2	683	7.1	13.4
Children	4 to 11	9.4	14.8	99.9	1,347	9.4	14.8
Female Teenagers	12 to 19	10.5	16.5	98.8	526	10.6	16.5
Male Teenagers	12 to 19	11.8	18.7	98.5	508	12.0	19.7
Female Adults	20 and up	9.7	16.1	99.8	2,204	9.7	16.1
Male Adults	20 and up	11.1	20.3	98.8	2,067	11.2	20.5
Total Population	All Ages	10.1	17.2	98.4	7,335	10.3	17.3

Table 11. Summary of the Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Proposed Food-Uses in the United States by Population Group (NHANES 2011-2012 Data)

Population Group	Age Group (Years)	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	% Users	n	Mean	90 th Percentile
Infants	0 to 3	431	855	83.1	680	519	959
Children	4 to 11	341	589	99.9	1,347	342	589
Female Teenagers	12 to 19	184	282	98.7	515	187	292
Male Teenagers	12 to 19	180	369	98.4	505	182	373
Female Adults	20 and up	139	224	99.8	2,181	139	224
Male Adults	20 and up	132	235	98.8	2,048	133	235
Total Population	All Ages	178	385	98.4	7,276	181	388

In addition to the above described specific food uses of rice protein concentrate (Oryzatein™) to increase the level of protein in a product as a replacement for other animal or vegetable protein, Axiom Foods also intends to market rice protein concentrate as a directly consumed supplemental protein. The proposed use levels for these purposes may range from 15 to 25 g protein/serving when used as a protein ingredient in sports nutrition or meal replacement applications where consumers mix their own beverages. The available information indicates that whey protein is commonly used in these types of applications at levels of 15 to 25 g/serving. Axiom estimates that these products will be used by consumers one time per day (in protein powder sports nutrition applications). Thus, the maximum intake of rice protein concentrate from its uses in sports nutrition will be 25 g/person/day.

4. Safety Related Information

4.1. Common Knowledge of Safe Use

There is common knowledge of a long safe history of human consumption of rice as a food. Among the cereals, rice and wheat share equal importance as leading food sources for humankind (Chang, 2000). Rice has been cultivated since ancient times and has been extensively consumed around the world. Since historical times, rice has constituted an important commercial crop as it was a dietary staple for people. At present, leading rice-producing countries include the US, China, and other Asian countries. Rice is harvested from fields called paddies. In the rice milling process, the hull is first removed to produce brown rice. Brown rice consists of the bran layer, germ, and endosperm (starch). Bran and germ are concentrated sources of vitamins, minerals, flavones, and other phytonutrients present in brown rice. Brown rice has been used to produce various types of food products. Examples include breakfast cereals, baked goods, rice cakes, tea, pasta, and noodles. The available information indicates that consumption of rice in developing countries is approximately 68.5 kg/person/year (188 g/person/day) and 12.8 kg/person/year (35 g/person/day) in developed countries (Kahlon, 2009).

FDA considers rice under a general food category that includes grain products and pastas, including macaroni and noodle products, rice dishes, and frozen multicourse meals, without meat or vegetables. The USDA National Nutrient Database (NDSR, 2009) has listed 134 food products that contain rice. Thus the available information suggests that there is common

exposure to rice and its protein. As per 21 CFR §101.12(b), the serving size [Reference Amount Customarily Consumed (RACC)] of prepared rice is 140 g (45 g dry rice). The mean and 90th percentile rice consumption in the US for all individuals is reported as 152 and 312 g/person/day (Smiciklas-Wright et al., 2002). As rice contains approximately 8% protein, the intake of protein from consumption of rice at the mean and 90th percentile in the US is estimated to be 12.3 and 25.0 g/person/day, respectively. The 90th percentile intake of rice protein from the intended uses of the rice protein concentrate in different food categories of 17.3 g/person/day is lower than the 90th percentile daily intake of rice protein resulting from the consumption of rice.

4.2. Annual and Daily Consumption in Asia

Rice is the staple food for more than half of the world's population. Approximately 91% of the world's rice is grown in Asian countries, and about 55% is accounted for by China, Taiwan and India alone. Three of the world's four most populous nations are rice-based societies—China, India, and Indonesia. The annual and daily rice consumption in Japan, China and Indonesia is summarized in Table 12. These data suggest that the daily 90th percentile protein intake from the consumption of rice can range from 23.7 g in Japan to 66.2 g protein/person/day in Indonesia. The available information suggests that there is a significant history of exposure to rice and in turn its protein.

Table 12. Annual and Daily Rice Consumption in Asian Countries

	Annual rice consumption kg/capita ¹	Daily Consumption g/capita	90 th percentile	Protein Content	90 th Percentile protein intake
Japan	54.0	147.9	295.9	8%	23.7
China	76.3	209.0	418.1	8%	33.4
Indonesia	151.1	414.0	828.0	8%	66.2

¹International Rice Research Institute. Available at: <http://irri.org>

4.3. Biological Value in Human Nutrition

Rice is unquestionably a superior source of energy among the cereals. It has been well documented that rice has relatively low protein content (about 8% in brown rice versus 10% in wheat). However, brown rice ranks higher than wheat in net protein utilization. As compared to wheat, corn and sorghum, rice protein is superior in lysine content.

4.4. Comparison of Oryzatein™ with Other Proteins

The amino acid profile of rice protein concentrate was compared with rice, rice milk, cow's milk and whey protein by independent parties following valid scientific procedures. The findings of the analyses are included in a report, "A Comparative Study of Axiom Foods/Growing Naturals Organic Whole Grain Brown Rice Protein Concentrate Powder as Compared to the USDA Standards of *Oryza sativa* L. and Rice Milk, the USDA Standards for Cow's Milk and the National Dairy Council Fact Sheet on Whey Protein for the Respective

Amino Acid Profiles.”. The rice protein concentrate figures used in the report were for Oryzatein™. This report is included as Appendix II.

4.5. Nutrient Value and Comparison

The comparison of nutrient profiles of rice protein concentrates 80 and 90% with other similar proteins such as whey and casein protein is summarized in Table 13. These comparisons suggest that rice protein concentrate is similar to other commonly marketed proteins. While widely used, whey has a lower concentration of protein (~50%), there are many hydrolyzed whey protein products that have concentrations in the 70-80% range with an approximate 40 g serving size.

Shih (2003) reported that processing of rice proteins involves various physical and chemical treatments which could affect the nutritional value of the protein. Depending on the extent and temperature, thermal processes cause decomposition of lysine and/or cysteine to various extents. *In vitro* enzymatic assays suggest that thermal processing of foods, such as boiling, parboiling, and extrusion, increases the digestibility of rice proteins. The findings from *in vivo* studies also indicate that heat treatment reduces the true digestibility of rice protein in rats by 10-15% (Shih, 2003). However, heat treatment improves the biological value of the protein such that net protein utilization in rats is not reduced. Parboiling also reduces true digestibility but increases biological value correspondingly without any adverse effect on net protein utilization (Shih, 2003). Koo and Lasekan (2007) reported that nutritional quality of rice protein compares favorably with other cereal proteins including wheat, oat and barley. The protein quality of rice (66%) ranks only below that of oats (68%) and surpasses that of whole wheat (53%) and of corn (49%).

Table 13. Nutrient Profile Comparison of Rice Protein Concentrates and Other Proteins

Parameters	Oryzatein		Optimum Whey ¹	Cellucor Casein ²	Optimum Whey ³	Muscle Pharm Whey ⁴	WeightLoss Lab. Whey ^{5*}
	O 80	O 90					
Serving size	35	35	39	34.5	35	38	40
Total Calories	136	136	140	120	130	150	160
Calories from fat	1	1	10	10	15	20	15
Total Fat (g)	0.12	0.13	1	1	1.5	1.5	2
Saturated Fat (g)	0.1	0.1	0	0.5	1	1	1
Cholesterol (mg)	0	0	0	15	35	75	55
Sodium (mg)	33	35	190	300	170	159	95
Total Carbohydrates (g)	1.76	0.56	2	4	3	7	15
Dietary Fiber (g)	2.21	2.50	NA	1	2	1	8
Sugars (g)	1.7	0.12	1	1	1	3	5
Protein (g)	30.1	33.5	30	24	25	38	20

¹Nutrient Values based on Optimum, Platinum Hydrowhey (Advanced Hydrolyzed Whey Protein), Supercharged Strawberry. Available at: <http://www.optimumnutrition.com>

²Nutrient Values based on Cellucor, COR-Performance Whey, Molten Chocolate. Available at: <http://www.cellucor.com>

³Nutrient Values based on Optimum, Gold Standard 100% Casein, Chocolate Cake Batter. Available at: <http://www.optimumnutrition.com>

⁴Nutrient Values based on MusclePharm, Combat Powder, Smores. Available at: <http://www.musclepharm.com>

⁵Nutrient Values based on Weight Loss Laboratories, Ultimate Nutrition Raw Whey Protein, Combat Powder, Smores. Available at: <http://www.alibaba.com/product->

*Raw material

4.6. Amino Acid Profile Comparison

In a recent publication, Kalman (2014) described amino acid profile of protein concentrate (Oryzatein-80™) and protein isolate (Oryzatein-90™) from brown rice. For these studies, two samples from different batches of Oryzatein-90™ and one sample of Oryzatein-80™ were analyzed. After hydrolysis in 6N hydrochloric acid for 24 hours at approximately 110°C and further chemical stabilization, samples were analyzed by HPLC after pre-injection derivitization. Total amino acid content of both the isolate and the concentrate was approximately 78% by weight with 36% essential amino acids and 18% branched-chain amino acids. These results were reported to be similar to the profiles of raw and cooked brown rice except in the case of glutamic acid which was 3% lower in the isolate and concentrate. The amino acid content and profile of the Oryzatein-90™ isolate was similar to published values for soy protein isolate but the total, essential, and branched-chain amino acid content of whey protein isolate was 20%, 39% and 33% greater, respectively, than that of Oryzatein-90™. The investigator suggested that these results provide a valuable addition to the nutrient database of protein isolates and concentrates from cereal grains.

In an attempt to gain an insight on the similarity and differences between rice protein concentrates and other currently marketed similar protein products, rice protein concentrates 80 and 90% (the subject of present GRAS assessment) was compared with whey and soy proteins (Table 14). The data presented in Table 14 show that the amino acid profile of rice protein concentrate is substantially similar to other commonly marketed high-protein concentration products such as whey and soy protein.

Table 14. Amino Acid Profile Comparison of Rice Protein Concentrates and Other Proteins

AMINO ACIDS	<i>Oryza sativa</i> g/ 100g*	Oryzatein™ 80 - 80 Silk g/100g	Oryzatein™ 90 - 90 Silk g/100g	Whey ¹ g/100g	Soy ² g/100g
Alanine	0.463	5.14	5.67	4.82	2.677
Arginine	0.602	6.37	7.64	3.18	4.642
Aspartic Acid	0.743	8.21	9.33	12.26	7.249
Cysteine	0.096	2.88	2.09	2.28	0.886
Glutamic	1.618	15.22	17.22	15.41	12.013
Glycine	0.391	3.22	4.33	2	2.688
Histidine	0.202	1.84	2.09	2.41	1.578
Isoleucine ^{3,4}	0.336	3.87	4.40	6.41	2.942
Leucine ^{3,4}	0.657	7.23	8.21	11.6	4.917
Lysine ³	0.303	2.81	3.21	9.83	3.929
Methionine ³	0.179	2.36	2.66	2.35	0.814
Phenylalanine ³	0.41	4.74	5.38	3.56	3.278
Proline	0.372	3.95	4.49	6.28	3.298
Serine	0.411	4.24	4.75	6.24	3.369
Threonine ³	0.291	3.17	3.57	8.44	2.474

Tryptophan ³	0.101	0.99	1.12	1.8	0.835
Tyrosine	0.298	4.21	4.84	3.26	2.301
Valine ^{3,4}	0.466	5.44	6.18	6.09	3.064

1. Cribb PJ. U.S. Whey Proteins in Sports Nutrition 2005. Available: http://usdec.files.cms-plus.com/Publications/WheySportsNutrition_English.pdf
2. United States Department of Agriculture. National Nutrient Database for Standard Reference Release 24, Nutrient data for 16122, Soy protein isolate.
3. Branched Chain Amino Acid
4. Essential Amino Acid

4.7. Nutritional Requirement of Proteins

The Institute of Medicine (IOM) used the Continuing Survey of Food Intakes by Individuals (CSFII) 1994-1996, 1998 to estimate the background dietary intakes of protein for the US population. The mean adult protein intake ranged from 56 - 104 g/person/day, depending on the age group. At the 90th percentile, adult protein intakes ranged from 76 g/person/day to 142 g/person/day. In 2005, IOM set a Recommended Dietary Allowance (RDA) value for protein of 0.8 g/kg of body weight in adult males and females (IOM, 2005). IOM concluded that there were insufficient data to set Tolerable Upper Intake Levels (UL) for total protein or individual amino acids. This information suggest that the adult intake of protein ranges from 56 g to 142 g/person/day and the recommended daily intake for an adult weighing 60 kg is 48 g/person/day.

4.8. Allergenicity and Immunological Considerations of Rice Protein

Cereal grains have been reported to be a cause of food allergies. In general, rice has been reported as an inhalant or contact allergen, rather than as a food allergen. There are some reported instances of rice-allergy/sensitivity. In Europe and the USA, rice is not considered an issue for allergenicity.

In Japan, the incidence of IgE-mediated rice sensitivity is reported at 10% in atopic individuals (Besler et al., 2001; Trcka et al., 2012). However, there is no indication that these individuals have an allergic response following the ingestion of rice. Studies of rice allergies and rice allergens are complicated by the fact that allergens exist in rice pollens; there is evidence that rice pollen allergens cross react with allergens in rice and grass pollens (Besler et al., 2001). IgE binding cross-reactivity of rice proteins to a lipid-transfer protein from maize has been demonstrated, indicating the presence of this plant-pain allergen in rice. In addition to ingested allergens, rice presents an important aero- allergen (*Ory s 1*) belonging to the grass pollen group I allergens (Besler et al., 2001). Despite these studies, rice continues to be a component of recommended hypoallergenic diets. It remains one of the major components of the elimination diets used in the evaluation and diagnosis of food allergies (Bock, 2003; Mofidi, 2003).

It has been suggested that certain organisms, tumors or whole allergens (e.g., peanut) contain glycans that serve as natural adjuvants directing a Th2 skewed response (Atochina et al., 2001; Okano et al., 2001; Thomas and Harn, 2004). Several of these glycans bind to ligands on dendritic cells, promoting DC2 differentiation (promoting a Th2 response). Glycans present in rice may, in combination with a potent antigen can potentially alter the immune response to that antigen.

In vitro studies on the IgE-binding reaction to rice proteins have suggested that the major IgE binding protein in rice is a 14-16 kD protein. Izumi et al. (1999) suggested this protein is a salt soluble albumin belonging to the α -amylase/trypsin inhibitor family. However, the subjects with these antibodies have not been tested by food challenge and it is questionable whether this is a true allergy or perhaps the result of a grass pollen allergy.

In a recent study, Lee (2013) noted an increase of non-specific sensitization in Korean children, without clinical symptoms and attempted to determine the major IgE binding components in rice extract and its clinical significance. In this study, 24 children (15 boys and 9 girls; mean age, 16.3 months) with allergic disease, who were sensitized to rice antigen confirmed by ImmunoCAP, were enrolled. The IgE binding capacities of various types of rice (raw, cooked, and heat-treated, simulated gastric fluid- SGF, and simulated intestinal fluid- SIF) were investigated using SDS-PAGE and IgE immunoblot analysis. In SDS-PAGE, more than 16 protein bands were observed in the raw rice, whereas only 14-16 kDa and 31-35 kDa protein bands were observed in cooked rice. The common SDS-PAGE protein bands observed in SGF-, SIF-, and heat-treated rice were 9, 14, and 31 kDa. In a heated-rice IgE immunoblot, protein bands of 9, 14, and 31-33 kDa were found in 27.8, 38.9, and 38.9% of all sera, respectively. Furthermore, the 9 kDa, 14 kDa and 31-kDa bands were IgE binding components in 50%-75% of sera from symptomatic rice allergic children, and hence, appeared to be the clinically relevant rice allergens in Korean children.

In *Cosmetic Ingredient Review* (CIR, 2006) two cases of rice allergy have been reported: 1) a 17-year-old female who threw raw rice at a wedding developed acute erythema of the hands, edema of the eyelids, dyspnea, and cough—prick tests, open scratch, and handling tests, and radioallergosorbent (RAST) tests were positive for rice; 2) an atopic female developed similar symptoms after handling rice at a wedding as well as during handling of raw rice for cooking. It is noteworthy that positive responses to other cereal grains also were observed in these rice-positive women (CIR, 2006). It may be possible that raw rice used at the weddings may have contained some other impurities.

In a retrospective study, Mehr et al. (2009) examined and compared the characteristics of food protein-induced enterocolitis syndrome (FPIES) caused by rice and cow's milk/soy in children. These investigators noted 14 children (ages 2 to 14 months) with 26 episodes of rice FPIES compared with 17 children with 30 episodes of cow's milk (n=10) or soy (n=7) FPIES. As compared to children with FPIES caused by cow's milk/soy (0%), children with rice FPIES were more likely to have FPIES caused by other foods (36%). The findings from this study suggest the emerging importance of rice, a food commonly thought to be "hypoallergenic", as a significant trigger of FPIES.

In a case study, Trcka et al. (2012) attempted to identify allergens presumably responsible for anaphylaxis after ingestion of rice in a 33 year old male German subject. The subject exhibited several episodes of anaphylaxis after ingestion of cooked rice. Symptoms occurred within 20 min and comprised generalized urticaria, pruritus, angioedema, dysphagia and bronchospasm. Prick-to-prick tests were positive to raw and cooked rice (basmati rice and long grain rice) and preparations of different rice extracts. Specific IgE against rice (f9) was 1.87 kU A /l. The basophil activation test (BAT) showed specific IgE-mediated activation of basophils after stimulation with rice extracts. Four IgE-reactive rice proteins with an apparent molecular weight of 49, 52, 56 and 98 kDa were identified. Binding to the 56-kDa glycoprotein was at least partially independent from cross-reactive carbohydrate

determinants (CCD), whereas IgE binding to the other rice proteins was completely inhibited by pre-incubation with the CCD MUXF derived from bromelain. The investigators concluded that the high-molecular-weight allergens from rice seeds, predominantly a 56-kDa glycoprotein, seem to be responsible for anaphylaxis after consumption of rice in this subject.

In another case report, Villalta et al (2012) described a case of rice allergy in a patient (65 year old man) with bakers asthma for 10 years. On ISAC 112 IgE reactivity to wheat alpha-amylase/trypsin inhibitor (nTri aA_TI) and lipid transfer protein (rTri a 14) was found. The investigators hypothesized that the reaction by oral ingestion was elicited by homologous molecules in rice seeds.

The available information indicates that allergy to rice has been rare and the frequency to rice allergy varies among different populations. Consumption of rice protein concentrate is unlikely to result in allergic reaction. This is supported by the rarity of rice allergy and the ubiquitous exposure to this food stuff. Rice is among the first solid foods fed to infants in many cultures, in part because of its hypoallergenicity from lack of gluten. Axiom Foods acknowledges that rice protein concentrate (Oryzatein™) does not contain any of the eight foods (Milk, Egg, Fish, Crustacean shellfish, Tree nuts, Peanuts, Soybeans, Wheat) considered to be major food allergens under the U.S. Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA).

While the potential exists for an individual with exquisite sensitivity to rice protein to have an adverse response to consumption of products containing this substance, this is not a bar to a finding of safety and GRAS status because the presence of rice protein is indicated on the product label.

4.9. Other Safety Studies

The *Cosmetic Ingredient Review* (CIR, 2006) Panel has evaluated the safety of Hydrolyzed Rice Bran Protein and Hydrolyzed Rice Protein. The Panel noted that rice bran protein hydrolysates are not (a) acutely toxic, (b) skin or ocular irritants in animals, (c) skin sensitizers in guinea pig maximization tests, and (d) irritating or sensitizing in clinical tests. Isolated cases of allergy to raw rice have been reported, but rice, in general, is considered nonallergenic. In the acute oral toxicity test of Hydrolyzed Rice Protein, male and female Sprague Dawley rats (five each) were gavaged with 2 g/kg body weight of the liquid material and followed for 14 days. No mortality or other clinical signs, including apathy or weight loss, were reported. Additional details of this study were not available. Although the CIR Panel review is focused on cosmetic applications of rice protein, some of the safety related observations are also applicable to the subject of present GRAS assessment.

Zhai et al. (1996) investigated the safety of Chinese wild brown rice in acute toxicity and mutagenicity studies. The grain of this rice has been reported to contain higher amounts of protein, ash and crude fiber than white rice. Levels of non-nutritive mineral elements such as arsenic, cadmium and lead are reported to be very low. In the acute 14-day toxicity study, 50 adult (25/sex) white mice (Kunming) weighing 18-20 g were used. In this study, mice were divided into five groups receiving 0, 2.15, 4.64, 10.00 and 21.5 g wild rice/kg bw, respectively. The test group receiving 21.5 g/kg was fed three times daily by gavage with the thin paste, other groups were fed only once daily. No abnormal reaction to a diet containing

up to 21.5 g/kg of Chinese wild brown rice was noted. None of the mice died. In the mutagenicity studies, as evaluated by the bone marrow micronucleus and sperm abnormality tests in mice (10 g/kg BW), Chinese wild brown rice was found to be negative. In Ames assay using *Salmonella typhimurium* with or without S-9 mix, Chinese wild brown rice was not considered as mutagenic (Zhai et al., 1996).

Khan et al. (2011) investigated biological quality and safety of rice bran protein isolates extracted by enzyme treatment for its food application. Biological quality of rice bran protein isolates [microwave rice bran protein isolates (MW-PI- 70%), dry heat protein isolates (DH-PI- 68%), parboiled protein isolates (PAR-PI- 59%) and unstabilized protein isolates (Un-PI- 79%)] was evaluated by feeding the rice protein concentrate diets to Sprague Dawley rats along with controls (fed reference diet containing casein and soy) and no protein diet for 10 days. The article does not provide additional details of the diet or its composition. Based on growth and nitrogen balance indices, the investigators concluded that rice bran protein isolates were of good nutritional quality and could be useful for addition in the plant protein profile. For the safety assessment six groups of mature male and female Sprague Dawley rats (6/sex/group) were fed a diet containing microwave rice bran protein isolates (MW-PI- 70%), dry heat protein isolates (DH-PI- 68%), parboiled protein isolates (PAR-PI- 59%), unstabilized protein isolates (Un-PI- 79%), casein (reference diet) and soy protein (reference diet) for two weeks. The details of the reference diet were not provided in the article (the authors mention providing this in a figure but the figure was not found in the publication). During the course of the study, body weights were recorded and, at termination, a series of serum chemistry parameters were analyzed and organ weights were recorded. There were no test-diet related adverse effects observed in both male and female rats. The investigators concluded that rice protein concentrate is safe for food use (Khan et al., 2011). The dose or level of protein used in this study is not mentioned in the article; it is likely that the authors used a formulated rat feed (synthetic diet) containing all commonly used ingredients along with rice and other protein isolates as complete source of protein at commonly used levels in rat feed.

Gottlob et al. (2006) and Sauer et al. (2012) investigated the effects of rice protein concentrate in growing pigs. In these studies, standard synthetic diets were prepared and the protein used in formulating the diet was rice protein. Gottlob et al. (2006) determined the apparent ileal digestibility (AID) and standardized ileal digestibility (SID) of amino acids (AA), digestible energy (DE), metabolizable energy (ME), and net energy (NE) for rice protein concentrate, salmon protein hydrolyzed, whey protein concentrate, and spray-dried plasma protein. The investigators noted that although rice protein concentrate contains a high crude protein concentration, it is relatively low in lysine and threonine concentrations. The rice protein concentrate used in the formulated diet for feeding to pigs was 18.55%. Apparent ileal digestible lysine, methionine, and threonine values for rice protein concentrate were 80.0, 65.6, and 68.4%, respectively, and SID for lysine, methionine, and threonine values were 86.6, 69.0, and 78.9%, respectively. The AA digestibility values for rice protein concentrate are lower than those for soybean meal. Digestible, metabolizable, and net energy values for rice protein concentrate were 4,724, 4,226, and 3,235 kcal/kg, respectively. Although apparent and standardized ileal digestibility values and digestible and metabolizable energy values for the proteins varied and all protein products tested had relatively high amino acid digestibility coefficients.

In another study, Sauer et al. (2012) assessed standardized ileal digestibility of amino acid in protein sources including extruded soybean meal, full fat heat-treated soybeans, and rice protein concentrate and also in grains including corn, barley, and wheat. In this study, a synthetic diet based on corn starch and casein was either supplemented with an extruded soybean meal, rice protein concentrate, full fat heat-treated soybeans, corn, barley, or wheat. The contribution of crude protein and amino acids from casein and from the assay feed ingredients to the assay diet averaged 50% each. The rice protein concentrate was added used at levels of 18.5% in the synthetic diet. Each diet was fed to 6 animals according to a row-column design with 3 periods. Apparent ileal digestibility was corrected for basal ileal endogenous losses of amino acid to obtain standardized ileal digestibility. The investigators concluded that the use of rice protein concentrate, despite its high crude protein content, in diets for weaned piglets is limited due to its low standardized ileal digestibility of amino acid.

In a review article, Koo and Lasekan (2007) noted that rice protein is rich in methionine and cysteine, although it is an incomplete protein source for human infants with lysine and threonine being the primary limiting amino acids. The protein quality is improved by fortification of rice proteins with these two limiting amino acids. Initially, rice protein-based infant formulas were based on high protein rice flours, but in recent years these formulas are based on rice protein concentrates, isolates or hydrolyzates, fortified with lysine and threonine. Hypoallergenicity efficacy, particularly for hydrolyzed rice protein-based formulas, has been reported, and limited data indicated that rice protein based infant formula may provide potentially adequate alternative if standard milk- or soy protein-based formulas are not tolerated.

In another review article, Prakash et al. (1996) reported that in spite of the presence of trypsin inhibitor in rice bran and rice bran protein concentrate, it does not affect the *in vivo* apparent digestibility of protein concentrate, as judged by the digestibility patterns of rice bran protein concentrate with or without (autoclaved) trypsin inhibitor activity. The protein efficiency ratios of rice bran ranges from 1.59 to 2.04 and that of protein concentrate from 1.99 to 2.19. The nitrogen digestibility of rice bran was reported to be 58.5. The investigators reported incorporation of protein concentrates prepared from full-fat and defatted rice bran in bread, beverages, pasta, confections, and weaning foods.

In a randomized, blinded, 16 week parallel feeding trial, Lasekan et al. (2006) evaluated growth, tolerance and plasma biochemistries in infants fed an experimental rice protein-based infant formula. Parents were given sufficient amount of the assigned formula to feed their infants until the next study visit. Assigned study formulas were fed *ad libitum* throughout the study as the only source of milk. Parents were advised not to provide solids or other supplements including minerals or vitamins during the study period. In this trial, 65 healthy infants were fed either an experimental partially hydrolyzed rice protein-based infant formula fortified with lysine and threonine (n=32), or a standard intact cow's milk protein-based formula (n=33) as a control. Assessments of growth, tolerance, and plasma biochemistries in infants were performed at enrollment, and at 2, 4, 8, and 16 weeks of age. Growth as determined by weight, length, and head circumference was similar between the 2 formula groups. All plasma biochemistries for both groups were within reference normal range. However, rice formula group had lower phosphorus (by 7% - $p < 0.05$) and urea nitrogen (by 8%), significantly lower essential amino acids except threonine, which was higher, and lower ratio of essential (including semi-essential) to non-essential amino acids.

Differences in the concentrations and ratios of amino acids became less as feeding progressed with age. Plasma total protein, albumin, prealbumin, calcium, magnesium, and alkaline phosphatase were not different between groups. The results of this study suggest that partially hydrolyzed rice protein-based formula was adequate in supporting normal growth and biochemistries in healthy term infants during the first 4 months after birth.

Joy et al. (2013) investigated the effects of post-exercise consumption of rice protein isolate to time of recovery and ability to elicit adequate changes in body composition compared to equally dosed whey protein isolate when given in large, isocaloric dose. In this study, 24 college-aged, resistance trained males were randomly and equally divided into two groups, either consuming 48 g of rice or whey protein isolate (isocaloric and isonitrogenous) on training days. Two weeks prior to and throughout the study, subjects were placed on a diet consisting of 25% protein, 50% carbohydrates, and 25% fat. Subjects were given individual meal plans at the beginning of the study. The protein supplement consisted of either 48 g of whey protein isolate (Dutch Chocolate) or 48 g of rice protein isolate (Oryzatein, Axiom Foods) dissolved in 500 ml of water. Subjects trained 3 days per week for 8 weeks as a part of a daily undulating periodized¹ resistance-training program. The rice and whey protein supplements were consumed immediately following exercise. No detectable differences in psychometric scores of perceived recovery², soreness, or readiness to train were noted. Significant time effects were observed in which lean body mass, muscle mass, strength and power all increased and fat mass decreased; however, no condition (physical) by time interactions were observed. There was a significant time effect ($p < 0.01$) for lean body mass, which increased in both the rice (58.5 ± 5.5 (baseline) to 59.5 ± 4.5 (week 4) to 61.0 ± 5.6 kg (week 8) and whey protein (59.6 ± 5.2 to 61.9 ± 4.5 to 62.8 ± 5.2 kg) conditions, with no differences between conditions (no condition X time effect). There was a significant time effect for body fat ($p < 0.05$), which decreased in both conditions, 17.8 ± 6.0 to 16.6 ± 4.8 to 15.6 ± 4.9 kg in the rice protein condition and 16.3 ± 5.1 to 15.7 ± 4.8 to 15.6 ± 4.9 kg in the whey protein condition, from pre to post training, with no differences between conditions (no condition X time effect). The investigators concluded that both whey and rice protein isolate administration post resistance exercise improved indices of body composition and exercise performance. No adverse effects were reported.

5. Summary and Discussion

Rice is one of the most important staples in the world, supplying as much as half of the daily calories for half of the world's population. It has been consumed as a food around the world since ancient times. Brown rice is an excellent source of the trace minerals and niacin. Rice contains approximately 8% protein. Based on history of common use, rice is generally regarded as safe up to the level at which it is commonly consumed. The USDA Nutrient Database list includes rice and its preparations as foods. As per FDA, the Reference Amount Customarily Consumed (RACC) for rice is 140 g/serving [21 CFR §101.12(b)]. Based on data collected by USDA, the mean and 90th percentile estimated daily intake of rice is 152 and 312 g/person/day, respectively. In Asian countries the intake of rice is much higher and can

¹ Undulating periodization involves changing the volume and intensity of the weight-training stimulus but not in a linear pattern.

² Perceived Recovery Scale consists of values between 0–10, with 0–2 being very poorly recovered with anticipated declines in performance, 4–6 being low to moderately recovered with expected similar performance, and 8–10 representing high perceived recovery with expected increases in performance.

be as high as 828 g/person/day. Thus there is common knowledge of human consumption of rice.

In recent years, protein isolated from rice is gaining importance. Rice protein powder is a nutritional ingredient that can be added to a variety of meals or drinks to boost protein levels. Rice protein also has several functional effects in foods, such as (a) promotion of ease of dry flow, (b) ability to mask off-flavors, (c) improves texture, (d) increases water-solubility, etc. Axiom Foods intends to use rice protein concentrates (Oryzatein™ 80-90%) as a food ingredient, in multiple food categories. The processes by which rice protein is derived from whole-grain brown rice are primarily mechanical - sifting, hydrolysis, separation washing, drying, sieving, and milling - and do not result in chemical alteration of the rice. Further, there is no step in the process during which a deleterious substance could be introduced into the product. The protein content of Oryzatein™ is 80-90%. The rice protein concentrate derived by this process has been well characterized for its nutritional composition and characteristics. The rice protein concentrate has been compared for its nutritional constituents and amino acid profile with other protein concentrates such as whey and soy, and has been found to be substantially similar.

The intended use of rice protein concentrate by Axiom Foods in different food categories such as Baked Goods and Baking Mixes; Beverages and Beverage Bases; Breakfast Cereals; Dairy Product Analogs; Fats and Oils; Grain Products and Pastas; Milk Products; Plant Protein Products; Processed Fruits and Fruit Juices; Processed Vegetables and Vegetable Juices; Soups and Soup Mixes at levels ranging 0.96 to 34.3% will result in daily maximum intake (90th percentile) of 20.5 g/person/day. Compared to this value, the intake (90th percentile) of protein (24.96 g/person/day) from the consumption of rice as a staple is higher.

In addition to the aforementioned conventional food uses, rice protein concentrate Oryzatein™ is also intended for use in sports nutrition. For such use, Oryzatein™ in powdered form will be provided to consumers (i.e., athletes) for mixing in beverages that would be used in sports nutrition or as meal replacements. For this application, Axiom Foods recommends a use level of 15 to 25 g/serving based on the estimation that the consumer may consume such beverages once daily. The maximum dietary exposure from these uses will be 25 g/person/day. The Institute of Medicine (IOM, 2005) has established the recommended daily intake of protein of 0.8 g/kg bw/day for an adult. The IOM has also reported that the mean adult protein intake ranges from 56 - 104 g/day, depending on age group. At the 90th percentile, adult protein intakes ranged from 76 g/day to 142 g/day. As compared to this intake the intake of rice protein concentrate from its uses in sports nutrition is less - only 25 g/person/day. Such an intake by a health conscious consumer is unlikely to cause any adverse effects.

Given the long history of safe uses of rice as a food staple, there is lack of well-designed animal or human studies investigating the toxicity or adverse effects of rice or its constituents, including protein. As is the case with all dietary protein, rice protein concentrate is likely digested in the human gastrointestinal tract. The subject of this GRAS assessment offers consumers a safe source of protein manufactured under the standards of food purity. The results of available limited animal and human studies also did not reveal any adverse effects of rice protein concentrate. The rice protein is unlikely to cause allergic reaction.

The totality of available evidence from dietary consumption of rice for centuries, the current intake of rice as a staple, the substantial equivalence of Axiom Foods rice protein concentrate with other similarly marketed GRAS protein concentrates or isolates, and other limited safety studies reviewed in this document, suggest that consumption of rice protein concentrate from the intended uses of Oryzatein™ at levels ranging 0.96 to 34.3% in specified foods is safe. The proposed uses of Axiom's rice protein concentrate (Oryzatein™) are compatible with current regulations, for food ingredients in specified foods, when not otherwise precluded by a Standard of Identity, and is produced according to current good manufacturing practices (cGMP). On the basis of both scientific procedures¹ corroborated by history of exposure from natural dietary sources, consumption of rice protein concentrate as an added food ingredient to the food supply is safe at daily consumption of up to 20.5 g/day or at levels of 25 g/person/day from supplemental uses (Sports nutrition).

¹ 21 CFR §170.3 Definitions. (h) Scientific procedures include those human, animal, analytical, and other scientific studies, whether published or unpublished, appropriate to establish the safety of a substance.

6. Conclusion of the Expert Panel

Based on a critical evaluation of the publicly available data summarized herein, the Expert Panel members whose signatures appear below, have individually and collectively concluded that consumption of rice protein concentrate (Oryzatein™) as a food ingredient in selected food products such as Baked Goods and Baking Mixes; Beverages and Beverage Bases; Breakfast Cereals; Dairy Product Analogs; Fats and Oils; Grain Products and Pastas; Milk Products; Plant Protein Products; Processed Fruits and Fruit Juices; Processed Vegetables and Vegetable Juices; Soups and Soup Mixes at levels ranging 0.96 to 34.3%, when not otherwise precluded by a Standard of Identity as described in this monograph and resulting in the 90th percentile estimated intake of 20.5 g/person/day (or 25 g/person/day as ingredient for sports nutrition) is safe and GRAS.

It is also our opinion that other qualified and competent scientists reviewing the same publicly available toxicological and safety information, further corroborated by history of safe use, would reach the same conclusion. Therefore, we have also concluded that rice protein concentrate (Oryzatein™), when used as described, is GRAS based on scientific procedures.

(b) (6)
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James T. Heimbach, Ph.D.¹
President
JHeimbach LLC, Port Royal, Virginia

Date: 11/4/15

(b) (6)
Signature: _____
John A. Thomas, Ph.D.
Adjunct Professor of Toxicology and Pharmacology
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Date: 11/9/15

(b) (6)
Signature: _____
Robert Leo Martin, Ph.D.
Food Safety and Regulatory Consultant
Waldorf, Maryland

Date: November 2, 2015

¹ Dr. Heimbach served as Chair of the Panel.

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8. Appendix I

**Estimated Daily Intake of Rice Protein Concentrate by the
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Complete Intake analysis report included separately.

9. Appendix II

Attached Separately:

A Comparative Study of Axiom Foods/Growing Naturals Organic Whole Grain Brown Rice Protein Concentrate Powder as compared to the USDA Standards of Oryza sativa L. and Rice milk, the USDA Standards for Cow's Milk and the National Dairy Council Fact Sheet on Whey Protein for the respective Amino Acid profiles" the findings of the analysis were included.

The rice protein concentrate used in the report were for Oryzatein

Report for Axiom Foods / Growing Naturals

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Estimated Daily Intake of Rice Protein Concentrate by the U.S. Population from Proposed Food-Uses

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Estimated Daily Intake of Rice Protein Concentrate by the U.S. Population from Proposed Food-Uses

1.0 INTRODUCTION

Rice protein concentrate is proposed for use in the United States (U.S.) in a variety of foods and beverages. Estimates for the intake of rice protein concentrate were based on the proposed food-uses and use-levels for rice protein concentrate in conjunction with food consumption data included in the U.S. National Center for Health Statistics' (NCHS) National Health and Nutrition Examination Surveys (NHANES) 2011-2012 (USDA, 2014; CDC, 2015). Calculations for the mean and 90th percentile all-person and all-user intakes were performed for each of the individual proposed food-uses of rice protein concentrate and the percentage of consumers were determined. Similar calculations were used to estimate the total intake of rice protein concentrate resulting from all proposed food-uses of rice protein concentrate combined. In both cases, the per person and per kilogram body weight intakes were reported for the following population groups:

- Infants and Young Children, ages 0 to 3 years;
- Children, ages 4 to 11;
- Female teenagers, ages 12 to 19;
- Male teenagers, ages 12 to 19;
- Female adults, ages 20 and up;
- Male adults, ages 20 and up; and
- Total population (all age and gender groups combined).

2.0 FOOD CONSUMPTION SURVEY DATA

2.1 Survey Description

NHANES for the years 2011-2012 are available for public use. NHANES are conducted as continuous, annual surveys, and are released in 2-year cycles. Each year about 7,000 people from 15 different locations across the U.S. are interviewed, and approximately 5,000 complete the health examination component of the survey. Any combination of consecutive years of data collection is recognized and used as a nationally representative sample of the U.S. population. It is well-established that the length of a dietary survey affects the estimated consumption of individual users and that short-term surveys, such as a 1-day dietary survey, may overestimate consumption compared to surveys conducted over longer time periods (Anderson, 1988). Because two 24-hour dietary recalls administered on 2 non-consecutive days are available from

the NHANES 2011-2012 survey, these data were used to generate estimates for the current intake analysis.

NHANES 2011-2012 survey data were collected from individuals and households *via* 24-hour dietary recalls administered on 2 non-consecutive days (Day 1 and Day 2) throughout all 4 seasons of the year. Day 1 data were collected in-person, and Day 2 data were collected by telephone in the following 3 to 10 days, on different days of the week, to achieve the desired degree of statistical independence. The data were collected by first selecting Primary Sampling Units (PSUs), which were counties throughout the U.S., of which 15 PSUs are visited per year. Small counties were combined to attain a minimum population size. These PSUs were segmented and households were chosen within each segment. One or more participants within a household were interviewed. For NHANES 2011-2012, 13,431 individuals were selected for the sample, 9,756 were interviewed (72.6%) and 9,338 were sampled (69.5%).

In addition to collecting information on the types and quantities of foods being consumed, NHANES 2011-2012 collected socio-economic, physiological and demographic information from individual participants in the survey, such as sex, age, height and weight, and other variables useful in characterizing consumption. The inclusion of this information allows for further assessment of food intake based on consumption by specific population groups of interest within the total population. The sample design for NHANES 2011-2012 includes an oversample of Asian Americans, however sample weights were incorporated to allow estimates from these subgroups to be combined to obtain national estimates that reflect the relative proportions of these groups in the population as a whole (USDA, 2014; CDC, 2015).

2.2 Statistical Methods

For the intake assessment, consumption data from individual dietary records, detailing food items ingested by each survey participant, were collated by computer and used to generate estimates for the intake of rice protein concentrate by the U.S. population¹. Estimates for the daily intake of rice protein concentrate represent projected 2-day averages for each individual from Day 1 and Day 2 of NHANES 2011-2012 data; these average amounts comprised the distribution from which mean and percentile intake estimates were generated. Mean and percentile estimates were generated incorporating survey weights in order to provide representative intakes for the entire U.S. population. All-person intake refers to the estimated intake of rice protein concentrate averaged over all individuals surveyed, regardless of whether they potentially consumed food products containing rice protein concentrate, and therefore

¹ Statistical analysis and data management were conducted in DaDiet Software (Dazult Ltd., 2015). DaDiet Software is a web-based software tool that allows accurate estimate of exposure to nutrients and to substances added to foods, including contaminants, food additives and novel ingredients. The main input components are concentration (use level) data and food consumption data. Data sets are combined in the software to provide accurate and efficient exposure assessments.

includes individuals with “zero” intakes (*i.e.*, those who reported no intake of food products containing rice protein concentrate during the 2 survey days). All-user intake refers to the estimated intake of rice protein concentrate by those individuals who reported consuming food products containing rice protein concentrate, hence the “all-user” designation. Individuals were considered ‘users’ if they consumed 1 or more food products containing rice protein concentrate on either Day 1 or Day 2 of the survey.

Mean and 90th percentile intake estimates based on sample sizes of less than 30 and 80, respectively, may not be considered statistically reliable due to the limited sampling size (LSRO, 1995). As such, the reliability of estimates for the intake of rice protein concentrate based on the consumption of these foods may be questionable for certain individual population groups. These values were not considered when assessing the relative contribution of specific food uses to total rice protein concentrate consumption and are marked with an asterisk in Appendices A and B.

3.0 FOOD USAGE DATA

The individual proposed food-uses and use-levels for rice protein concentrate employed in the current intake analysis are summarized in Table 3-1. Food codes representative of each proposed food-use were chosen from the NHANES 2011-2012 (USDA, 2014; CDC, 2015). Food codes were grouped in food-use categories according to Title 21, Section §170.3 of the Code of Federal Regulations (CFR, 2015). Product-specific adjustment factors were developed based on data provided in the standard recipe file for the Continuing Survey of Food Intakes by Individuals (CSFII) 1994-1996, 1998 survey (USDA, 2000). All food codes included in the current intake assessment are listed in Appendix C.

Food Category	Food-Uses	Proposed Use Level of Rice Protein Concentrate (%)¹
Baked Goods and Baking Mixes	Breads	4.8
	Rolls	4.8
	Bagels	4.4
	English Muffins	4.4
Beverages and Beverage Bases	Non-Milk Based Meal Replacements	1.04
Breakfast Cereals	Ready-to-Eat Breakfast Cereals	4.4 - 16
Dairy Product Analogs	Soy/Imitation Milks	1.04
Fats and Oils	Margarine ²	17.12
	Salad Dressings	8

Food Category	Food-Uses	Proposed Use Level of Rice Protein Concentrate (%)¹
Grain Products and Pastas	Health Bars and Grain-Based Bars Containing Fruit and Vegetable ³	20
Meat Products	Meat Patty with Soy Protein	4.4
Milk Products	Flavored Milk Drinks	1.04
	Milk-Based Meal Replacements	1.04
	Yogurt (Regular and Frozen) ²	1.1 - 2.0
Plant Protein Products	Meat Alternatives	1 - 34.3
Processed Fruits and Fruit Juices	Fruit Juice ²	1.04
	Fruit Nectars	1.04
	Fruit-Flavored Drinks	1.04
	Fruit Smoothies	20
Processed Vegetables and Vegetable Juices	Vegetable/Tomato Juice Including Vegetable Smoothies ⁴	20
Soups and Soup Mixes	Prepared Soups, Dry Soup Mixes, and Condensed Soups	0.96

¹ Use levels are calculated based on the minimum purity criteria of 80% protein

² These food-uses represent non-standardized food products; however, in order to obtain a conservative intake estimate, surrogate codes for the standardized food products were chosen.

³ It should be noted that there were no food codes identified for grain-based bars containing vegetable. However, for this assessment, it is assumed that the estimated consumption of grain-based bars containing fruit would also reflect the intake of grain-based bars containing vegetable.

⁴ There were no food codes identified for vegetable smoothies within the NHANES dataset; however, the intake estimate for vegetable-based juices is expected to be representative of the intake from both vegetable-based juices and vegetable smoothies. It was assumed that a consumer of vegetable-based juices would drink a vegetable smoothie in replacement of a vegetable-based juice.

4.0 FOOD SURVEY RESULTS

Estimates for the total daily intakes of rice protein concentrate from proposed food-uses are provided in Tables 4.1-1 and 4.1-2. Estimates for the daily intake of rice protein concentrate from individual proposed food-uses in the U.S. are summarized in Tables A-1 to A-7 and B-1 to B-7 of Appendices A and B, respectively. Tables A-1 to A-7 provide estimates for the daily intake of rice protein concentrate per person (g/day), whereas Tables B-1 to B-7 provide estimates for the daily intake of rice protein concentrate on a per kilogram body weight basis (mg/kg body weight/day).

4.1 Estimated Daily Intake of Rice Protein Concentrate from All Proposed Food-Uses in the U.S.

Table 4.1-1 summarizes the estimated total intake of rice protein concentrate (g/person/day) from all proposed food-uses in the U.S. population group. Table 4.1-2 presents this data on a per kilogram body weight basis (mg/kg body weight/day). The percentage of users was high among all age groups evaluated in the current intake assessment; greater than 83.2% of the population groups consisted of users of those food products in which rice protein concentrate is currently proposed for use (Table 4.1-1). Children had the greatest percentage of users at 99.9%. Large user percentages within a population group typically lead to similar results for the all-person and all-user consumption estimates. Consequently, only the all-user intake results will be discussed in detail.

Among the total population, the mean and 90th percentile all-user intakes of rice protein concentrate were determined to be 10.3 and 17.3 g/person/day, respectively. Of the individual population groups, male teenagers were determined to have the greatest mean all-user intake of rice protein concentrate on an absolute basis, at 12.0 g/person/day, while male adults were identified as having the greatest 90th percentile all-user intake at 20.5 g/person/day. Infants were determined to have the lowest mean and 90th percentile all-user intakes of 7.1 and 13.4 g/person/day, respectively (Table 4.1-1).

Table 4.1-1 Summary of the Estimated Daily Intake of Rice Protein Concentrate from Proposed Food-Uses in the U.S. by Population Group (2011-2012 NHANES Data)

Population Group	Age Group (Years)	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	% Users	n	Mean	90 th Percentile
Infants and Young Children	Up to 3	5.9	12.4	83.2	683	7.1	13.4
Children	4 to 11	9.4	14.8	99.9	1,347	9.4	14.8
Female Teenagers	12 to 19	10.5	16.5	98.8	526	10.6	16.5
Male Teenagers	12 to 19	11.8	18.7	98.5	508	12.0	19.7
Female Adults	20 and up	9.7	16.1	99.8	2,204	9.7	16.1
Male Adults	20 and up	11.1	20.3	98.8	2,067	11.2	20.5
Total Population	All Ages	10.1	17.2	98.4	7,335	10.3	17.3

On a body weight basis, infants were identified as having the highest mean and 90th percentile all-user intakes of any population group, of 519 and 959 mg/kg body weight/day, respectively (Table 4.1-2). Male adults were determined to have the lowest mean all-user intake of 133 mg/kg body weight/day, whereas female adults were identified as having the lowest 90th percentile all-user intake of 224 mg/kg body weight/day.

Table 4.1-2 Summary of the Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Proposed Food-Uses in the U.S. by Population Group (2011-2012 NHANES Data)

Population Group	Age Group (Years)	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
Infants and Young Children	Up to 3	431	855	83.1	680	519	959
Children	4 to 11	341	589	99.9	1,347	342	589
Female Teenagers	12 to 19	184	282	98.7	515	187	292
Male Teenagers	12 to 19	180	369	98.4	505	182	373
Female Adults	20 and up	139	224	99.8	2,181	139	224
Male Adults	20 and up	132	235	98.8	2,048	133	235
Total Population	All Ages	178	385	98.4	7,276	181	388

4.2 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses in the U.S.

Estimates for the mean and 90th percentile daily intakes of rice protein concentrate from each individual food category are summarized in Tables A-1 to A-7 and B-1 to B-7 on a g/day and mg/kg body weight/day basis, respectively. The total U.S. population was identified as being significant consumers of breads (49.0 to 67.4% users), margarine (42.0 to 66.7% users), and salad dressings (19.4 to 59.6% users).

In terms of contribution to total mean intake of rice protein concentrate, breads (contributed 9.6 to 16.4% to total mean intakes) and ready-to-eat breakfast cereals (contributed 8.8 to 15.9% to total mean intakes) were the 2 main sources of intake across all population groups on both an absolute and on a mg/kg body weight basis. There were a low number of users identified from the food-use of meat patty with soy protein and as a result, the intakes for meat patty with soy protein were statistically unreliable. Furthermore, non-milk based meal replacements, meat alternatives, and fruit nectars all individually contributed $\leq 0.1\%$ to total mean rice protein concentrate intakes across all population groups (see Tables A-1 to A-7 and/or B-1 to B-7 for further details).

5.0 CONCLUSIONS

Consumption data and information pertaining to the individual proposed food-uses of rice protein concentrate were used to estimate the all-person and all-user intakes of rice protein concentrate for specific demographic groups and for the total U.S. population. This type of intake methodology is generally considered to be 'worst case' as a result of several

conservative assumptions made in the consumption estimates. For example, it is often assumed that all food products within a food category contain the ingredient at the maximum specified level of use. In addition, it is well-established that the length of a dietary survey affects the estimated consumption of individual users. Short-term surveys, such as the typical 2- or 3-day dietary surveys, may overestimate the consumption of food products that are consumed relatively infrequently (Anderson, 1988).

In summary, on an all-user basis, the resulting mean and 90th percentile intakes of rice protein concentrate by the total U.S. population from all proposed food-uses in the U.S., were estimated to be 10.3 g/person/day (181 mg/kg body weight/day) and 17.3 g/person/day (388 mg/kg body weight/day), respectively. Among the individual population groups, the highest mean and 90th percentile intakes of rice protein concentrate were determined to be 12.0 g/person/day (182 mg/kg body weight/day) and 19.7 g/person/day (373 mg/kg body weight/day), respectively, as identified among male teenagers. Infants had the lowest mean and 90th percentile all-user intakes of 7.1 g/person/day (519 mg/kg body weight/day) and 13.4 g/person/day (959 mg/kg body weight/day), respectively.

6.0 REFERENCES

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Appendix A
Estimated Daily Intake of Rice Protein Concentrate from Individual
Proposed Food-Uses by Different Population Groups Within the U.S.
(2011-2012 NHANES DATA)

Table A-1 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Infants and Young Children Aged Up to 3 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	5.9	12.4	83.2	683	7.1	13.4
<u>Baked Goods and Baking Mixes</u>							
Breads	10.2	0.6	1.7	49.0	371	1.2	2.5
Rolls	3.0	0.2	0.7	16.8	117	1.0	2.2
Bagels	0.9	0.1*	na	5.5	23	1.0*	1.5*
English Muffins	0.2	<0.1*	na	1.0	5	1.4*	1.7*
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	<0.1	<0.1*	na	0.1	2	1.7*	1.9*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	12.5	0.7	2.2	46.6	377	1.6	3.4
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	1.4	0.1*	na	2.3	17	3.7*	5.4*
<u>Fats and Oils</u>							
Margarine	3.9	0.2	0.7	42.0	372	0.5	1.1
Salad Dressings	1.7	0.1	0.3	19.4	142	0.5	1.2
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	8.7	0.5	1.9*	11.0	48	4.6	8.3*
<u>Meat Products</u>							
Meat Patty with Soy Protein	0	na	na	0	0	na	na
<u>Milk Products</u>							
Flavored Milk Drinks	6.2	0.4	1.2	16.1	126	2.2	5.4
Milk-Based Meal Replacements	0.4	<0.1*	na	0.9	10	2.2*	2.4*
Yogurt (Regular and Frozen)	5.6	0.3	1.4	26.6	205	1.3	2.5
<u>Plant Protein Products</u>							
Meat Alternatives	0.2	<0.1*	na	0.8	8	1.7*	2.3*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	19.6	1.2	3.6	51.5	424	2.2	4.9
Fruit Nectars	0.1	<0.1*	na	0.5	7	0.6*	1.1*
Fruit-Flavored Drinks	11.4	0.7	2.2	30.7	277	2.2	5.2
Fruit Smoothies	9.5	0.6*	na	2.7	21	21.1*	31.3*

Table A-1 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Infants and Young Children Aged Up to 3 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	2.5	0.1*	na	1.0	9	15.0*	34.4*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	1.9	0.1	0.3	13.6	151	0.8	1.6

na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table A-2 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Children Aged 4 to 11 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	9.4	14.8	99.9	1,347	9.4	14.8
<u>Baked Goods and Baking Mixes</u>							
Breads	13.7	1.3	3.1	63.6	864	2.0	3.7
Rolls	6.5	0.6	1.9	40.7	530	1.5	2.8
Bagels	0.8	0.1	na	4.8	81	1.7	2.3
English Muffins	0.3	<0.1*	na	2.1	21	1.2*	1.3*
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	<0.1	<0.1*	na	0.2	3	1.3*	1.8*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	15.9	1.5	3.7	63.4	843	2.4	4.4
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	1.0	0.1*	na	2.3	21	4.0*	5.3*
<u>Fats and Oils</u>							
Margarine	4.4	0.4	1.2	58.3	772	0.7	1.4
Salad Dressings	3.4	0.3	1.1	40.8	536	0.8	1.8
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	6.1	0.6	3.5	13.7	141	4.2	6.8
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<0.1*	na	0.1	2	1.8*	1.8*
<u>Milk Products</u>							
Flavored Milk Drinks	9.3	0.9	2.6	43.1	589	2.0	3.9
Milk-Based Meal Replacements	0.4	<0.1*	na	1.5	13	2.7*	4.0*
Yogurt (Regular and Frozen)	2.5	0.2	0.9	24.7	308	1.0	2.0
<u>Plant Protein Products</u>							
Meat Alternatives	0.3	<0.1*	na	2.1	20	1.2*	1.7*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	10.6	1.0	2.6	55.4	791	1.8	3.3
Fruit Nectars	0.1	<0.1*	na	0.5	10	2.1*	3.9*
Fruit-Flavored Drinks	13.8	1.3	3.4	55.9	785	2.3	4.4
Fruit Smoothies	5.6	0.5	na	2.0	39	25.7	44.2*

Table A-2 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Children Aged 4 to 11 Years Within the U.S. (2011-2012 NHANES Data)							
Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	2.8	0.3*	na	0.9	18	30.4*	61.7*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	2.3	0.2	0.9	18.5	309	1.2	2.4

na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table A-3 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Female Teenagers Aged 12 to 19 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	10.5	16.5	98.8	526	10.6	16.5
<u>Baked Goods and Baking Mixes</u>							
Breads	9.6	1.0	3.1	54.6	272	1.8	3.4
Rolls	7.3	0.8	2.2	44.0	213	1.7	3.5
Bagels	1.5	0.2	na	6.3	36	2.4	3.8*
English Muffins	0.2	<0.1*	na	1.7	7	1.0*	1.3*
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	0	na	na	0	0	na	na
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	10.6	1.1	3.6	38.5	214	2.9	6.1
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.4	<0.1*	na	1.7	11	2.3*	2.8*
<u>Fats and Oils</u>							
Margarine	2.6	0.3	0.9	46.0	248	0.6	1.2
Salad Dressings	5.8	0.6	2.4	48.8	242	1.3	3.1
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.5	0.6	2.1*	11.7	64	5.0	8.6*
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<0.1*	na	0.1	2	0.9*	1.2*
<u>Milk Products</u>							
Flavored Milk Drinks	3.0	0.3	1.4	18.9	105	1.7	2.6
Milk-Based Meal Replacements	<0.1	<0.1*	na	0.3	1	0.3*	0.3*
Yogurt (Regular and Frozen)	1.8	0.2	0.8*	12.0	50	1.5	2.6*
<u>Plant Protein Products</u>							
Meat Alternatives	0.3	<0.1*	na	1.8	11	1.5*	3.0*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	7.0	0.7	1.9	39.1	220	1.9	3.6
Fruit Nectars	0	na	na	0	0	na	na
Fruit-Flavored Drinks	9.6	1.0	3.1	35.4	225	2.8	5.2
Fruit Smoothies	29.2	3.1*	na	6.8	29	45.1*	60.5*

Table A-3 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Female Teenagers Aged 12 to 19 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	2.8	0.3*	na	0.6	3	49.7*	56.4*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	2.8	0.3	1.3	20.0	119	1.5	2.4

na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table A-4 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Male Teenagers Aged 12 to 19 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	11.8	18.7	98.5	508	12.0	19.7
Baked Goods and Baking Mixes							
Breads	15.0	1.8	4.2	66.1	302	2.7	4.6
Rolls	9.3	1.1	3.8	44.7	232	2.5	4.9
Bagels	1.7	0.2	na	7.8	35	2.6	4.6*
English Muffins	0.1	<0.1*	na	0.9	8	1.3*	2.2*
Beverages and Beverage Bases							
Non-Milk Based Meal Replacements	<0.1	<0.1*	na	<0.1	1	5.0*	4.5*
Breakfast Cereals							
Ready-to-Eat Breakfast Cereals	15.2	1.8	5.1	48.5	243	3.7	7.7
Dairy Product Analogs							
Soy/Imitation Milks	0.1	<0.1*	na	0.7	6	1.9*	2.8*
Fats and Oils							
Margarine	3.9	0.5	1.4	44.0	227	1.0	2.1
Salad Dressings	5.5	0.6	2.2	41.9	222	1.6	3.5
Grain Products and Pastas							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.1	0.6	2.4*	11.5	48	5.2	7.1*
Meat Products							
Meat Patty with Soy Protein	0.1	<0.1*	na	0.3	3	3.6*	5.5*
Milk Products							
Flavored Milk Drinks	4.2	0.5	2.6	20.6	119	2.4	4.4
Milk-Based Meal Replacements	0.7	0.1*	na	2.1	8	3.8*	4.7*
Yogurt (Regular and Frozen)	0.4	0.1	na	6.4	37	0.8	1.3*
Plant Protein Products							
Meat Alternatives	0.4	<0.1*	na	1.0	6	4.3*	6.2*
Processed Fruits and Fruit Juices							
Fruit Juice	7.2	0.8	2.8	35.8	201	2.4	6.4
Fruit Nectars	0.1	<0.1*	na	0.4	5	1.6*	1.9*
Fruit-Flavored Drinks	9.6	1.1	4.3	36.1	220	3.1	6.7
Fruit Smoothies	10.5	1.2*	na	3.3	13	37.4*	72.6*

Table A-4 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Male Teenagers Aged 12 to 19 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	8.3	1.0*	na	2.4	4	41.5*	40.4*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	2.6	0.3	1.1	17.4	97	1.7	3.8

na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table A-5 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Female Adults Aged 20 Years and Over Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	9.7	16.1	99.8	2,204	9.7	16.1
<u>Baked Goods and Baking Mixes</u>							
Breads	14.5	1.4	3.6	63.3	1,415	2.2	4.6
Rolls	6.3	0.6	1.9	36.0	756	1.7	3.4
Bagels	2.1	0.2	na	8.8	157	2.3	3.5
English Muffins	0.9	0.1	na	6.3	85	1.3	2.6
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	0.2	<0.1*	na	0.7	18	3.5*	7.4*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	8.8	0.9	3.1	34.4	685	2.5	4.7
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.5	<0.1	na	2.6	74	1.7	3.9*
<u>Fats and Oils</u>							
Margarine	7.0	0.7	1.9	66.7	1,491	1.0	2.3
Salad Dressings	7.8	0.8	2.2	59.6	1,223	1.3	2.7
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.3	0.5	2.1	10.3	184	4.9	8.4
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<0.1*	na	<0.1	3	2.1*	2.8*
<u>Milk Products</u>							
Flavored Milk Drinks	1.2	0.1	na	7.6	171	1.6	2.6
Milk-Based Meal Replacements	1.0	0.1	na	3.4	89	2.9	4.8
Yogurt (Regular and Frozen)	2.7	0.3	1.0	19.6	382	1.4	2.5
<u>Plant Protein Products</u>							
Meat Alternatives	0.5	<0.1	na	2.7	66	1.7	3.9*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	6.1	0.6	2.0	32.3	722	1.8	3.6
Fruit Nectars	0.1	<0.1*	na	0.3	14	2.1*	3.0*
Fruit-Flavored Drinks	7.2	0.7	2.5	21.1	549	3.3	7.3
Fruit Smoothies	18.5	1.8	na	3.5	78	51.0	101.1*

Table A-5 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Female Adults Aged 20 Years and Over Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	5.6	0.5	na	1.8	42	29.5	52.9*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	3.8	0.4	1.5	24.4	606	1.5	2.9

na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table A-6 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Male Adults Aged 20 Years and Over Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	11.1	20.3	98.8	2,067	11.2	20.5
<u>Baked Goods and Baking Mixes</u>							
Breads	16.4	1.8	4.6	67.4	1,383	2.7	5.3
Rolls	9.3	1.0	3.2	43.3	834	2.4	4.1
Bagels	1.6	0.2	na	6.2	113	2.9	6.9
English Muffins	0.4	<0.1	na	2.7	63	1.5	2.6*
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	0.7	0.1*	na	1.5	22	5.1*	10.2*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	10.9	1.2	4.3	32.9	603	3.7	6.3
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.4	<0.1	na	2.3	45	2.0	3.5*
<u>Fats and Oils</u>							
Margarine	6.6	0.7	2.1	62.0	1,306	1.2	2.6
Salad Dressings	7.7	0.9	2.4	56.1	1,074	1.5	3.1
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.3	0.6	na	9.8	140	6.0	12.0
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<0.1*	na	0.1	2	4.2*	4.7*
<u>Milk Products</u>							
Flavored Milk Drinks	1.3	0.1	na	6.9	146	2.1	3.9
Milk-Based Meal Replacements	1.2	0.1	na	3.3	83	4.0	9.7
Yogurt (Regular and Frozen)	1.6	0.2	0.7	11.8	216	1.5	2.9
<u>Plant Protein Products</u>							
Meat Alternatives	0.3	<0.1	na	2.0	41	1.6	3.6*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	6.6	0.7	2.6	31.0	700	2.4	4.8
Fruit Nectars	0.1	<0.1*	na	0.5	21	2.0*	3.8*
Fruit-Flavored Drinks	7.0	0.8	2.6	20.6	464	3.8	9.0
Fruit Smoothies	8.8	1.0	na	2.3	63	42.0	69.4*

Table A-6 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Male Adults Aged 20 Years and Over Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	9.9	1.1	na	2.7	45	41.2	72.6*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	3.8	0.4	1.5	24.3	542	1.8	4.3

na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table A-7 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by the Total U.S. Population (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	10.1	17.2	98.4	7,335	10.3	17.3
<u>Baked Goods and Baking Mixes</u>							
Breads	14.8	1.5	4.0	63.7	4,607	2.3	4.7
Rolls	7.6	0.8	2.5	39.0	2,682	2.0	3.8
Bagels	1.7	0.2	na	7.1	445	2.4	4.6
English Muffins	0.5	0.1	na	3.8	189	1.4	2.6
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	0.4	<0.1	na	0.8	46	4.5	10.1*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	10.9	1.1	3.7	38.6	2,965	2.9	5.4
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.5	0.1	na	2.3	174	2.2	4.4
<u>Fats and Oils</u>							
Margarine	6.0	0.6	1.8	60.5	4,416	1.0	2.3
Salad Dressings	6.9	0.7	2.2	52.7	3,439	1.3	2.9
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.5	0.6	2.1	10.7	625	5.2	8.6
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<0.1*	na	0.1	12	3.2*	5.0*
<u>Milk Products</u>							
Flavored Milk Drinks	2.5	0.3	1.1	12.9	1,256	1.9	3.8
Milk-Based Meal Replacements	0.9	0.1	na	2.8	204	3.3	6.4
Yogurt (Regular and Frozen)	2.2	0.2	0.9	16.6	1,198	1.3	2.5
<u>Plant Protein Products</u>							
Meat Alternatives	0.4	<0.1	na	2.1	152	1.7	3.9
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	7.3	0.7	2.4	35.9	3,058	2.0	4.1
Fruit Nectars	0.1	<0.1	na	0.4	57	1.9	3.9*
Fruit-Flavored Drinks	8.2	0.8	2.7	26.8	2,520	3.1	6.6
Fruit Smoothies	13.3	1.3	na	3.1	243	43.9	84.0

Table A-7 Estimated Daily Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by the Total U.S. Population (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (g/day)		All-Users Consumption (g/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	6.9	0.7	na	1.9	121	36.0	72.6
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	3.5	0.4	1.3	22.5	1,824	1.6	3.3

na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Appendix B
Estimated Daily Per Kilogram Body Weight Intake of Rice Protein
Concentrate from Individual Proposed Food-Uses by Different
Population Groups Within the U.S. (2011-2012 NHANES DATA)

Table B-1 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Infants and Young Children Aged Up to 3 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	431	855	83.1	680	519	959
<u>Baked Goods and Baking Mixes</u>							
Breads	10.2	45	130	49.1	370	91	195
Rolls	3.0	13	46	16.8	117	74	142
Bagels	0.9	4*	na	5.5	23	70*	107*
English Muffins	0.2	1*	na	1.0	5	93*	117*
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	<0.1	<1*	na	0.1	2	118*	122*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	12.5	54	170	46.6	376	116	233
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	1.4	6*	na	2.3	17	265*	390*
<u>Fats and Oils</u>							
Margarine	3.9	17	53	41.9	370	41	83
Salad Dressings	1.7	7	20	19.4	142	35	67
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	8.7	37	129*	11.0	48	338	604*
<u>Meat Products</u>							
Meat Patty with Soy Protein	0	na	na	0	0	na	na
<u>Milk Products</u>							
Flavored Milk Drinks	6.2	25	72	16.2	126	153	331
Milk-Based Meal Replacements	0.4	2*	na	0.9	10	185*	209*
Yogurt (Regular and Frozen)	5.6	24	94	26.6	204	92	162
<u>Plant Protein Products</u>							
Meat Alternatives	0.2	1*	na	0.8	8	159*	230*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	19.6	85	271	51.4	421	165	357
Fruit Nectars	0.1	<1*	na	0.5	7	51*	88*
Fruit-Flavored Drinks	11.4	50	165	30.7	276	162	384
Fruit Smoothies	9.5	43*	na	2.7	21	1,593*	2,180*

Table B-1 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Infants and Young Children Aged Up to 3 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	2.5	10*	na	1.0	9	1,060*	2,405*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	1.9	8	23	13.6	150	60	130

bw = body weight; na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table B-2 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Children Aged 4 to 11 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	2.8	9*	na	0.9	18	1,087*	2,198*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	2.3	7	29	18.5	309	40	82

bw = body weight; na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table B-3 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Female Teenagers Aged 12 to 19 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	184	282	98.7	515	187	292
<u>Baked Goods and Baking Mixes</u>							
Breads	9.6	17	46	54.5	265	31	53
Rolls	7.3	12	40	44.1	208	28	51
Bagels	1.5	3	na	6.4	36	43	69*
English Muffins	0.2	<1*	na	1.8	7	15*	20*
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	0	na	na	0	0	na	na
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	10.6	20	67	38.4	208	52	110
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.4	1*	na	1.8	11	38*	55*
<u>Fats and Oils</u>							
Margarine	2.6	5	14	45.8	242	11	17
Salad Dressings	5.8	10	31	48.9	236	20	48
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.5	11	41*	11.9	64	94	170*
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<1*	na	0.1	2	12*	16*
<u>Milk Products</u>							
Flavored Milk Drinks	3.0	5	23	19.3	103	28	53
Milk-Based Meal Replacements	0	na	na	0	0	na	na
Yogurt (Regular and Frozen)	1.8	3	14*	12.3	50	28	58*
<u>Plant Protein Products</u>							
Meat Alternatives	0.3	1*	na	1.9	11	28*	59*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	7.0	13	38	38.4	213	32	65
Fruit Nectars	0	na	na	0	0	na	na
Fruit-Flavored Drinks	9.6	17	57	35.3	221	48	89
Fruit Smoothies	29.2	57*	na	6.9	29	817*	1,060*

Table B-3 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Female Teenagers Aged 12 to 19 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	2.8	5*	na	0.6	3	911*	1,011*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	2.8	5	22	19.8	116	26	46

bw = body weight; na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table B-4 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Male Teenagers Aged 12 to 19 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	180	369	98.4	505	182	373
<u>Baked Goods and Baking Mixes</u>							
Breads	15.0	27	63	66.0	299	40	76
Rolls	9.3	16	52	44.8	232	36	67
Bagels	1.7	3	na	7.9	35	40	65*
English Muffins	0.1	<1*	na	0.9	8	22*	31*
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	<0.1	<1*	na	<0.1	1	66*	59*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	15.2	28	87	48.4	242	57	113
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.1	<1*	na	0.7	6	36*	39*
<u>Fats and Oils</u>							
Margarine	3.9	7	20	43.9	224	16	38
Salad Dressings	5.5	9	30	42.0	222	22	48
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.1	11	43*	11.5	48	91	181*
<u>Meat Products</u>							
Meat Patty with Soy Protein	0.1	<1*	na	0.3	3	65*	111*
<u>Milk Products</u>							
Flavored Milk Drinks	4.2	8	39	20.4	116	40	64
Milk-Based Meal Replacements	0.7	1*	na	2.1	8	63*	85*
Yogurt (Regular and Frozen)	0.4	1	na	6.4	36	14	23*
<u>Plant Protein Products</u>							
Meat Alternatives	0.4	1*	na	1.0	6	57*	83*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	7.2	13	42	35.9	199	36	96
Fruit Nectars	0.1	<1*	na	0.4	5	26*	33*
Fruit-Flavored Drinks	9.6	18	63	36.0	219	49	108
Fruit Smoothies	10.5	18*	na	3.3	13	547*	956*

Table B-4 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Male Teenagers Aged 12 to 19 Years Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	8.3	14*	na	2.4	4	595*	572*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	2.6	5	16	17.5	96	28	64

bw = body weight; na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table B-5 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Female Adults Aged 20 Years and Over Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	139	224	99.8	2,181	139	224
<u>Baked Goods and Baking Mixes</u>							
Breads	14.5	20	51	63.2	1,401	31	64
Rolls	6.3	8	26	35.9	749	23	47
Bagels	2.1	3	na	8.8	156	33	49
English Muffins	0.9	1	na	6.4	85	18	32
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	0.2	<1*	na	0.7	17	46*	101*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	8.8	12	41	34.5	677	35	68
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.5	1	na	2.6	73	29	70*
<u>Fats and Oils</u>							
Margarine	7.0	10	28	66.5	1,473	15	35
Salad Dressings	7.8	11	28	59.8	1,212	18	39
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.3	7	21	10.4	183	67	122
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<1*	na	<0.1	3	23*	30*
<u>Milk Products</u>							
Flavored Milk Drinks	1.2	2	na	7.5	166	22	42
Milk-Based Meal Replacements	1.0	1	na	3.5	89	42	78
Yogurt (Regular and Frozen)	2.7	4	15	19.7	379	20	39
<u>Plant Protein Products</u>							
Meat Alternatives	0.5	1	na	2.6	63	26	58*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	6.1	8	30	32.3	712	26	58
Fruit Nectars	0.1	<1*	na	0.3	14	29*	46*
Fruit-Flavored Drinks	7.2	9	29	20.9	539	43	92
Fruit Smoothies	18.5	28	na	3.6	78	786	1,660*

Table B-5 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Female Adults Aged 20 Years and Over Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	5.6	8	na	1.8	41	452	665*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	3.8	5	20	24.4	601	22	46

bw = body weight; na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table B-6 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Male Adults Aged 20 Years and Over Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	132	235	98.8	2,048	133	235
<u>Baked Goods and Baking Mixes</u>							
Breads	16.4	21	53	67.2	1,366	32	62
Rolls	9.3	12	37	43.3	826	28	52
Bagels	1.6	2	na	6.2	112	33	59
English Muffins	0.4	<1	na	2.7	63	18	27*
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	0.7	1*	na	1.5	22	57*	123*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	10.9	14	47	32.7	597	43	82
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.4	1	na	2.3	45	27	51*
<u>Fats and Oils</u>							
Margarine	6.6	9	24	62.1	1,294	14	31
Salad Dressings	7.7	10	28	56.1	1,063	17	38
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.3	7	na	9.8	138	69	134
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<1*	na	0.1	2	43*	45*
<u>Milk Products</u>							
Flavored Milk Drinks	1.3	2	na	6.9	145	25	50
Milk-Based Meal Replacements	1.2	2	na	3.3	82	50	123
Yogurt (Regular and Frozen)	1.6	2	8	11.9	214	18	38
<u>Plant Protein Products</u>							
Meat Alternatives	0.3	<1	na	2.0	40	20	48*
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	6.6	9	29	31.0	693	29	55
Fruit Nectars	0.1	<1*	na	0.5	21	27*	55*
Fruit-Flavored Drinks	7.0	9	28	20.7	460	43	92
Fruit Smoothies	8.8	12	na	2.3	63	537	931*

Table B-6 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by Male Adults Aged 20 Years and Over Within the U.S. (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	9.9	14	na	2.7	44	505	1,021*
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	3.8	5	18	24.3	537	21	51

bw = body weight; na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Table B-7 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by the Total U.S. Population (2011-2012 NHANES Data)

Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90 th Percentile	%	n	Mean	90 th Percentile
All	100	178	385	98.4	7,276	181	388
<u>Baked Goods and Baking Mixes</u>							
Breads	14.8	25	63	63.6	4,565	39	79
Rolls	7.6	12	37	38.9	2,662	30	59
Bagels	1.7	3	na	7.1	443	37	71
English Muffins	0.5	1	na	3.8	189	21	37
<u>Beverages and Beverage Bases</u>							
Non-Milk Based Meal Replacements	0.4	<1	na	0.8	45	54	115*
<u>Breakfast Cereals</u>							
Ready-to-Eat Breakfast Cereals	10.9	21	67	38.6	2,943	54	111
<u>Dairy Product Analogs</u>							
Soy/Imitation Milks	0.5	1	na	2.3	173	59	148
<u>Fats and Oils</u>							
Margarine	6.0	10	29	60.4	4,375	17	38
Salad Dressings	6.9	10	28	52.7	3,411	19	42
<u>Grain Products and Pastas</u>							
Health Bars and Grain-Based Bars Containing Fruit and Vegetable	5.5	10	27	10.7	622	98	203
<u>Meat Products</u>							
Meat Patty with Soy Protein	<0.1	<1*	na	0.1	12	47*	108*
<u>Milk Products</u>							
Flavored Milk Drinks	2.5	7	17	12.9	1,245	53	104
Milk-Based Meal Replacements	0.9	1	na	2.8	202	51	114
Yogurt (Regular and Frozen)	2.2	5	15	16.7	1,191	29	62
<u>Plant Protein Products</u>							
Meat Alternatives	0.4	1	na	2.1	148	30	70
<u>Processed Fruits and Fruit Juices</u>							
Fruit Juice	7.3	16	45	35.8	3,029	46	100
Fruit Nectars	0.1	<1	na	0.4	57	34	68*
Fruit-Flavored Drinks	8.2	16	48	26.7	2,500	59	127
Fruit Smoothies	13.3	23	na	3.1	243	754	1,567

Table B-7 Estimated Daily Per Kilogram Body Weight Intake of Rice Protein Concentrate from Individual Proposed Food-Uses by the Total U.S. Population (2011-2012 NHANES Data)							
Food-Use Category	% Contribution to Total Mean Intake	All-Person Consumption (mg/kg bw/day)		All-Users Consumption (mg/kg bw/day)			
		Mean	90th Percentile	%	n	Mean	90th Percentile
<u>Processed Vegetables and Vegetable Juices</u>							
Vegetable/Tomato Juice Including Vegetable Smoothies	6.9	11	na	1.9	119	542	1,021
<u>Soups and Soup Mixes</u>							
Prepared Soups, Dry Soup Mixes, and Condensed Soups	3.5	6	20	22.5	1,809	25	56

bw = body weight; na = not available

* Indicates an intake estimate that may not be statistically reliable, as the sample size does not meet the minimum reporting requirements.

Appendix C
Representative NHANES Food Codes for Proposed Food-Uses of Rice
Protein Concentrate in the U.S. (2011-2012 NHANES DATA)

Representative NHANES Food Codes for Proposed Beverage-Uses of Rice Protein Concentrate in the U.S.

Baked Goods and Baking Mixes

Breads

[Rice protein concentrate] = 4.8%

51000100	Bread, NS as to major flour
51000110	Bread, NS as to major flour, toasted
51000180	Bread, made from home recipe or purchased at a bakery, NS as to major flour
51000190	Bread, made from home recipe or purchased at a bakery, toasted, NS as to major flour
51101000	Bread, white
51101010	Bread, white, toasted
51101050	Bread, white, made from home recipe or purchased at a bakery
51101060	Bread, white, made from home recipe or purchased at a bakery, toasted
51102010	Bread, white with whole wheat swirl
51102020	Bread, white with whole wheat swirl, toasted
51105010	Bread, Cuban
51105040	Bread, Cuban, toasted
51106010	Bread, Native, water, Puerto Rican style (Pan Criollo)
51106020	Bread, Native, water, Puerto Rican style, toasted (Pan Criollo)
51106200	Bread, lard, Puerto Rican style (Pan de manteca)
51106210	Bread, lard, Puerto Rican style, toasted (Pan de manteca)
51106300	Bread, caressed, Puerto Rican style (Pan sobao)
51106310	Bread, caressed, Puerto Rican style, toasted (Pan sobao)
51107010	Bread, French or Vienna
51107040	Bread, French or Vienna, toasted
51108010	Focaccia, Italian flatbread, plain
51108100	Naan, Indian flatbread
51109010	Bread, Italian, Grecian, Armenian
51109040	Bread, Italian, Grecian, Armenian, toasted
51109100	Bread, pita
51109110	Bread, pita, toasted
51109150	Bread, pita with fruit
51109200	Bread, pita with fruit, toasted
51111010	Bread, cheese
51111040	Bread, cheese, toasted
51113010	Bread, cinnamon
51113100	Bread, cinnamon, toasted
51115010	Bread, cornmeal and molasses
51115020	Bread, cornmeal and molasses, toasted
51119010	Bread, egg, Challah
51119040	Bread, egg, Challah, toasted
51121010	Bread, garlic
51121110	Bread, onion
51121120	Bread, onion, toasted
51122000	Bread, reduced calorie and/or high fiber, white or NFS
51122010	Bread, reduced calorie and/or high fiber, white or NFS, toasted
51122100	Bread, reduced calorie and/or high fiber, white or NFS, with fruit and/or nuts
51122110	Bread, reduced calorie and/or high fiber, white or NFS, with fruit and/or nuts, toasted
51122300	Bread, white, special formula, added fiber
51122310	Bread, white, special formula, added fiber, toasted
51123010	Bread, high protein

51123020 Bread, high protein, toasted
 51127010 Bread, potato
 51127020 Bread, potato, toasted
 51129010 Bread, raisin
 51129020 Bread, raisin, toasted
 51130510 Bread, white, low sodium or no salt
 51130520 Bread, white, low sodium or no salt, toasted
 51133010 Bread, sour dough
 51133020 Bread, sour dough, toasted
 51134000 Bread, sweet potato
 51134010 Bread, sweet potato, toasted
 51135000 Bread, vegetable
 51135010 Bread, vegetable, toasted
 51136000 Bruschetta
 51140100 Bread, dough, fried
 51168000 Bread, Spanish coffee
 51184000 Bread sticks, hard
 51184010 Bread stick, soft
 51184020 Bread stick, NS as to hard or soft
 51184030 Bread stick, soft, prepared with garlic and parmesan cheese
 51184100 Bread stick, hard, low sodium
 51187000 Melba toast
 51187020 Anisette toast
 51188100 Pannetone (Italian-style sweet bread)
 51188500 Zwieback toast
 51201010 Bread, whole wheat, 100%
 51201020 Bread, whole wheat, 100%, toasted
 51201060 Bread, whole wheat, 100%, made from home recipe or purchased at bakery
 51201070 Bread, whole wheat, 100%, made from home recipe or purchased at bakery, toasted
 51201150 Bread, pita, whole wheat, 100%
 51201160 Bread, pita, whole wheat, 100%, toasted
 51207010 Bread, sprouted wheat
 51207020 Bread, sprouted wheat, toasted
 51300050 Bread, whole grain white
 51300060 Bread, whole grain white, toasted
 51300110 Bread, whole wheat, NS as to 100%
 51300120 Bread, whole wheat, NS as to 100%, toasted
 51300140 Bread, whole wheat, NS as to 100%, made from home recipe or purchased at bakery
 51300150 Bread, whole wheat, NS as to 100%, made from home recipe or purchased at bakery,
 toasted
 51300175 Bread, chappatti or roti (Indian bread), wheat
 51300180 Bread, puri or poori (Indian puffed bread), wheat
 51300185 Bread, paratha, (Indian flat bread), wheat
 51300210 Bread, whole wheat, with raisins
 51300220 Bread, whole wheat, with raisins, toasted
 51301010 Bread, wheat or cracked wheat
 51301020 Bread, wheat or cracked wheat, toasted
 51301040 Bread, wheat or cracked wheat, made from home recipe or purchased at bakery
 51301050 Bread, wheat or cracked wheat, made from home recipe or purchased at bakery, toasted
 51301120 Bread, wheat or cracked wheat, with raisins
 51301130 Bread, wheat or cracked wheat, with raisins, toasted
 51301510 Bread, wheat or cracked wheat, reduced calorie and/or high fiber
 51301520 Bread, wheat or cracked wheat, reduced calorie and/or high fiber, toasted
 51301540 Bread, French or Vienna, whole wheat, NS as to 100%
 51301550 Bread, French or Vienna, whole wheat, NS as to 100%, toasted

51301600	Bread, pita, whole wheat, NS as to 100%
51301610	Bread, pita, whole wheat, NS as to 100%, toasted
51301620	Bread, pita, wheat or cracked wheat
51301630	Bread, pita, wheat or cracked wheat, toasted
51306000	Bread stick, hard, whole wheat, NS as to 100%
51401010	Bread, rye
51401020	Bread, rye, toasted
51401030	Bread, marble rye and pumpernickel
51401040	Bread, marble rye and pumpernickel, toasted
51401060	Bread, rye, reduced calorie and/or high fiber
51401070	Bread, rye, reduced calorie and/or high fiber, toasted
51404010	Bread, pumpernickel
51404020	Bread, pumpernickel, toasted
51407010	Bread, black
51407020	Bread, black, toasted
51501010	Bread, oatmeal
51501020	Bread, oatmeal, toasted
51501040	Bread, oat bran
51501050	Bread, oat bran, toasted
51501060	Bread, oat bran, reduced calorie and/or high fiber
51501070	Bread, oat bran, reduced calorie and/or high fiber, toasted
51601010	Bread, multigrain, toasted
51601020	Bread, multigrain
51601210	Bread, multigrain, with raisins
51601220	Bread, multigrain, with raisins, toasted
51602010	Bread, multigrain, reduced calorie and/or high fiber
51602020	Bread, multigrain, reduced calorie and/or high fiber, toasted
51801010	Bread, barley
51801020	Bread, barley, toasted
51804010	Bread, soy
51804020	Bread, soy, toasted
51805010	Bread, sunflower meal
51805020	Bread, sunflower meal, toasted
51806010	Bread, rice
51806020	Bread, rice, toasted
51807000	Injera (American-style Ethiopian bread)
51808000	Bread, low gluten
51808010	Bread, low gluten, toasted
52401000	Bread, Boston Brown
52403000	Bread, nut
52404060	Bread, pumpkin
52405010	Bread, fruit
52407000	Bread, zucchini
52408000	Bread, Irish soda

Mixtures containing bread

Adjusted for bread content of 40 to 69%
[Rice protein concentrate] = 1.9 to 3.3%

14640000	Cheese sandwich
14640100	Cheese sandwich, grilled
14640300	Cheese spread sandwich
27500050	Sandwich, NFS
27500100	Meat sandwich, NFS
27520110	Bacon sandwich, with spread

27520120	Bacon and cheese sandwich, with spread
27520300	Ham sandwich, with spread
27520310	Ham sandwich with lettuce and spread
27520330	Ham and egg sandwich
27520520	Pork sandwich
27540110	Chicken sandwich, with spread
27540130	Chicken barbecue sandwich
27540240	Chicken fillet, (broiled), sandwich, on whole wheat roll, with lettuce, tomato and spread
27560000	Luncheon meat sandwich, NFS, with spread
27560110	Bologna sandwich, with spread
27560120	Bologna and cheese sandwich, with spread
27560510	Salami sandwich, with spread
27560710	Sausage sandwich
27563010	Meat spread or potted meat sandwich
27570310	Hors d'oeuvres, with spread
32201000	Fried egg sandwich
32204010	Scrambled egg sandwich
42301010	Peanut butter sandwich
42302010	Peanut butter and jelly sandwich
58128220	Dressing with chicken or turkey and vegetables
74701000	Tomato sandwich

Mixtures containing bread

Adjusted for bread content of 0.2 to 39%

[Rice protein concentrate] = 0.009 to 1.9%

13210110	Pudding, bread
13210150	Puerto Rican bread pudding made with evaporated milk and rum (Budin de pan)
13210180	Pudding, Mexican bread (Capirotada)
13210190	Pudding, Mexican bread (Capirotada), lower fat
27118110	Meatballs, Puerto Rican style (Albondigas)
27150020	Crab, deviled
27214100	Meat loaf made with beef
27214110	Meat loaf made with beef, with tomato-based sauce
27214600	Creamed dried beef on toast
27230010	Lamb or mutton loaf
27235000	Meat loaf made with venison / deer
27246500	Meat loaf made with chicken or turkey
27250080	Salmon loaf
27250150	Tuna loaf
27250250	Flounder with crab stuffing
27250260	Lobster with bread stuffing, baked
27250450	Shrimp toast, fried
27260010	Meat loaf, NS as to type of meat
27260050	Meatballs, with breading, NS as to type of meat, with gravy
27260080	Meat loaf made with beef and pork
27260090	Meat loaf made with beef, veal and pork
27260100	Meat loaf made with beef and pork, with tomato-based sauce
27260510	Liver dumpling
27351020	Codfish salad, Puerto Rican style (Gazpacho de bacalao)
27510000	Beef sandwich, NFS
27510480	Cheeseburger (hamburger with cheese sauce), 1/4 lb meat, with grilled onions, on rye bun
27510910	Corned beef sandwich
27510950	Reuben sandwich (corned beef sandwich with sauerkraut and cheese), with spread

27511010	Pastrami sandwich
27513010	Roast beef sandwich
27513020	Roast beef sandwich, with gravy
27513030	Roast beef sandwich dipped in egg, fried, with gravy and spread
27513050	Roast beef sandwich with cheese
27515050	Fajita-style beef sandwich with cheese, on pita bread, with lettuce and tomato
27516010	Gyro sandwich (pita bread, beef, lamb, onion, condiments), with tomato and spread
27520130	Bacon, chicken, and tomato club sandwich, with lettuce and spread
27520140	Bacon and egg sandwich
27520150	Bacon, lettuce, and tomato sandwich with spread
27520320	Ham and cheese sandwich, with lettuce and spread
27520340	Ham salad sandwich
27520350	Ham and cheese sandwich, with spread, grilled
27520530	Pork sandwich, with gravy
27520540	Ham and tomato club sandwich, with lettuce and spread
27540120	Chicken salad or chicken spread sandwich
27540200	Fajita-style chicken sandwich with cheese, on pita bread, with lettuce and tomato
27540230	Chicken patty sandwich with cheese, on wheat bun, with lettuce, tomato and spread
27540310	Turkey sandwich, with spread
27540320	Turkey salad or turkey spread sandwich
27540330	Turkey sandwich, with gravy
27550110	Crab cake sandwich, on bun
27550510	Sardine sandwich, with lettuce and spread
27550710	Tuna salad sandwich, with lettuce
27550720	Tuna salad sandwich
32105190	Egg casserole with bread, cheese, milk and meat
32203010	Egg salad sandwich
32301100	Garlic egg soup, Puerto Rican style (Sopa de ajo)
42303010	Peanut butter and banana sandwich
58128210	Dressing with oysters
58128250	Dressing with meat and vegetables
58131100	Ravioli, NS as to filling, no sauce
58131110	Ravioli, NS as to filling, with tomato sauce
58131310	Ravioli, meat-filled, no sauce
58131320	Ravioli, meat-filled, with tomato sauce or meat sauce
58162090	Stuffed pepper, with meat
58162120	Stuffed pepper, with rice, meatless
72116140	Caesar salad (with romaine)
72125260	Spinach and cheese casserole

Rolls

[Rice protein concentrate] = 4.8%

51000200	Roll, NS as to major flour
51000230	Roll, NS as to major flour, toasted
51000250	Roll, made from home recipe or purchased at a bakery, NS as to major flour
51000260	Roll, made from home recipe or purchased at a bakery, toasted, NS as to major flour
51000300	Roll, hard, NS as to major flour
51000400	Roll, bran, NS as to type of bran
51150000	Roll, white, soft
51150100	Roll, white, soft, toasted
51151060	Roll, white, soft, made from home recipe or purchased at a bakery
51152000	Roll, white, soft, reduced calorie and/or high fiber
51152100	Roll, white, soft, reduced calorie and/or high fiber, toasted
51153000	Roll, white, hard

51153010	Roll, white, hard, toasted
51154510	Roll, diet
51154550	Roll, egg bread
51154560	Roll, egg bread, toasted
51154600	Roll, cheese
51155000	Roll, French or Vienna
51155010	Roll, French or Vienna, toasted
51156500	Roll, garlic
51157000	Roll, hoagie, submarine
51157010	Roll, hoagie, submarine, toasted
51158100	Roll, Mexican, bolillo
51159000	Roll, sour dough
51160000	Roll, sweet, no frosting
51160100	Roll, sweet, cinnamon bun, no frosting
51160110	Roll, sweet, cinnamon bun, frosted
51161000	Roll, sweet, with fruit, no frosting
51161020	Roll, sweet, with fruit, frosted
51161030	Roll, sweet, with fruit, frosted, diet
51161050	Roll, sweet, frosted
51161250	Roll, sweet, no topping, Mexican (Pan Dulce)
51161270	Roll, sweet, sugar topping, Mexican (Pan Dulce)
51161280	Roll, sweet, with raisins and icing, Mexican (Pan Dulce)
51220000	Roll, whole wheat, 100%
51220010	Roll, whole wheat, 100%, toasted
51220030	Roll, whole wheat, 100%, made from home recipe or purchased at bakery
51220040	Roll, whole wheat, 100%, made from home recipe or purchased at bakery, toasted
51320010	Roll, wheat or cracked wheat
51320020	Roll, wheat or cracked wheat, toasted
51320040	Roll, wheat or cracked wheat, made from home recipe or purchased at bakery
51320050	Roll, wheat or cracked wheat, made from home recipe or purchased at bakery, toasted
51320500	Roll, whole wheat, NS as to 100%
51320510	Roll, whole wheat, NS as to 100%, toasted
51320530	Roll, whole wheat, NS as to 100%, made from home recipe or purchased at bakery
51320540	Roll, whole wheat, NS as to 100%, made from home recipe or purchased at bakery, toasted
51420000	Roll, rye
51421000	Roll, pumpernickel
51421100	Roll, pumpernickel, toasted
51502010	Roll, oatmeal
51502020	Roll, oatmeal, toasted
51502100	Roll, oat bran
51502110	Roll, oat bran, toasted
51620000	Roll, multigrain
51620010	Roll, multigrain, toasted

Mixtures containing rolls

Adjusted for roll content of 30 to 60%

[Rice protein concentrate] = 1.4 to 2.8%

14640200	Cheese sandwich, hoagie
27510210	Cheeseburger, plain, on bun
27510220	Cheeseburger, with mayonnaise or salad dressing, on bun
27510230	Cheeseburger, with mayonnaise or salad dressing and tomatoes, on bun
27510240	Cheeseburger, 1/4 lb meat, plain, on bun
27510250	Cheeseburger, 1/4 lb meat, with mayonnaise or salad dressing, on bun

27510270 Double cheeseburger (2 patties), plain, on bun
 27510280 Double cheeseburger (2 patties), with mayonnaise or salad dressing, on bun
 27510290 Double cheeseburger (2 patties), plain, on double-decker bun
 27510300 Double cheeseburger (2 patties), with mayonnaise or salad dressing, on double-decker bun
 27510310 Cheeseburger with tomato and/or catsup, on bun
 27510311 Cheeseburger, 1 oz meat, plain, on miniature bun
 27510340 Double cheeseburger (2 patties), with mayonnaise or salad dressing and tomatoes, on bun
 27510360 Cheeseburger with mayonnaise or salad dressing, tomato and bacon, on bun
 27510410 Chiliburger, on bun
 27510420 Taco burger, on bun
 27510450 Cheeseburger, 1/4 lb meat, with ham, on bun
 27510500 Hamburger, plain, on bun
 27510510 Hamburger, with tomato and/or catsup, on bun
 27510520 Hamburger, with mayonnaise or salad dressing and tomatoes, on bun
 27510530 Hamburger, 1/4 lb meat, plain, on bun
 27510540 Double hamburger (2 patties), with tomato and/or catsup, on bun
 27510550 Double hamburger (2 patties), with mayonnaise or salad dressing and tomatoes, on double-decker bun
 27510560 Hamburger, 1/4 lb meat, with mayonnaise or salad dressing and tomatoes, on bun
 27510570 Hamburger, 2-1/2 oz meat, with mayonnaise or salad dressing and tomatoes, on bun
 27510590 Hamburger, with mayonnaise or salad dressing, on bun
 27510600 Hamburger, 1 oz meat, plain, on miniature bun
 27510610 Hamburger, 1 oz meat, with tomato and/or catsup, on miniature bun
 27510620 Hamburger, 1/4 lb meat, with tomato and/or catsup, on bun
 27510630 Hamburger, 1/4 lb meat, with mayonnaise or salad dressing, on bun
 27510650 Double hamburger (2 patties), plain, on bun
 27510660 Double hamburger (2 patties), with mayonnaise or salad dressing, on bun
 27510700 Meatball and spaghetti sauce submarine sandwich, on roll
 27510720 Pizzaburger (hamburger, cheese, sauce) on whole bun
 27513040 Roast beef submarine sandwich, on roll, with lettuce, tomato and spread
 27513060 Roast beef sandwich with bacon and cheese sauce
 27513070 Roast beef submarine sandwich, on roll, au jus
 27515000 Steak submarine sandwich, on roll, with lettuce and tomato
 27515010 Steak sandwich, plain, on roll
 27515030 Steak and cheese sandwich, plain, on roll
 27515070 Steak and cheese submarine sandwich, with fried peppers and onions, on roll
 27515150 Steak patty (breaded, fried) sandwich, with mayonnaise or salad dressing, lettuce, and tomato, on bun
 27520410 Cuban sandwich, (Sandwich cubano), with spread
 27520420 Midnight sandwich, (Media noche), with spread
 27520500 Pork, barbecue sauce, onions and dill pickles on white roll
 27540140 Chicken fillet (breaded, fried) sandwich
 27540170 Chicken patty sandwich, miniature, with spread
 27540250 Chicken fillet, broiled, sandwich with cheese, on whole wheat roll, with lettuce, tomato and non-mayonaise type spread
 27540280 Chicken fillet, broiled, sandwich with cheese, on bun, with lettuce, tomato and spread
 27540350 Turkey submarine sandwich, on roll, with cheese, lettuce, tomato and spread
 27550000 Fish sandwich, on bun, with spread
 27550100 Fish sandwich, on bun, with cheese and spread
 27550110 Crab cake sandwich, on bun
 27560320 Frankfurter or hot dog, plain, on bun
 27560330 Frankfurter or hot dog, with cheese, plain, on bun
 27560340 Frankfurter or hot dog, with catsup and/or mustard, on bun

27560400 Chicken frankfurter or hot dog, plain, on bun
 27560410 Puerto Rican sandwich (Sandwich criollo)
 27560720 Sausage and spaghetti sauce sandwich

Mixtures containing rolls

Adjusted for roll content of 14.9 to 29%
 [Rice protein concentrate] = 0.7 to 1.4%

27510110 Beef barbecue or Sloppy Joe, on bun
 27510260 Cheeseburger, 1/4 lb meat, with mushrooms in sauce, on bun
 27510320 Cheeseburger, 1/4 lb meat, with tomato and/or catsup, on bun
 27510330 Double cheeseburger (2 patties), with tomato and/or catsup, on bun
 27510350 Cheeseburger, 1/4 lb meat, with mayonnaise or salad dressing and tomatoes, on bun
 27510370 Double cheeseburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dressing, on bun
 27510380 Triple cheeseburger (3 patties, 1/4 lb meat each), with mayonnaise or salad dressing and tomatoes, on bun
 27510390 Double bacon cheeseburger (2 patties, 1/4 lb meat each), on bun
 27510430 Double bacon cheeseburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dressing and tomatoes, on bun
 27510670 Double hamburger (2 patties), with mayonnaise or salad dressing and tomatoes, on bun
 27510680 Double hamburger (2 patties, 1/4 lb meat each), with tomato and/or catsup, on bun
 27510690 Double hamburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dressing and tomatoes and/or catsup, on double-decker bun
 27510710 Pizzaburger (hamburger, cheese, sauce) on 1/2 bun
 27515020 Steak and cheese submarine sandwich, on roll, with lettuce and tomato
 27515040 Steak and cheese submarine sandwich, plain, on roll
 27520360 Ham and cheese sandwich, on bun, with lettuce and spread
 27520370 Hot ham and cheese sandwich, on bun
 27520510 Pork barbecue or Sloppy Joe, on bun
 27560310 Corny dog, with chili, on bun
 27560360 Frankfurter or hot dog, with chili, on bun
 27560370 Frankfurter or hot dog with chili and cheese, on bun
 27560910 Submarine, cold cut sandwich, on bun, with lettuce

Bagels

[Rice protein concentrate] = 4.4%

51180010 Bagel
 51180020 Bagel, toasted
 51180030 Bagel, with raisins
 51180040 Bagel, with raisins, toasted
 51180080 Bagel, with fruit other than raisins
 51180090 Bagel, with fruit other than raisins, toasted
 51208000 Bagel, whole wheat, 100%
 51208010 Bagel, whole wheat, 100%, toasted
 51208100 Bagel, whole wheat, 100%, with raisins
 51208110 Bagel, whole wheat, 100%, with raisins, toasted
 51300100 Bagel, whole grain white
 51301700 Bagel, wheat
 51301710 Bagel, wheat, toasted
 51301750 Bagel, whole wheat, NS as to 100%
 51301760 Bagel, whole wheat, NS as to 100%, toasted
 51301800 Bagel, wheat, with raisins
 51301810 Bagel, wheat, with raisins, toasted

51301820	Bagel, wheat, with fruit and nuts
51301830	Bagel, wheat, with fruit and nuts, toasted
51301900	Bagel, wheat bran
51301910	Bagel, wheat bran, toasted
51404500	Bagel, pumpernickel
51404510	Bagel, pumpernickel, toasted
51501080	Bagel, oat bran
51501090	Bagel, oat bran, toasted
51630000	Bagel, multigrain
51630010	Bagel, multigrain, toasted
51630100	Bagel, multigrain, with raisins
51630110	Bagel, multigrain, with raisins, toasted

English Muffins

[Rice protein concentrate] = 4.4%

51186010	Muffin, English
51186020	Muffin, English, toasted
51186100	Muffin, English, with raisins
51186120	Muffin, English, with raisins, toasted
51186130	Muffin, English, cheese
51186140	Muffin, English, cheese, toasted
51186160	Muffin, English, with fruit other than raisins
51186180	Muffin, English, with fruit other than raisins, toasted
51202000	Muffin, English, whole wheat, 100%
51202020	Muffin, English, whole wheat, 100%, toasted
51202050	Muffin, English, whole wheat, 100%, with raisins
51202060	Muffin, English, whole wheat, 100%, with raisins, toasted
51302500	Muffin, English, wheat bran
51302510	Muffin, English, wheat bran, toasted
51302520	Muffin, English, wheat bran, with raisins
51302530	Muffin, English, wheat bran, with raisins, toasted
51303010	Muffin, English, wheat or cracked wheat
51303020	Muffin, English, wheat or cracked wheat, toasted
51303030	Muffin, English, whole wheat, NS as to 100%
51303040	Muffin, English, whole wheat, NS as to 100%, toasted
51303050	Muffin, English, wheat or cracked wheat, with raisins
51303060	Muffin, English, wheat or cracked wheat, with raisins, toasted
51303070	Muffin, English, whole wheat, NS as to 100%, with raisins
51303080	Muffin, English, whole wheat, NS as to 100%, with raisins, toasted
51401200	Muffin, English, rye
51401210	Muffin, English, rye, toasted
51404550	Muffin, English, pumpernickel
51404560	Muffin, English, pumpernickel, toasted
51503000	Muffin, English, oat bran
51503010	Muffin, English, oat bran, toasted
51503040	Muffin, English, oat bran, with raisins
51503050	Muffin, English, oat bran with raisins, toasted
51630200	Muffin, English, multigrain
51630210	Muffin, English, multigrain, toasted

Mixtures containing English muffins

Adjusted for English muffin content of 16.7 to 39.4%

[Rice protein concentrate] = 0.7 to 1.7%

27520380	Ham and cheese on English muffin
27560670	Sausage and cheese on English muffin
32101500	Egg, Benedict
32202010	Egg, cheese, and ham on English muffin
32202030	Egg, cheese, and sausage on English muffin
32202040	Egg, cheese, and beef on English Muffin
32202080	Egg, cheese, and bacon on English muffin

Beverages and Beverage Bases

Non-Milk Based Meal Replacements

[Rice protein concentrate] = 1.04%

95120050 Nutritional drink or meal replacement, liquid, soy-based

Non-Reconstituted Non-Milk Based Meal Replacements

Adjusted for not being reconstituted, 16 g of powder to 240 mL of water

[Rice protein concentrate] = 16.6%

95201200	EAS Whey Protein Powder
95201300	EAS Soy Protein Powder
95201600	Isopure protein powder
95230000	Protein powder, whey based, NFS
95230010	Protein powder, soy based, NFS

Non-Reconstituted Non-Milk Based Meal Replacements

Adjusted for not being reconstituted, 25 g of powder to 375 mL of water

[Rice protein concentrate] = 16.6%

95201500 Herbalife, nutritional shake mix, high protein, powder

Breakfast Cereals

Ready-to-Eat Breakfast Cereals (Biscuit-types)

[Rice protein concentrate] = 4.4%

57214000	Frosted Mini-Wheats
57214100	Frosted Wheat Bites
57219000	Fruit & Fibre (fiber), NFS
57221000	Fruit & Fibre (fiber) with dates, raisins, and walnuts
57221650	Fruit Harvest cereal, Kellogg's
57227000	Granola, NFS
57229000	Granola, lowfat, Kellogg's
57229500	Granola with Raisins, lowfat, Kellogg's
57308150	Mueslix cereal, NFS
57308190	Muesli, dried fruit and nuts (formerly Muesli with raisins, dates, and almonds)
57309100	Nature Valley Granola, with fruit and nuts
57319500	Sun Country 100% Natural Granola, with Almonds
57410000	Weetabix Whole Wheat Cereal

Ready-to-Eat Breakfast Cereals (Regular Types)

[Rice protein concentrate] = 8%

57000000	Cereal, NFS
57000050	Kashi cereal, NS as to ready to eat or cooked

57000100	Oat cereal, NFS
57100100	Cereal, ready-to-eat, NFS
57101000	All-Bran
57102000	Alpen
57103000	Alpha-Bits
57103020	Alpha-bits with marshmallows
57103050	Amaranth Flakes
57103100	Apple Cinnamon Cheerios
57104000	Apple Jacks
57106050	Banana Nut Crunch Cereal (Post)
57106060	Banana Nut Cheerios
57106100	Basic 4
57106250	Berry Berry Kix
57106260	Berry Burst Cheerios
57106530	Blueberry Morning, Post
57107000	Booberry
57110000	All-Bran Bran Buds, Kellogg's (formerly Bran Buds)
57111000	Bran Chex
57117000	Cap'n Crunch
57117500	Cap'n Crunch's Christmas Crunch
57119000	Cap'n Crunch's Crunch Berries
57120000	Cap'n Crunch's Peanut Butter Crunch
57123000	Cheerios
57124000	Chex cereal, NFS
57124050	Chex Cinnamon
57124100	Chocolate Cheerios
57124300	Chocolate Lucky Charms
57125000	Cinnamon Toast Crunch
57125010	Cinnamon Toast Crunch Reduced Sugar
57125900	Honey Nut Clusters (formerly called Clusters)
57127000	Cocoa Pebbles
57128005	Cocoa Puffs, reduced sugar
57130000	Cookie-Crisp
57131000	Crunchy Corn Bran, Quaker
57132000	Corn Chex
57134000	Corn flakes, NFS
57134090	Corn flakes, low sodium
57135000	Corn flakes, Kellogg's
57139000	Count Chocula
57143000	Cracklin' Oat Bran
57143500	Cranberry Almond Crunch, Post
57144000	Crisp Crunch
57148000	Crispix
57201900	Dora the Explorer Cereal
57206000	Familia
57206700	Fiber One
57206705	Fiber One Caramel Delight
57206710	Fiber One Honey Clusters
57206715	Fiber One Raisin Bran Clusters
57206800	Fiber 7 Flakes, Health Valley
57207000	Bran Flakes, NFS (formerly 40% Bran Flakes, NFS)
57208000	All-Bran Complete Wheat Flakes, Kellogg's
57209000	Natural Bran Flakes, Post (formerly called 40% Bran Flakes, Post)
57211000	Frankenberry
57213000	Froot Loops

57213850	Frosted Cheerios
57215000	Frosty O's
57216000	Frosted rice, NFS
57221700	Fruit Rings, NFS
57221800	Fruit Whirls
57221810	Fruity Cheerios
57223000	Fruity Pebbles
57224000	Golden Grahams
57230000	Grape-Nuts
57231000	Grape-Nuts Flakes
57231100	Grape-Nuts Trail Mix Crunch
57231200	Great Grains, Raisin, Date, and Pecan Whole Grain Cereal, Post
57231250	Great Grains Double Pecan Whole Grain Cereal, Post
57237100	Honey Bunches of Oats Honey Roasted Cereal
57237200	Honey Bunches of Oats with Vanilla Clusters, Post
57237300	Honey Bunches of Oats with Almonds, Post
57237310	Honey Bunches of Oats with Pecan Bunches
57237900	Honey Bunches of Oats Just Bunches
57238000	Honeycomb, plain
57239000	Honeycomb, strawberry
57239100	Honey Crunch Corn Flakes, Kellogg's
57240100	Honey Nut Chex
57241000	Honey Nut Cheerios
57241200	Honey Nut Shredded Wheat, Post
57243000	Honey Smacks, Kellogg's (formerly Smacks; Honey Smacks)
57301505	Kashi Autumn Wheat
57301510	Kashi GOLEAN
57301511	Kashi GOLEAN Crunch
57301512	Kashi GOLEAN Crunch Honey Almond Flax
57301520	Kashi Good Friends
57301530	Kashi Heart to Heart Honey Toasted Oat
57301535	Kashi Heart to Heart Oat Flakes and Blueberry Clusters
57301540	Kashi Honey Sunshine
57302100	King Vitaman
57303100	Kix
57303105	Honey Kix
57304100	Life (plain and cinnamon)
57305100	Lucky Charms
57305150	Frosted oat cereal with marshmallows
57305160	Malt-O-Meal Blueberry Muffin Tops
57305165	Malt-O-Meal Cinnamon Toasters
57305170	Malt-O-Meal Coco-Roos
57305174	Malt-O-Meal Colossal Crunch
57305175	Malt-O-Meal Cocoa Dyno-Bites
57305180	Malt-O-Meal Corn Bursts
57305200	Malt-O-Meal Crispy Rice
57305210	Malt-O-Meal Frosted Flakes
57305215	Malt-O-Meal Frosted Mini Spooners
57305300	Malt-O-Meal Fruity Dyno-Bites
57305400	Malt-O-Meal Honey Graham Squares
57305500	Malt-O-Meal Honey and Nut Toasty O's
57305600	Malt-O-Meal Marshmallow Mateys
57306130	Malt-O-Meal Raisin Bran
57306700	Malt-O-Meal Toasted Oat Cereal
57306800	Malt-O-meal Tootie Fruities

57307010	Maple Pecan Crunch Cereal, Post
57307600	Mini-Swirlz Cinnamon Bun Cereal, Kellogg's
57308300	Multi Bran Chex
57308400	MultiGrain Cheerios
57316200	Nutty Nuggets, Ralston Purina
57316300	Oat Bran Flakes, Health Valley
57316380	Oat Cluster Cheerios Crunch
57316450	Oatmeal Crisp with Almonds
57316500	Oatmeal Crisp, Raisin (formerly Oatmeal Raisin Crisp)
57316710	Oh's, Honey Graham
57319000	100% Natural Cereal, plain, Quaker
57320500	100 % Natural Cereal, with oats, honey and raisins, Quaker
57321500	100 % Natural Wholegrain Cereal with raisins, lowfat, Quaker
57321700	Optimum, Nature's Path
57321800	Optimum Slim, Nature's Path
57321900	Organic Flax Plus, Nature's Path
57323000	Sweet Crunch, Quaker (formerly called Popeye)
57325000	Product 19
57326000	Puffins Cereal
57327450	Quaker Oat Bran Cereal
57327500	Quaker Oatmeal Squares (formerly Quaker Oat Squares)
57328000	Quisp
57329000	Raisin bran, NFS
57330000	Raisin Bran, Kellogg's
57330010	Raisin Bran Crunch, Kellogg's
57331000	Raisin Bran, Post
57332050	Raisin Bran, Total
57332100	Raisin Nut Bran
57336000	Rice Chex
57337000	Rice Flakes, NFS
57341000	Shredded Wheat'N Bran
57341200	Smart Start Strong Heart Antioxidants Cereal, Kellogg's
57342010	Smorz, Kellogg's
57344000	Special K
57344001	Special K Blueberry
57344005	Special K Chocolatey Delight
57344007	Special K Low Fat Granola
57344010	Special K Red Berries
57344015	Special K Fruit & Yogurt
57344020	Special K Vanilla Almond
57344025	Special K Cinnamon Pecan, Kellogg's
57346500	Oatmeal Honey Nut Heaven, Quaker (formerly Toasted Oatmeal, Honey Nut)
57347000	Corn Pops
57348000	Frosted corn flakes, NFS
57349000	Frosted Flakes, Kellogg's
57349020	Reduced Sugar Frosted Flakes Cereal, Kellogg's
57355000	Golden Crisp (Formerly called Super Golden Crisp)
57401100	Toasted oat cereal
57403100	Toasties, Post
57406100	Total
57406105	Total Cranberry Crunch
57407100	Trix
57407110	Trix, reduced sugar
57408100	Uncle Sam Cereal (formerly Uncle Sam's Hi Fiber Cereal)
57409100	Waffle Crisp, Post

57411000	Wheat Chex
57412000	Wheat germ, plain
57413000	Wheat germ, with sugar and honey
57417000	Shredded Wheat, 100%
57418000	Wheaties
57419000	Yogurt Burst Cheerios

Ready-to-Eat Breakfast Cereals (Puffed Types)

[Rice protein concentrate] = 16%

57124200	Chocolate flavored frosted puffed corn cereal
57126000	Cocoa Krispies
57128000	Cocoa Puffs
57137000	Corn Puffs
57148500	Crispy Brown Rice Cereal
57151000	Crispy Rice
57218000	Frosted Rice Krispies, Kellogg's
57301500	Kashi, Puffed
57306100	Malt-O-Meal Puffed Rice
57306120	Malt-O-Meal Puffed Wheat
57306500	Malt-O-Meal Golden Puffs (formerly Sugar Puffs)
57307500	Millet, puffed
57335550	Reese's Peanut Butter Puffs cereal
57339000	Rice Krispies, Kellogg's
57339500	Rice Krispies Treats Cereal, Kellogg's
57340000	Rice, puffed
57416000	Wheat, puffed, plain
57416010	Wheat, puffed, presweetened with sugar

Dairy Product Analogs

Soy/Imitation Milks

[Rice protein concentrate] = 1.04%

11320000	Milk, soy, ready-to-drink, not baby's
11320100	Milk, soy, light, ready-to-drink, not baby's
11320200	Milk, soy, nonfat, ready-to-drink, not baby's
11321000	Milk, soy, ready-to-drink, not baby's, chocolate
11321100	Milk, soy, light, ready-to-drink, not baby's, chocolate
11321200	Milk, soy, nonfat, ready-to-drink, not baby's, chocolate
11340000	Milk, imitation, fluid, non-soy, sweetened, flavors other than chocolate

Fats and Oils

Margarine

[Rice protein concentrate] = 17.12%

81102000	Margarine, NFS
81102010	Margarine, stick, salted
81102020	Margarine, tub, salted
81103020	Margarine, whipped, tub, salted
81103030	Margarine, stick, unsalted
81103040	Margarine-like spread, stick, salted
81103041	Margarine-like spread, made with yogurt, stick, salted
81103060	Margarine, tub, unsalted
81103070	Margarine, whipped, tub, unsalted

81103080	Margarine-like spread, tub, salted
81103090	Margarine-like spread, liquid, salted
81103100	Margarine-like spread, stick, unsalted
81103120	Margarine-like spread, tub, unsalted
81103130	Margarine-like spread, whipped, tub, salted
81103140	Margarine-like spread, tub, sweetened
81104010	Margarine-like spread, reduced calorie, about 40% fat, tub, salted
81104011	Margarine-like spread, reduced calorie, about 40% fat, made with yogurt, tub, salted
81104020	Margarine-like spread, reduced calorie, about 40% fat, stick, salted
81104050	Margarine-like spread, reduced calorie, about 20% fat, tub, salted
81104070	Margarine-like spread, reduced calorie, about 20% fat, tub, unsalted
81104100	Margarine-like spread, fat free, tub, salted
81104110	Margarine-like spread, fat free, liquid, salted
81104500	Vegetable oil-butter spread, stick, salted
81104510	Vegetable oil-butter spread, tub, salted
81104550	Vegetable oil-butter spread, reduced calorie, stick, salted
81104560	Vegetable oil-butter spread, reduced calorie, tub, salted
81105010	Butter-margarine blend, stick, salted
81105020	Butter-margarine blend, tub, salted
81105500	Butter-vegetable oil blend

Mixtures containing margarine

Adjusted for margarine content of 10 to 28%

[Rice protein concentrate] = 1.8 to 4.7%

26133130	Porgy, breaded or battered, baked
27116100	Beef curry
27135020	Veal scallopini
27151050	Shrimp in garlic sauce, Puerto Rican style (mixture) (Camarones al ajillo)
27360050	Meat pie, NFS
27560410	Puerto Rican sandwich (Sandwich criollo)
32104100	Egg, scrambled, made from dry eggs
33102010	Scrambled egg, made from powdered mixture
51167000	Brioche
53109300	Cake, Dobos Torte (non-chocolate layer cake with chocolate filling and icing)
53111500	Cake, graham cracker, without icing
53116000	Cake, pound, without icing
53116270	Cake, pound, chocolate
53116750	Cake, soy flour, without icing
53200100	Cookie, batter or dough, raw, not chocolate
53202000	Cookie, almond
53203000	Cookie, applesauce
53205250	Cookie, butterscotch, brownie
53205500	Cookie, butterscotch chip
53205760	Cookie, carob and honey brownie
53206020	Cookie, chocolate chip, made from home recipe or purchased at a bakery
53206550	Cookie, chocolate, made with oatmeal and coconut (no-bake)
53224250	Cookie, lemon bar
53233060	Cookie, oatmeal, with chocolate chips
53233100	Cookie, oatmeal, with chocolate and peanut butter (no-bake)
53236000	Cookie, pizzelle (Italian style wafer)
53241500	Cookie, butter or sugar cookie
53248000	Cookie, whole wheat, dried fruit, nut
53251100	Cookie, rugelach
53387000	Pie, Toll house chocolate chip

53415300	Crisp, blueberry
53420310	Wheat flour fritter, without syrup
53452450	Cheese pastry puffs
58122310	Knish, potato
58122320	Knish, cheese
58122330	Knish, meat
58124210	Pastry, cheese-filled
58128210	Dressing with oysters
63107090	Banana, red, fried
63107210	Banana, ripe, fried
91305010	Icing, chocolate
91305020	Icing, white

Mixtures containing margarine

Adjusted for margarine content of 5 to <10%

[Rice protein concentrate] = 0.9 to <1.8%

13210810	Puerto Rican pumpkin pudding (Flan de calabaza)
13411000	White sauce, milk sauce
14630200	Cheese souffle
14640000	Cheese sandwich
14640100	Cheese sandwich, grilled
14650150	Cheese sauce made with lowfat cheese
26100130	Fish, NS as to type, breaded or battered, baked
26107130	Catfish, breaded or battered, baked
26109130	Cod, breaded or battered, baked
26111130	Croaker, breaded or battered, baked
26115130	Flounder, breaded or battered, baked
26117130	Haddock, breaded or battered, baked
26157130	Whiting, breaded or battered, baked
26215120	Turtle (terrapin), cooked, NS as to cooking method
26303120	Clams, baked or broiled
26305120	Crab, baked or broiled
26313110	Mussels, cooked, NS as to cooking method
26315120	Oysters, baked or broiled
27113000	Beef with cream or white sauce (mixture)
27113200	Creamed chipped or dried beef
27143000	Chicken or turkey with cream sauce (mixture)
27146150	Chicken curry
27150020	Crab, deviled
27150030	Crab imperial
27212300	Beef and noodles with cream or white sauce (mixture)
27214600	Creamed dried beef on toast
27220080	Ham croquette
27233000	Lamb or mutton and noodles with gravy (mixture)
27235750	Veal and noodles with cream or white sauce (mixture)
27243400	Chicken or turkey and rice with (mushroom) soup (mixture)
27246300	Chicken or turkey cake, patty, or croquette
27246400	Chicken or turkey souffle
27250040	Crab cake
27250550	Seafood souffle
27260510	Liver dumpling
27415150	Beef chow mein or chop suey, no noodles
27420390	Pork chow mein or chop suey, no noodles

27443110 Chicken or turkey a la king with vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), cream, white, or soup-based sauce

27443120 Chicken or turkey a la king with vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), cream, white, or soup-based sauce

27460010 Chow mein or chop suey, NS as to type of meat, no noodles

27500050 Sandwich, NFS

27500100 Meat sandwich, NFS

27513030 Roast beef sandwich dipped in egg, fried, with gravy and spread

27520410 Cuban sandwich, (Sandwich cubano), with spread

27560000 Luncheon meat sandwich, NFS, with spread

27560110 Bologna sandwich, with spread

27560510 Salami sandwich, with spread

31106000 Egg, whole, baked, NS as to fat added in cooking

31106020 Egg, whole, baked, fat added in cooking

32105130 Egg omelet or scrambled egg, with onions, peppers, tomatoes, and mushrooms

32202040 Egg, cheese, and beef on English Muffin

51182010 Bread stuffing

52105100 Scone

52105110 Scone, whole wheat

52105200 Scone, with fruit

53102500 Cake, banana, NS as to icing

53102600 Cake, banana, without icing

53102700 Cake, banana, with icing

53104500 Cheesecake

53104550 Cheesecake with fruit

53104600 Cheesecake, chocolate

53107000 Cake, cupcake, NS as to type or icing

53107200 Cake, cupcake, NS as to type, with icing

53109000 Cake, cupcake, not chocolate, NS as to icing

53113950 Cake, lemon, NS as to icing

53114100 Cake, lemon, with icing

53116570 Cake, Ravani (made with farina)

53118500 Cake, torte

53119000 Cake, upside down (all fruits)

53120060 Cake, white, made from home recipe or purchased ready-to-eat, NS as to icing

53120260 Cake, white, with icing, made from home recipe or purchased ready-to-eat

53211000 Cookie bar, with chocolate, nuts, and graham crackers

53226500 Cookie, marshmallow, with rice cereal (no-bake)

53226600 Cookie, marshmallow and peanut butter, with oat cereal (no-bake)

53234250 Cookie, peanut butter with rice cereal (no-bake)

53235600 Cookie, Pfeffernusse

53244020 Cookie, butter or sugar, iced, with icing other than chocolate

53366000 Pie, yogurt, frozen

53371100 Pie, chiffon, with liqueur

53382000 Pie, chocolate-marshmallow

53385500 Pie, oatmeal

53390100 Pie, tofu with fruit

53415400 Crisp, cherry

53415500 Crisp, peach

53415600 Crisp, rhubarb

53420300 Air filled fritter or fried puff, without syrup, Puerto Rican style (Bunuelos de viento)

53440300 Strudel, berry

53440750 Strudel, pineapple

56201250 Grits, cooked, flavored, corn or hominy, instant, fat added in cooking

56202100 Millet, cooked, fat added in cooking

56203070	Oatmeal, cooked, instant, fat added in cooking
56205400	Rice, cooked, NS as to type, fat added in cooking
56205420	Rice, white, cooked, regular, fat added in cooking
56205430	Rice, white, cooked, instant, fat added in cooking
56205440	Rice, white, cooked, converted, fat added in cooking
56207120	Bulgur, cooked or canned, fat added in cooking
56207180	Couscous, plain, cooked, fat added in cooking
58108010	Calzone, with meat and cheese
58122210	Gnocchi, cheese
58128120	Cornmeal dressing with chicken or turkey and vegetables
58128220	Dressing with chicken or turkey and vegetables
58128250	Dressing with meat and vegetables
58145114	Macaroni or noodles with cheese, made from dry mix
58155610	Rice meal fritter, Puerto Rican style (Almojabana)
58156410	Rice with onions, Puerto Rican style (arroz con cebollas)
58160110	Rice with beans
58162090	Stuffed pepper, with meat
58162120	Stuffed pepper, with rice, meatless
58310310	Pancakes and sausage (frozen meal)
63101410	Apple rings, fried
63101500	Apple, fried
71501040	White potato, from dry, mashed, made with milk and fat
71501300	White potato, from dry, mashed, NS as to milk or fat
71501310	White potato, from fresh, mashed, NS as to milk or fat
71905210	Candied ripe plantain, Puerto Rican style (Platano en almibar)
72125240	Spinach souffle
73102240	Carrots, cooked, NS as to form, glazed
73102241	Carrots, cooked, from fresh, glazed
73102242	Carrots, cooked, from frozen, glazed
73102243	Carrots, cooked, from canned, glazed
73305010	Squash, winter, baked with cheese
74203010	Tomatoes, NS as to form, scalloped
74203011	Tomatoes, from fresh, scalloped
75213000	Cabbage, savoy, cooked, NS as to fat added in cooking
75216070	Corn, dried, cooked
75217490	Hominy, cooked, NS as to fat added in cooking
75217520	Hominy, cooked, fat added in cooking
75414020	Mushrooms, stuffed
75418060	Squash, summer, souffle
91361020	Fruit sauce
91361030	Raisin sauce
91361040	Plain dessert sauce

Mixtures containing margarine

Adjusted for margarine content of 2 to <5%

[Rice protein concentrate] = 0.3 to <0.9%

13170000	Baked Alaska
13210150	Puerto Rican bread pudding made with evaporated milk and rum (Budin de pan)
14630300	Welsh rarebit
26100120	Fish, NS as to type, baked or broiled
26103110	Barracuda, cooked, NS as to cooking method
26103120	Barracuda, baked or broiled
26105120	Carp, baked or broiled
26107120	Catfish, baked or broiled

26109120 Cod, baked or broiled
 26111120 Croaker, baked or broiled
 26115110 Flounder, cooked, NS as to cooking method
 26115120 Flounder, baked or broiled
 26117110 Haddock, cooked, NS as to cooking method
 26117120 Haddock, baked or broiled
 26119120 Herring, baked or broiled
 26121110 Mackerel, cooked, NS as to cooking method
 26121120 Mackerel, baked or broiled
 26123120 Mullet, baked or broiled
 26125110 Ocean perch, cooked, NS as to cooking method
 26125120 Ocean perch, baked or broiled
 26125130 Ocean perch, breaded or battered, baked
 26127120 Perch, baked or broiled
 26127130 Perch, breaded or battered, baked
 26129120 Pike, baked or broiled
 26131110 Pompano, cooked, NS as to cooking method
 26131120 Pompano, baked or broiled
 26133120 Porgy, baked or broiled
 26135110 Ray, cooked, NS as to cooking method
 26135120 Ray, baked or broiled
 26137120 Salmon, baked or broiled
 26141110 Sea bass, cooked, NS as to cooking method
 26141120 Sea bass, baked or broiled
 26141130 Sea bass, breaded or battered, baked
 26143110 Shark, cooked, NS as to cooking method
 26143120 Shark, baked or broiled
 26145120 Smelt, baked or broiled
 26149110 Swordfish, cooked, NS as to cooking method
 26149120 Swordfish, baked or broiled
 26151110 Trout, cooked, NS as to cooking method
 26151120 Trout, baked or broiled
 26153110 Tuna, fresh, cooked, NS as to cooking method
 26153120 Tuna, fresh, baked or broiled
 26157110 Whiting, cooked, NS as to cooking method
 26157120 Whiting, baked or broiled
 26207110 Roe, shad, cooked
 26213120 Squid, baked, broiled
 26301110 Abalone, cooked, NS as to cooking method
 26315110 Oysters, cooked, NS as to cooking method
 26317120 Scallops, baked or broiled
 26317130 Scallops, steamed or boiled
 26319120 Shrimp, baked or broiled
 27120120 Sausage gravy
 27150100 Shrimp, curried
 27150310 Fish with tomato-based sauce (mixture)
 27211190 Beef and potatoes with cream or white sauce (mixture)
 27236000 Venison/deer and noodles with cream or white sauce (mixture)
 27242300 Chicken or turkey and noodles with cream or white sauce (mixture)
 27242400 Chicken or turkey and noodles, tomato-based sauce (mixture)
 27243300 Chicken or turkey and rice with cream sauce (mixture)
 27250020 Clams, stuffed
 27250080 Salmon loaf
 27250110 Scallops and noodles with cheese sauce (mixture)
 27250130 Shrimp and noodles with cheese sauce (mixture)

27250150 Tuna loaf
 27250250 Flounder with crab stuffing
 27250270 Clams Casino
 27250410 Shrimp with crab stuffing
 27250610 Tuna noodle casserole with cream or white sauce
 27250630 Tuna noodle casserole with (mushroom) soup
 27250820 Fish and rice with cream sauce
 27313110 Beef chow mein or chop suey with noodles
 27317010 Beef pot pie
 27320030 Ham or pork, noodles and vegetables (excluding carrots, broccoli, and dark-green leafy),
 cheese sauce (mixture)
 27320070 Ham or pork, noodles, and vegetables (including carrots, broccoli, and/or dark-green
 leafy), tomato-based sauce (mixture)
 27350040 Shad creole, with rice
 27350060 Shrimp creole, with rice
 27350070 Tuna pot pie
 27350200 Oyster pie
 27350410 Tuna noodle casserole with vegetables and (mushroom) soup
 27360080 Chow mein or chop suey, NS as to type of meat, with noodles
 27360120 Chow mein or chop suey, various types of meat, with noodles
 27450450 Shrimp creole, no rice
 27450510 Tuna casserole with vegetables and (mushroom) soup, no noodles
 27460100 Lau lau (pork and fish wrapped in taro or spinach leaves)
 27463000 Stewed gizzards, Puerto Rican style (Mollejitas guisadas)
 27510260 Cheeseburger, 1/4 lb meat, with mushrooms in sauce, on bun
 27510480 Cheeseburger (hamburger with cheese sauce), 1/4 lb meat, with grilled onions, on rye
 bun
 27520310 Ham sandwich with lettuce and spread
 27520320 Ham and cheese sandwich, with lettuce and spread
 27520350 Ham and cheese sandwich, with spread, grilled
 27520360 Ham and cheese sandwich, on bun, with lettuce and spread
 27520420 Midnight sandwich, (Media noche), with spread
 27550110 Crab cake sandwich, on bun
 27560120 Bologna and cheese sandwich, with spread
 28101000 Frozen dinner, NFS
 28110000 Beef dinner, NFS (frozen meal)
 28110510 Beef, sliced, with gravy, potatoes, vegetable (frozen meal)
 28130000 Veal dinner, NFS (frozen meal)
 28133340 Veal parmigiana with vegetable, fettuccine alfredo, dessert (frozen meal)
 28140720 Chicken patty, or nuggets, boneless, breaded, potatoes, vegetable (frozen meal)
 28140730 Chicken patty, breaded, with tomato sauce and cheese, fettuccine alfredo, vegetable
 (frozen meal)
 28145000 Turkey dinner, NFS (frozen meal)
 28145210 Turkey with gravy, dressing, potatoes, vegetable (frozen meal)
 28160300 Meat loaf dinner, NFS (frozen meal)
 28160650 Stuffed green pepper (frozen meal)
 28355250 Lobster bisque
 28355260 Lobster gumbo
 28355440 Shrimp gumbo
 31105000 Egg, whole, fried
 32101500 Egg, Benedict
 32104900 Egg omelet or scrambled egg, NS as to fat added in cooking
 32105000 Egg omelet or scrambled egg, fat added in cooking
 32105010 Egg omelet or scrambled egg, with cheese
 32105020 Egg omelet or scrambled egg, with fish

32105030 Egg omelet or scrambled egg, with ham or bacon
 32105040 Egg omelet or scrambled egg, with dark-green vegetables
 32105050 Egg omelet or scrambled egg, with vegetables other than dark-green vegetables
 32105060 Egg omelet or scrambled egg, with peppers, onion, and ham
 32105070 Egg omelet or scrambled egg, with mushrooms
 32105080 Egg omelet or scrambled egg, with cheese and ham or bacon
 32105100 Egg omelet or scrambled egg, with potatoes and/or onions (Tortilla Espanola, traditional style Spanish omelet)
 32105110 Egg omelet or scrambled egg, with beef
 32105120 Egg omelet or scrambled egg, with sausage and mushrooms
 32105121 Egg omelet or scrambled egg, with sausage and cheese
 32105122 Egg omelet or scrambled egg, with sausage
 32105150 Egg omelet or scrambled egg, with chili, cheese, tomatoes, and beans
 32105160 Egg omelet or scrambled egg, with chorizo
 32105170 Egg omelet or scrambled egg with chicken
 32202030 Egg, cheese, and sausage on English muffin
 32202050 Egg, cheese, and sausage on biscuit
 32202130 Egg and steak on biscuit
 33000100 Egg substitute, NS as to powdered, frozen, or liquid
 33201010 Scrambled egg, made from cholesterol-free frozen mixture
 33201110 Scrambled egg, made from cholesterol-free frozen mixture with cheese
 33201500 Scrambled egg, made from cholesterol-free frozen mixture with vegetables
 33202010 Scrambled egg, made from frozen mixture
 33301010 Scrambled egg, made from packaged liquid mixture
 41108010 Mung beans, fat added in cooking
 41108020 Mung beans, NS as to fat added in cooking
 41304980 Lentils, dry, cooked, NS as to fat added in cooking
 41304990 Lentils, dry, cooked, fat added in cooking
 42116100 Walnuts, honey-roasted
 52213010 Spoonbread
 52220110 Cornmeal bread, Dominican style (Arepa Dominicana)
 53102000 Cake, applesauce, NS as to icing
 53102200 Cake, applesauce, with icing
 53104900 Cake, chocolate, made with mayonnaise or salad dressing, NS as to icing
 53104950 Cake, chocolate, made with mayonnaise or salad dressing, with icing, coating, or filling
 53105000 Cake, chocolate, devil's food, or fudge, standard-type mix (eggs and water added to dry mix), NS as to icing
 53105050 Cake, chocolate, devil's food, or fudge, made from home recipe or purchased ready-to-eat, NS as to icing
 53105200 Cake, chocolate, devil's food, or fudge, standard-type mix (eggs and water added to dry mix), with icing, coating, or filling
 53105260 Cake, chocolate, devil's food, or fudge, with icing, coating, or filling, made from home recipe or purchased ready-to-eat
 53108000 Cake, cupcake, chocolate, NS as to icing
 53115300 Cake, nut, NS as to icing
 53115320 Cake, nut, with icing
 53115410 Cake, oatmeal, with icing
 53115450 Cake, peanut butter, with icing
 53118600 Cake, chiffon, NS as to icing
 53118800 Cake, chiffon, with icing
 53118950 Cake, chiffon, chocolate, with icing
 53120000 Cake, white, standard-type mix (egg whites and water added), NS as to icing
 53120200 Cake, white, standard-type mix (egg whites and water added to mix), with icing
 53121000 Cake, yellow, standard-type mix (eggs and water added to dry mix), NS as to icing
 53121060 Cake, yellow, made from home recipe or purchased ready-to-eat, NS as to icing

53121200 Cake, yellow, standard-type mix (eggs and water added to dry mix), with icing
 53121260 Cake, yellow, with icing, made from home recipe or purchased ready-to-eat
 53124100 Cake, zucchini, NS as to icing
 53124120 Cake, zucchini, with icing
 53303510 Pie, berry, not blackberry, blueberry, boysenberry, huckleberry, raspberry, or strawberry;
 one crust
 53305700 Pie, lemon (not cream or meringue)
 53305720 Pie, lemon (not cream or meringue), individual size or tart
 53310000 Pie, raspberry, one crust
 53345000 Pie, lemon cream
 53345070 Pie, lemon cream, individual size or tart
 53347500 Pie, sour cream, raisin
 53373000 Pie, black bottom
 53400200 Blintz, cheese-filled
 53400300 Blintz, fruit-filled
 53410900 Cobbler, rhubarb
 53415100 Crisp, apple, apple dessert
 53430000 Crepe, dessert type, NS as to filling
 53430200 Crepe, dessert type, fruit-filled
 53430300 Crepe, dessert type, ice cream-filled
 53440500 Strudel, cherry
 53440600 Strudel, cheese
 53440700 Strudel, peach
 53440800 Strudel, cheese and fruit
 55105100 Pancakes, cornmeal
 56101030 Macaroni, cooked, fat added in cooking
 56102020 Macaroni, whole wheat, cooked, fat added in cooking
 56103020 Macaroni, cooked, spinach, fat added in cooking
 56104020 Macaroni, cooked, vegetable, fat added in cooking
 56112030 Noodles, cooked, fat added in cooking
 56114020 Noodles, cooked, spinach, fat added in cooking
 56117010 Long rice noodles (made from mung beans), cooked, fat added in cooking
 56117110 Chow fun rice noodles, cooked, fat added in cooking
 56131000 Spaghetti, cooked, fat added in cooking
 56133010 Spaghetti, cooked, whole wheat, fat added in cooking
 56200510 Buckwheat groats, cooked, fat added in cooking
 56201020 Grits, cooked, corn or hominy, regular, fat added in cooking
 56201040 Grits, cooked, corn or hominy, NS as to regular, quick, or instant, fat added in cooking
 56201120 Grits, cooked, corn or hominy, quick, fat added in cooking
 56201220 Grits, cooked, corn or hominy, instant, fat added in cooking
 56201550 Cornmeal dumpling
 56203040 Oatmeal, cooked, NS as to regular, quick, or instant, fat added in cooking
 56203050 Oatmeal, cooked, regular, fat added in cooking
 56203060 Oatmeal, cooked, quick (1 or 3 minutes), fat added in cooking
 56203220 Oatmeal, NS as to regular, quick, or instant, made with milk, fat added in cooking
 56203620 Oatmeal, multigrain, cooked, fat added in cooking
 56205090 Rice, cream of, cooked, fat added in cooking
 56205130 Yellow rice, cooked, regular, NS as to fat added in cooking
 56205170 Yellow rice, cooked, regular, fat added in cooking
 56205510 Rice, brown, cooked, regular, fat added in cooking
 56205530 Rice, brown, cooked, instant, NS as to fat added in cooking
 56205550 Rice, brown, cooked, instant, fat added in cooking
 56207060 Wheat, cream of, cooked, instant, fat added in cooking
 56207080 Wheat, cream of, cooked, NS as to regular, quick, or instant, fat added in cooking
 56207210 Whole wheat cereal, cooked, fat added in cooking

56207220 Wheat, cream of, cooked, regular, fat added in cooking
 56207230 Wheat, cream of, cooked, quick, fat added in cooking
 56207330 Whole wheat cereal, wheat and barley, cooked, fat added in cooking
 56208510 Oat bran cereal, cooked, fat added in cooking
 56208540 Oat bran cereal, cooked, made with milk, fat added in cooking
 58108000 Calzone, with cheese, meatless
 58128110 Chicken cornbread
 58131600 Ravioli, cheese and spinach-filled, with cream sauce
 58134650 Tortellini, meat-filled, no sauce
 58134720 Tortellini, spinach-filled, no sauce
 58140310 Macaroni with tuna, Puerto Rican style (Macarrones con atun)
 58145150 Macaroni or noodles with cheese and pork or ham
 58145160 Macaroni or noodles with cheese and frankfurters or hot dogs
 58147310 Macaroni, creamed
 58147330 Macaroni, creamed, with cheese
 58147510 Flavored pasta
 58148180 Macaroni salad with cheese
 58149110 Noodle pudding
 58160120 Rice with beans and tomatoes
 58160130 Rice with beans and chicken
 58160140 Rice with beans and pork
 58162310 Rice pilaf
 58163310 Flavored rice mixture
 58163330 Flavored rice mixture with cheese
 58163360 Flavored rice, brown and wild
 58163380 Flavored rice and pasta mixture
 58163400 Flavored rice and pasta mixture, reduced sodium
 58163510 Rice dressing
 58163610 Rice-vegetable medley
 61113500 Lemon pie filling
 71101100 White potato, baked, peel eaten, NS as to fat added in cooking
 71101120 White potato, baked, peel eaten, fat added in cooking
 71103000 White potato, boiled, without peel, NS as to fat added in cooking
 71103020 White potato, boiled, without peel, fat added in cooking
 71103100 White potato, boiled, with peel, NS as to fat added in cooking
 71103120 White potato, boiled, with peel, fat added in cooking
 71103200 White potato, boiled, without peel, canned, low sodium, NS as to fat added in cooking
 71103220 White potato, boiled, without peel, canned, low sodium, fat added in cooking
 71104000 White potato, roasted, NS as to fat added in cooking
 71104020 White potato, roasted, fat added in cooking
 71301000 White potato, cooked, with sauce, NS as to sauce
 71301020 White potato, cooked, with cheese
 71305010 White potato, scalloped
 71305110 White potato, scalloped, with ham
 71501000 White potato, mashed, NFS
 71501020 White potato, from fresh, mashed, made with milk and fat
 71501030 White potato, from fresh, mashed, made with fat
 71501050 White potato, from fresh, mashed, made with milk, fat and cheese
 71501070 White potato, from dry, mashed, made with milk, fat, egg and cheese
 71507000 White potato, stuffed, baked, peel not eaten, NS as to topping
 71507010 White potato, stuffed, baked, peel not eaten, stuffed with sour cream
 71507020 White potato, stuffed, baked, peel not eaten, stuffed with cheese
 71507030 White potato, stuffed, baked, peel not eaten, stuffed with chili
 71507040 White potato, stuffed, baked, peel not eaten, stuffed with broccoli and cheese sauce
 71507050 White potato, stuffed, baked, peel not eaten, stuffed with meat in cream sauce

71508070 White potato, stuffed, baked, peel not eaten, stuffed with bacon and cheese
71702000 Potato pudding
71930090 Cassava (yuca blanca), cooked, NS as to fat added in cooking
71930120 Cassava (yuca blanca), cooked, fat added in cooking
71941130 Sweetpotatoes, Puerto Rican, roasted or baked
71945020 Yam buns, Puerto Rican style (Bunuelos de name)
72101200 Beet greens, cooked, NS as to fat added in cooking
72101220 Beet greens, cooked, fat added in cooking
72104200 Chard, cooked, NS as to fat added in cooking
72104220 Chard, cooked, fat added in cooking
72107200 Collards, cooked, NS as to form, NS as to fat added in cooking
72107201 Collards, cooked, from fresh, NS as to fat added in cooking
72107202 Collards, cooked, from frozen, NS as to fat added in cooking
72107203 Collards, cooked, from canned, NS as to fat added in cooking
72107220 Collards, cooked, NS as to form, fat added in cooking
72107221 Collards, cooked, from fresh, fat added in cooking
72107222 Collards, cooked, from frozen, fat added in cooking
72107223 Collards, cooked, from canned, fat added in cooking
72110200 Cress, cooked, NS as to form, NS as to fat added in cooking
72110201 Cress, cooked, from fresh, NS as to fat added in cooking
72110203 Cress, cooked, from canned, NS as to fat added in cooking
72110220 Cress, cooked, NS as to form, fat added in cooking
72110221 Cress, cooked, from fresh, fat added in cooking
72110223 Cress, cooked, from canned, fat added in cooking
72113200 Dandelion greens, cooked, NS as to fat added in cooking
72113220 Dandelion greens, cooked, fat added in cooking
72116200 Escarole, cooked, NS as to fat added in cooking
72116220 Escarole, cooked, fat added in cooking
72118200 Greens, cooked, NS as to form, NS as to fat added in cooking
72118201 Greens, cooked, from fresh, NS as to fat added in cooking
72118202 Greens, cooked, from frozen, NS as to fat added in cooking
72118203 Greens, cooked, from canned, NS as to fat added in cooking
72118220 Greens, cooked, NS as to form, fat added in cooking
72118221 Greens, cooked, from fresh, fat added in cooking
72118222 Greens, cooked, from frozen, fat added in cooking
72118223 Greens, cooked, from canned, fat added in cooking
72119200 Kale, cooked, NS as to form, NS as to fat added in cooking
72119201 Kale, cooked, from fresh, NS as to fat added in cooking
72119202 Kale, cooked, from frozen, NS as to fat added in cooking
72119203 Kale, cooked, from canned, NS as to fat added in cooking
72119220 Kale, cooked, NS as to form, fat added in cooking
72119221 Kale, cooked, from fresh, fat added in cooking
72119222 Kale, cooked, from frozen, fat added in cooking
72119223 Kale, cooked, from canned, fat added in cooking
72120200 Lambsquarter, cooked, NS as to fat added in cooking
72120220 Lambsquarter, cooked, fat added in cooking
72122200 Mustard greens, cooked, NS as to form, NS as to fat added in cooking
72122201 Mustard greens, cooked, from fresh, NS as to fat added in cooking
72122202 Mustard greens, cooked, from frozen, NS as to fat added in cooking
72122203 Mustard greens, cooked, from canned, NS as to fat added in cooking
72122220 Mustard greens, cooked, NS as to form, fat added in cooking
72122221 Mustard greens, cooked, from fresh, fat added in cooking
72122222 Mustard greens, cooked, from frozen, fat added in cooking
72122223 Mustard greens, cooked, from canned, fat added in cooking
72123000 Poke greens, cooked, NS as to fat added in cooking

72123020 Poke greens, cooked, fat added in cooking
72125200 Spinach, cooked, NS as to form, NS as to fat added in cooking
72125201 Spinach, cooked, from fresh, NS as to fat added in cooking
72125202 Spinach, cooked, from frozen, NS as to fat added in cooking
72125203 Spinach, cooked, from canned, NS as to fat added in cooking
72125220 Spinach, cooked, NS as to form, fat added in cooking
72125221 Spinach, cooked, from fresh, fat added in cooking
72125222 Spinach, cooked, from frozen, fat added in cooking
72125223 Spinach, cooked, from canned, fat added in cooking
72128200 Turnip greens, cooked, NS as to form, NS as to fat added in cooking
72128201 Turnip greens, cooked, from fresh, NS as to fat added in cooking
72128202 Turnip greens, cooked, from frozen, NS as to fat added in cooking
72128203 Turnip greens, cooked, from canned, NS as to fat added in cooking
72128220 Turnip greens, cooked, NS as to form, fat added in cooking
72128221 Turnip greens, cooked, from fresh, fat added in cooking
72128222 Turnip greens, cooked, from frozen, fat added in cooking
72128223 Turnip greens, cooked, from canned, fat added in cooking
72128400 Turnip greens with roots, cooked, NS as to form, NS as to fat added in cooking
72128401 Turnip greens with roots, cooked, from fresh, NS as to fat added in cooking
72128402 Turnip greens with roots, cooked, from frozen, NS as to fat added in cooking
72128403 Turnip greens with roots, cooked, from canned, NS as to fat added in cooking
72128420 Turnip greens with roots, cooked, NS as to form, fat added in cooking
72128421 Turnip greens with roots, cooked, from fresh, fat added in cooking
72128422 Turnip greens with roots, cooked, from frozen, fat added in cooking
72128423 Turnip greens with roots, cooked, from canned, fat added in cooking
72128500 Turnip greens, canned, low sodium, cooked, NS as to fat added in cooking
72128520 Turnip greens, canned, low sodium, cooked, fat added in cooking
72201200 Broccoli, cooked, NS as to form, NS as to fat added in cooking
72201201 Broccoli, cooked, from fresh, NS as to fat added in cooking
72201202 Broccoli, cooked, from frozen, NS as to fat added in cooking
72201220 Broccoli, cooked, NS as to form, fat added in cooking
72201221 Broccoli, cooked, from fresh, fat added in cooking
72201222 Broccoli, cooked, from frozen, fat added in cooking
72202010 Broccoli casserole (broccoli, noodles, and cream sauce)
72202020 Broccoli casserole (broccoli, rice, cheese, and mushroom sauce)
73102200 Carrots, cooked, NS as to form, NS as to fat added in cooking
73102201 Carrots, cooked, from fresh, NS as to fat added in cooking
73102202 Carrots, cooked, from frozen, NS as to fat added in cooking
73102203 Carrots, cooked, from canned, NS as to fat added in cooking
73102220 Carrots, cooked, NS as to form, fat added in cooking
73102221 Carrots, cooked, from fresh, fat added in cooking
73102222 Carrots, cooked, from frozen, fat added in cooking
73102223 Carrots, cooked, from canned, fat added in cooking
73111200 Peas and carrots, cooked, NS as to form, NS as to fat added in cooking
73111201 Peas and carrots, cooked, from fresh, NS as to fat added in cooking
73111202 Peas and carrots, cooked, from frozen, NS as to fat added in cooking
73111203 Peas and carrots, cooked, from canned, NS as to fat added in cooking
73111220 Peas and carrots, cooked, NS as to form, fat added in cooking
73111221 Peas and carrots, cooked, from fresh, fat added in cooking
73111222 Peas and carrots, cooked, from frozen, fat added in cooking
73111223 Peas and carrots, cooked, from canned, fat added in cooking
73211110 Sweetpotato and pumpkin casserole, Puerto Rican style
73301000 Squash, winter type, mashed, NS as to fat or sugar added in cooking
73301020 Squash, winter type, mashed, fat added in cooking, no sugar added in cooking
73301030 Squash, winter type, mashed, fat and sugar added in cooking

73303000 Squash, winter type, baked, NS as to fat or sugar added in cooking
73303020 Squash, winter type, baked, fat added in cooking, no sugar added in cooking
73303030 Squash, winter type, baked, fat and sugar added in cooking
73401000 Sweetpotato, NFS
73402000 Sweetpotato, baked, peel eaten, NS as to fat added in cooking
73402020 Sweetpotato, baked, peel eaten, fat added in cooking
73403000 Sweetpotato, baked, peel not eaten, NS as to fat added in cooking
73403020 Sweetpotato, baked, peel not eaten, fat added in cooking
73405000 Sweetpotato, boiled, without peel, NS as to fat added in cooking
73405020 Sweetpotato, boiled, without peel, fat added in cooking
73405100 Sweetpotato, boiled, with peel, NS as to fat added in cooking
73405120 Sweetpotato, boiled, with peel, fat added in cooking
73406000 Sweetpotato, candied
73407030 Sweetpotato, canned in syrup, with fat added in cooking
73409000 Sweetpotato, casserole or mashed
74204011 Tomatoes, from fresh, stewed
74504000 Tomato and okra, cooked, NS as to fat added in cooking
74504020 Tomato and okra, cooked, fat added in cooking
74505000 Tomato with corn and okra, cooked, NS as to fat added in cooking
74505020 Tomato with corn and okra, cooked, fat added in cooking
75200120 Vegetables, NS as to type, cooked, fat added in cooking
75201000 Artichoke, globe (French), cooked, NS as to form, NS as to fat added in cooking
75201001 Artichoke, globe (French), cooked, from fresh, NS as to fat added in cooking
75201002 Artichoke, globe (French), cooked, from frozen, NS as to fat added in cooking
75201003 Artichoke, globe (French), cooked, from canned, NS as to fat added in cooking
75201020 Artichoke, globe (French), cooked, NS as to form, fat added in cooking
75201021 Artichoke, globe (French), cooked, from fresh, fat added in cooking
75201022 Artichoke, globe (French), cooked, from frozen, fat added in cooking
75201023 Artichoke, globe (French), cooked, from canned, fat added in cooking
75202000 Asparagus, cooked, NS as to form, NS as to fat added in cooking
75202001 Asparagus, cooked, from fresh, NS as to fat added in cooking
75202002 Asparagus, cooked, from frozen, NS as to fat added in cooking
75202020 Asparagus, cooked, NS as to form, fat added in cooking
75202021 Asparagus, cooked, from fresh, fat added in cooking
75202022 Asparagus, cooked, from frozen, fat added in cooking
75203020 Bamboo shoots, cooked, fat added in cooking
75204000 Beans, lima, immature, cooked, NS as to form, NS as to fat added in cooking
75204001 Beans, lima, immature, cooked, from fresh, NS as to fat added in cooking
75204002 Beans, lima, immature, cooked, from frozen, NS as to fat added in cooking
75204003 Beans, lima, immature, cooked, from canned, NS as to fat added in cooking
75204020 Beans, lima, immature, cooked, NS as to form, fat added in cooking
75204021 Beans, lima, immature, cooked, from fresh, fat added in cooking
75204022 Beans, lima, immature, cooked, from frozen, fat added in cooking
75204023 Beans, lima, immature, cooked, from canned, fat added in cooking
75204980 Beans, string, cooked, NS as to form, NS as to color, fat added in cooking
75204981 Beans, string, cooked, from fresh, NS as to color, fat added in cooking
75204982 Beans, string, cooked, from frozen, NS as to color, fat added in cooking
75204983 Beans, string, cooked, from canned, NS as to color, fat added in cooking
75205000 Beans, string, cooked, NS as to form, NS as to color, NS as to fat added in cooking
75205001 Beans, string, cooked, from fresh, NS as to color, NS as to fat added in cooking
75205002 Beans, string, cooked, from frozen, NS as to color, NS as to fat added in cooking
75205003 Beans, string, cooked, from canned, NS as to color, NS as to fat added in cooking
75205010 Beans, string, green, cooked, NS as to form, NS as to fat added in cooking
75205011 Beans, string, green, cooked, from fresh, NS as to fat added in cooking
75205012 Beans, string, green, cooked, from frozen, NS as to fat added in cooking

75205013 Beans, string, green, cooked, from canned, NS as to fat added in cooking
 75205030 Beans, string, green, cooked, NS as to form, fat added in cooking
 75205031 Beans, string, green, cooked, from fresh, fat added in cooking
 75205032 Beans, string, green, cooked, from frozen, fat added in cooking
 75205033 Beans, string, green, cooked, from canned, fat added in cooking
 75205110 Beans, string, green, canned, low sodium, NS as to fat added in cooking
 75205130 Beans, string, green, canned, low sodium, fat added in cooking
 75206000 Beans, string, yellow, cooked, NS as to form, NS as to fat added in cooking
 75206001 Beans, string, yellow, cooked, from fresh, NS as to fat added in cooking
 75206002 Beans, string, yellow, cooked, from frozen, NS as to fat added in cooking
 75206003 Beans, string, yellow, cooked, from canned, NS as to fat added in cooking
 75206020 Beans, string, yellow, cooked, NS as to form, fat added in cooking
 75206021 Beans, string, yellow, cooked, from fresh, fat added in cooking
 75206022 Beans, string, yellow, cooked, from frozen, fat added in cooking
 75206023 Beans, string, yellow, cooked, from canned, fat added in cooking
 75207000 Bean sprouts, cooked, NS as to form, NS as to fat added in cooking
 75207001 Bean sprouts, cooked, from fresh, NS as to fat added in cooking
 75207003 Bean sprouts, cooked, from canned, NS as to fat added in cooking
 75207020 Bean sprouts, cooked, NS as to form, fat added in cooking
 75207021 Bean sprouts, cooked, from fresh, fat added in cooking
 75207023 Bean sprouts, cooked, from canned, fat added in cooking
 75208000 Beets, cooked, NS as to form, NS as to fat added in cooking
 75208001 Beets, cooked, from fresh, NS as to fat added in cooking
 75208002 Beets, cooked, from frozen, NS as to fat added in cooking
 75208003 Beets, cooked, from canned, NS as to fat added in cooking
 75208020 Beets, cooked, NS as to form, fat added in cooking
 75208021 Beets, cooked, from fresh, fat added in cooking
 75208022 Beets, cooked, from frozen, fat added in cooking
 75208023 Beets, cooked, from canned, fat added in cooking
 75208290 Bitter melon, cooked, NS as to fat added in cooking
 75208310 Bitter melon, cooked, fat added in cooking
 75208700 Broccoli, cooked, NS as to fat added in cooking
 75208720 Broccoli, cooked, fat added in cooking
 75209000 Brussels sprouts, cooked, NS as to form, NS as to fat added in cooking
 75209001 Brussels sprouts, cooked, from fresh, NS as to fat added in cooking
 75209002 Brussels sprouts, cooked, from frozen, NS as to fat added in cooking
 75209020 Brussels sprouts, cooked, NS as to form, fat added in cooking
 75209021 Brussels sprouts, cooked, from fresh, fat added in cooking
 75209022 Brussels sprouts, cooked, from frozen, fat added in cooking
 75210000 Cabbage, Chinese, cooked, NS as to fat added in cooking
 75210020 Cabbage, Chinese, cooked, fat added in cooking
 75211010 Cabbage, green, cooked, NS as to fat added in cooking
 75211030 Cabbage, green, cooked, fat added in cooking
 75212000 Cabbage, red, cooked, NS as to fat added in cooking
 75212020 Cabbage, red, cooked, fat added in cooking
 75213020 Cabbage, savoy, cooked, fat added in cooking
 75213100 Cactus, cooked, NS as to fat added in cooking
 75213120 Cactus, cooked, fat added in cooking
 75214000 Cauliflower, cooked, NS as to form, NS as to fat added in cooking
 75214001 Cauliflower, cooked, from fresh, NS as to fat added in cooking
 75214002 Cauliflower, cooked, from frozen, NS as to fat added in cooking
 75214003 Cauliflower, cooked, from canned, NS as to fat added in cooking
 75214020 Cauliflower, cooked, NS as to form, fat added in cooking
 75214021 Cauliflower, cooked, from fresh, fat added in cooking
 75214022 Cauliflower, cooked, from frozen, fat added in cooking

75214023 Cauliflower, cooked, from canned, fat added in cooking
 75215000 Celery, cooked, NS as to fat added in cooking
 75215020 Celery, cooked, fat added in cooking
 75216000 Corn, cooked, NS as to form, NS as to color, NS as to fat added in cooking
 75216001 Corn, cooked, from fresh, NS as to color, NS as to fat added in cooking
 75216002 Corn, cooked, from frozen, NS as to color, NS as to fat added in cooking
 75216003 Corn, cooked, from canned, NS as to color, NS as to fat added in cooking
 75216020 Corn, cooked, NS as to form, NS as to color, fat added in cooking
 75216021 Corn, cooked, from fresh, NS as to color, fat added in cooking
 75216022 Corn, cooked, from frozen, NS as to color, fat added in cooking
 75216023 Corn, cooked, from canned, NS as to color, fat added in cooking
 75216100 Corn, yellow, cooked, NS as to form, NS as to fat added in cooking
 75216101 Corn, yellow, cooked, from fresh, NS as to fat added in cooking
 75216102 Corn, yellow, cooked, from frozen, NS as to fat added in cooking
 75216103 Corn, yellow, cooked, from canned, NS as to fat added in cooking
 75216120 Corn, yellow, cooked, NS as to form, fat added in cooking
 75216121 Corn, yellow, cooked, from fresh, fat added in cooking
 75216122 Corn, yellow, cooked, from frozen, fat added in cooking
 75216123 Corn, yellow, cooked, from canned, fat added in cooking
 75216160 Corn, yellow and white, cooked, NS as to form, NS as to fat added in cooking
 75216161 Corn, yellow and white, cooked, from fresh, NS as to fat added in cooking
 75216162 Corn, yellow and white, cooked, from frozen, NS as to fat added in cooking
 75216163 Corn, yellow and white, cooked, from canned, NS as to fat added in cooking
 75216180 Corn, yellow and white, cooked, NS as to form, fat added in cooking
 75216181 Corn, yellow and white, cooked, from fresh, fat added in cooking
 75216182 Corn, yellow and white, cooked, from frozen, fat added in cooking
 75216183 Corn, yellow and white, cooked, from canned, fat added in cooking
 75216200 Corn, white, cooked, NS as to form, NS as to fat added in cooking
 75216201 Corn, white, cooked, from fresh, NS as to fat added in cooking
 75216202 Corn, white, cooked, from frozen, NS as to fat added in cooking
 75216203 Corn, white, cooked, from canned, NS as to fat added in cooking
 75216220 Corn, white, cooked, NS as to form, fat added in cooking
 75216221 Corn, white, cooked, from fresh, fat added in cooking
 75216222 Corn, white, cooked, from frozen, fat added in cooking
 75216223 Corn, white, cooked, from canned, fat added in cooking
 75216300 Corn, yellow, canned, low sodium, NS as to fat added in cooking
 75216320 Corn, yellow, canned, low sodium, fat added in cooking
 75216700 Cucumber, cooked, NS as to fat added in cooking
 75216720 Cucumber, cooked, fat added in cooking
 75217000 Eggplant, cooked, NS as to fat added in cooking
 75217020 Eggplant, cooked, fat added in cooking
 75218400 Leek, cooked, NS as to fat added in cooking
 75219000 Mushrooms, cooked, NS as to form, NS as to fat added in cooking
 75219001 Mushrooms, cooked, from fresh, NS as to fat added in cooking
 75219002 Mushrooms, cooked, from frozen, NS as to fat added in cooking
 75219003 Mushrooms, cooked, from canned, NS as to fat added in cooking
 75219020 Mushrooms, cooked, NS as to form, fat added in cooking
 75219021 Mushrooms, cooked, from fresh, fat added in cooking
 75219022 Mushrooms, cooked, from frozen, fat added in cooking
 75219023 Mushrooms, cooked, from canned, fat added in cooking
 75220000 Okra, cooked, NS as to form, NS as to fat added in cooking
 75220001 Okra, cooked, from fresh, NS as to fat added in cooking
 75220002 Okra, cooked, from frozen, NS as to fat added in cooking
 75220003 Okra, cooked, from canned, NS as to fat added in cooking
 75220020 Okra, cooked, NS as to form, fat added in cooking

75220021 Okra, cooked, from fresh, fat added in cooking
 75220022 Okra, cooked, from frozen, fat added in cooking
 75220023 Okra, cooked, from canned, fat added in cooking
 75221000 Onions, mature, cooked, NS as to form, NS as to fat added in cooking
 75221001 Onions, mature, cooked, from fresh, NS as to fat added in cooking
 75221002 Onions, mature, cooked, from frozen, NS as to fat added in cooking
 75221020 Onions, mature, cooked or sauteed, NS as to form, fat added in cooking
 75221021 Onions, mature, cooked or sauteed, from fresh, fat added in cooking
 75221022 Onions, mature, cooked or sauteed, from frozen, fat added in cooking
 75221040 Onion, young green, cooked, NS as to form, NS as to fat added in cooking
 75221041 Onion, young green, cooked, from fresh, NS as to fat added in cooking
 75221060 Onion, young green, cooked, NS as to form, fat added in cooking
 75221061 Onion, young green, cooked, from fresh, fat added in cooking
 75222000 Parsnips, cooked, NS as to fat added in cooking
 75222020 Parsnips, cooked, fat added in cooking
 75223000 Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, NS as to form, NS as to fat added in cooking
 75223001 Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from fresh, NS as to fat added in cooking
 75223002 Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from frozen, NS as to fat added in cooking
 75223003 Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from canned, NS as to fat added in cooking
 75223020 Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, NS as to form, fat added in cooking
 75223021 Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from fresh, fat added in cooking
 75223022 Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from frozen, fat added in cooking
 75223023 Peas, cowpeas, field peas, or blackeye peas (not dried), cooked, from canned, fat added in cooking
 75224010 Peas, green, cooked, NS as to form, NS as to fat added in cooking
 75224011 Peas, green, cooked, from fresh, NS as to fat added in cooking
 75224012 Peas, green, cooked, from frozen, NS as to fat added in cooking
 75224013 Peas, green, cooked, from canned, NS as to fat added in cooking
 75224030 Peas, green, cooked, NS as to form, fat added in cooking
 75224031 Peas, green, cooked, from fresh, fat added in cooking
 75224032 Peas, green, cooked, from frozen, fat added in cooking
 75224033 Peas, green, cooked, from canned, fat added in cooking
 75226000 Peppers, green, cooked, NS as to fat added in cooking
 75226020 Peppers, green, cooked, fat added in cooking
 75226060 Peppers, red, cooked, fat added in cooking
 75227110 Radish, Japanese (daikon), cooked, fat added in cooking
 75228000 Rutabaga, cooked, NS as to fat added in cooking
 75228020 Rutabaga, cooked, fat added in cooking
 75231000 Snowpea (pea pod), cooked, NS as to form, NS as to fat added in cooking
 75231001 Snowpea (pea pod), cooked, from fresh, NS as to fat added in cooking
 75231002 Snowpea (pea pod), cooked, from frozen, NS as to fat added in cooking
 75231020 Snowpea (pea pod), cooked, NS as to form, fat added in cooking
 75231021 Snowpea (pea pod), cooked, from fresh, fat added in cooking
 75231022 Snowpea (pea pod), cooked, from frozen, fat added in cooking
 75233000 Squash, summer, cooked, NS as to form, NS as to fat added in cooking
 75233001 Squash, summer, cooked, from fresh, NS as to fat added in cooking
 75233002 Squash, summer, cooked, from frozen, NS as to fat added in cooking
 75233003 Squash, summer, cooked, from canned, NS as to fat added in cooking

75233020 Squash, summer, cooked, NS as to form, fat added in cooking
 75233021 Squash, summer, cooked, from fresh, fat added in cooking
 75233022 Squash, summer, cooked, from frozen, fat added in cooking
 75233023 Squash, summer, cooked, from canned, fat added in cooking
 75233200 Squash, spaghetti, cooked, NS as to fat added in cooking
 75233210 Squash, spaghetti, cooked, fat added in cooking
 75234000 Turnip, cooked, NS as to form, NS as to fat added in cooking
 75234001 Turnip, cooked, from fresh, NS as to fat added in cooking
 75234002 Turnip, cooked, from frozen, NS as to fat added in cooking
 75234003 Turnip, cooked, from canned, NS as to fat added in cooking
 75234020 Turnip, cooked, NS as to form, fat added in cooking
 75234021 Turnip, cooked, from fresh, fat added in cooking
 75234022 Turnip, cooked, from frozen, fat added in cooking
 75234023 Turnip, cooked, from canned, fat added in cooking
 75301100 Beans, lima and corn (succotash), cooked, NS as to fat added in cooking
 75301120 Beans, lima and corn (succotash), cooked, fat added in cooking
 75302200 Beans, green string, with onions, NS as to fat added in cooking
 75302210 Beans, green string, with onions, fat added in cooking
 75307000 Green peppers and onions, cooked, fat added in cooking
 75311000 Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, NS as to form, NS as to fat added in cooking
 75311002 Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, from frozen, NS as to fat added in cooking
 75311003 Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, from canned, NS as to fat added in cooking
 75311020 Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, NS as to form, fat added in cooking
 75311022 Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, from frozen, fat added in cooking
 75311023 Mixed vegetables (corn, lima beans, peas, green beans, and carrots), cooked, from canned, fat added in cooking
 75311100 Mixed vegetables (corn, lima beans, peas, green beans, and carrots), canned, low sodium, NS as to fat added in cooking
 75311120 Mixed vegetables (corn, lima beans, peas, green beans, and carrots), canned, low sodium, fat added in cooking
 75315000 Peas and corn, cooked, NS as to fat added in cooking
 75315020 Peas and corn, cooked, fat added in cooking
 75315100 Peas and onions, cooked, NS as to fat added in cooking
 75315120 Peas and onions, cooked, fat added in cooking
 75316020 Squash, summer, and onions, cooked, fat added in cooking
 75317000 Vegetables, stew type (including potatoes, carrots, onions, celery) cooked, NS as to fat added in cooking
 75317010 Vegetables, stew type (including potatoes, carrots, onions, celery) cooked, fat added in cooking
 75340000 Vegetable combinations, Oriental style, (broccoli, green pepper, water chestnut, etc) cooked, NS as to fat added in cooking
 75340020 Vegetable combinations, Oriental style, (broccoli, green pepper, water chestnuts, etc), cooked, fat added in cooking
 75340100 Vegetable combinations (broccoli, carrots, corn, cauliflower, etc.), cooked, NS as to fat added in cooking
 75340120 Vegetable combinations (broccoli, carrots, corn, cauliflower, etc.), cooked, fat added in cooking
 75340130 Vegetable combination (green beans, broccoli, onions, mushrooms), cooked, NS as to fat added in cooking

75340150	Vegetable combination (green beans, broccoli, onions, mushrooms), cooked, fat added in cooking
75405010	Beets with Harvard sauce
75411010	Corn, scalloped or pudding
75418020	Squash, summer, casserole with tomato and cheese
75418220	Creamed christophine, Puerto Rican style (Chayote a la crema)
75460800	Vegetable combinations (including carrots, broccoli, and/or dark-green leafy), cooked, with butter sauce and pasta
75460810	Vegetable combinations (excluding carrots, broccoli, and dark-green leafy), cooked, with butter sauce and pasta
75602010	Cauliflower soup, cream of, prepared with milk
75604510	Cucumber soup, cream of, prepared with milk
75649110	Vegetable soup, home recipe
75649150	Vegetable noodle soup, home recipe
77316010	Stuffed cabbage, with meat, Puerto Rican style (Repollo relleno con carne)
91735000	Pralines

Mixtures containing margarine

Adjusted for margarine content of 0.09 to <2%

[Rice protein concentrate] = 0.016 to <0.3%

13210110	Pudding, bread
13210750	Pudding, pumpkin
27135030	Veal with cream sauce (mixture)
27212000	Beef and noodles, no sauce (mixture)
27213000	Beef and rice, no sauce (mixture)
27213400	Beef and rice with (mushroom) soup (mixture)
27214300	Beef wellington
27220020	Ham and noodles with cream or white sauce (mixture)
27220030	Ham and rice with (mushroom) soup (mixture)
27220210	Ham and noodles, no sauce (mixture)
27220310	Ham or pork and rice, no sauce (mixture)
27242350	Chicken or turkey tetrazzini
27250210	Clam cake or patty
27250220	Oyster fritter
27250710	Tuna and rice with (mushroom) soup (mixture)
27250810	Fish and rice with tomato-based sauce
27250830	Fish and rice with (mushroom) soup
27250900	Fish and noodles with (mushroom) soup
27250950	Shellfish mixture and noodles, tomato-based sauce (mixture)
27311510	Shepherd's pie with beef
27320040	Pork, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy), no sauce (mixture)
27320100	Pork, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-based sauce (mixture)
27320110	Pork, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy), tomato-based sauce (mixture)
27320120	Sausage, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27320130	Sausage, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27320140	Pork, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27320150	Pork, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)

27320210	Pork, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy), no sauce (mixture)
27320340	Pork, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-based sauce (mixture)
27320350	Pork, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), tomato-based sauce (mixture)
27330010	Shepherd's pie with lamb
27330050	Lamb or mutton, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27330060	Lamb or mutton, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-based sauce (mixture)
27343950	Chicken or turkey, noodles, and vegetables (including carrots, broccoli, and/or dark-green leafy), cheese sauce (mixture)
27343960	Chicken or turkey, noodles, and vegetables (excluding carrots, broccoli, and dark-green leafy), cheese sauce (mixture)
27345440	Chicken or turkey, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), cheese sauce (mixture)
27345450	Chicken or turkey, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), cheese sauce (mixture)
27347100	Chicken or turkey pot pie
27347200	Chicken or turkey, stuffing, and vegetables (including carrots, broccoli, and/or dark-green leafy), no sauce (mixture)
27347210	Chicken or turkey, stuffing, and vegetables (excluding carrots, broccoli, and dark green leafy), no sauce (mixture)
27347220	Chicken or turkey, stuffing, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27347230	Chicken or turkey, stuffing, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27410210	Beef and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), no sauce (mixture)
27410220	Beef and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), no sauce (mixture)
27443150	Chicken or turkey divan
27446400	Chicken or turkey and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), cheese sauce (mixture)
27446410	Chicken or turkey and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), cheese sauce (mixture)
27450650	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), (mushroom) soup (mixture)
27450660	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), (mushroom) soup (mixture)
27450700	Fish and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), tomato-based sauce (mixture)
27450710	Fish and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), tomato-based sauce (mixture)
28110300	Salisbury steak dinner, NFS (frozen meal)
28110380	Salisbury steak with gravy, macaroni and cheese (frozen meal)
28110660	Meatballs, Swedish, in gravy, with noodles (diet frozen meal)
28113110	Salisbury steak, baked, with tomato sauce, vegetable (diet frozen meal)
28141010	Chicken, fried, with potatoes, vegetable, dessert (frozen meal, large meat portion)
28143110	Chicken cacciatore with noodles (diet frozen meal)
28145610	Turkey with gravy, dressing, potatoes, vegetable, dessert (frozen meal, large meat portion)
28145710	Turkey tetrazzini (frozen meal)
28152030	Seafood newburg with rice, vegetable (frozen meal)

28152050 Shrimp with rice, vegetable (frozen meal)
 28160310 Meat loaf in tomato sauce with potatoes, vegetable (frozen meal)
 28160710 Stuffed cabbage, with meat and tomato sauce (diet frozen meal)
 28340590 Chicken corn soup, home recipe
 32105085 Egg omelet or scrambled egg, with cheese, ham or bacon, and tomatoes
 53115000 Cake, marble, NS as to icing
 53115200 Cake, marble, with icing
 53116560 Cake, raisin-nut, with icing
 53117000 Cake, spice, NS as to icing
 53117200 Cake, spice, with icing
 53118310 Cake, sponge, chocolate, with icing
 53244010 Cookie, butter or sugar, with chocolate icing or filling
 53301080 Pie, apple, fried pie
 53301500 Pie, apple, one crust
 53302080 Pie, apricot, fried pie
 53303000 Pie, blackberry, two crust
 53303070 Pie, blackberry, individual size or tart
 53303500 Pie, berry, not blackberry, blueberry, boysenberry, huckleberry, raspberry, or strawberry;
 two crust
 53303570 Pie, berry, not blackberry, blueberry, boysenberry, huckleberry, raspberry, or strawberry,
 individual size or tart
 53304070 Pie, blueberry, individual size or tart
 53305010 Pie, cherry, one crust
 53305070 Pie, cherry, individual size or tart
 53307080 Pie, peach, fried pie
 53310050 Pie, raspberry, two crust
 53371000 Pie, chiffon, chocolate
 53386250 Pie, pudding, chocolate, with chocolate coating, individual size
 53386500 Pie, pudding, flavors other than chocolate, with chocolate coating, individual size
 53410100 Cobbler, apple
 53410500 Cobbler, cherry
 53415200 Fritter, banana
 53415220 Fritter, berry
 53430100 Crepe, dessert type, chocolate-filled
 53450000 Turnover or dumpling, apple
 53450500 Turnover or dumpling, cherry
 53450800 Turnover or dumpling, lemon
 53451500 Turnover, guava
 53520150 Doughnut, cake type, chocolate covered, dipped in peanuts
 53520160 Doughnut, cake type, chocolate, with chocolate icing
 53521100 Doughnut, raised or yeast, chocolate, with chocolate icing
 53521130 Doughnut, raised or yeast, chocolate covered
 53521300 Doughnut, wheat, chocolate covered
 56205320 Rice, white and wild, cooked, fat added in cooking
 56205330 Rice, white and wild, cooked, NS as to fat added in cooking
 56205340 Rice, brown and wild, cooked, fat added in cooking
 56205350 Rice, brown and wild, cooked, NS as to fat added in cooking
 58115150 Tamal in a leaf, Puerto Rican style (Tamales en hoja)
 58120110 Crepes, filled with meat, fish, or poultry, with sauce
 58131110 Ravioli, NS as to filling, with tomato sauce
 58131320 Ravioli, meat-filled, with tomato sauce or meat sauce
 58131520 Ravioli, cheese-filled, with tomato sauce
 58131530 Ravioli, cheese-filled, with meat sauce
 58134610 Tortellini, meat-filled, with tomato sauce
 58134620 Tortellini, cheese-filled, meatless, with tomato sauce

58134710 Tortellini, spinach-filled, with tomato sauce
 58145110 Macaroni or noodles with cheese
 58145113 Macaroni or noodles with cheese, canned
 58145170 Macaroni and cheese with egg
 58146120 Pasta with cheese and meat sauce
 58155320 Seafood paella, Puerto Rican style (Paella a la marinera)
 58157110 Spicy rice pudding, Puerto Rican style (arroz con dulce, arroz con especie)
 58161300 White rice with tomato sauce
 58161310 Rice, brown, with tomato sauce
 58162130 Stuffed tomato, with rice and meat
 58162140 Stuffed tomato, with rice, meatless
 58301110 Vegetable lasagna (frozen meal)
 58304010 Spaghetti and meatballs dinner, NFS (frozen meal)
 63113030 Cherry pie filling
 71403500 White potato, home fries, with green or red peppers and onions
 71507100 White potato, stuffed, baked, peel not eaten, stuffed with chicken, broccoli and cheese sauce
 71508000 White potato, stuffed, baked, peel eaten, NS as to topping
 71508010 White potato, stuffed, baked, peel eaten, stuffed with sour cream
 71508020 White potato, stuffed, baked, peel eaten, stuffed with cheese
 71508030 White potato, stuffed, baked, peel eaten, stuffed with chili
 71508040 White potato, stuffed, baked, peel eaten, stuffed with broccoli and cheese sauce
 71508050 White potato, stuffed, baked, peel eaten, stuffed with meat in cream sauce
 71508060 White potato, stuffed, baked, peel eaten, stuffed with bacon and cheese
 71508100 White potato, stuffed, baked, peel eaten, stuffed with chicken, broccoli and cheese sauce
 71802010 Macaroni and potato soup
 71803010 Potato chowder
 73103000 Carrots, canned, low sodium, NS as to fat added in cooking
 73103020 Carrots, canned, low sodium, fat added in cooking
 73111250 Peas and carrots, canned, low sodium, NS as to fat added in cooking
 73111260 Peas and carrots, canned, low sodium, fat added in cooking
 73201000 Pumpkin, cooked, NS as to form, NS as to fat added in cooking
 73201001 Pumpkin, cooked, from fresh, NS as to fat added in cooking
 73201002 Pumpkin, cooked, from frozen, NS as to fat added in cooking
 73201003 Pumpkin, cooked, from canned, NS as to fat added in cooking
 73201020 Pumpkin, cooked, NS as to form, fat added in cooking
 73201021 Pumpkin, cooked, from fresh, fat added in cooking
 73201022 Pumpkin, cooked, from frozen, fat added in cooking
 73201023 Pumpkin, cooked, from canned, fat added in cooking
 74504100 Tomato and onion, cooked, NS as to fat added in cooking
 74504120 Tomato and onion, cooked, fat added in cooking
 75202003 Asparagus, cooked, from canned, NS as to fat added in cooking
 75202023 Asparagus, cooked, from canned, fat added in cooking
 75204100 Beans, lima, immature, canned, low sodium, NS as to fat added in cooking
 75204120 Beans, lima, immature, canned, low sodium, fat added in cooking
 75208100 Beets, canned, low sodium, NS as to fat added in cooking
 75208120 Beets, canned, low sodium, fat added in cooking
 75216190 Corn, yellow, NS as to form, cream style, fat added in cooking
 75216193 Corn, yellow, from canned, cream style, fat added in cooking
 75224110 Peas, green, canned, low sodium, NS as to fat added in cooking
 75224130 Peas, green, canned, low sodium, fat added in cooking
 75230020 Sauerkraut, cooked, fat added in cooking
 75410530 Chiles rellenos, filled with meat and cheese (stuffed chili peppers)
 75411020 Corn fritter
 77316600 Eggplant and meat casserole

Salad Dressings

[Rice protein concentrate] = 8%

83100100	Salad dressing, NFS, for salads
83100200	Salad dressing, NFS, for sandwiches
83101000	Blue or roquefort cheese dressing
83101500	Bacon dressing (hot)
83101600	Bacon and tomato dressing
83102000	Caesar dressing
83103000	Coleslaw dressing
83104000	French or Catalina dressing
83105500	Honey mustard dressing
83106000	Italian dressing, made with vinegar and oil
83107000	Mayonnaise, regular
83108000	Mayonnaise, imitation
83109000	Russian dressing
83110000	Mayonnaise-type salad dressing
83112000	Avocado dressing
83112500	Creamy dressing
83112950	Poppy seed dressing
83112990	Sesame dressing
83114000	Thousand Island dressing
83115000	Yogurt dressing
83200100	Salad dressing, light, NFS
83201000	Blue or roquefort cheese dressing, light
83201400	Coleslaw dressing, light
83202020	French or Catalina dressing, light
83203000	Caesar dressing, light
83204000	Mayonnaise, light
83204030	Mayonnaise, reduced fat, with olive oil
83204050	Mayonnaise-type salad dressing, light
83204500	Honey mustard dressing, light
83205450	Italian dressing, light
83206000	Russian dressing, light
83206500	Sesame dressing, light
83207000	Thousand Island dressing, light
83208500	Korean dressing or marinade
83210100	Creamy dressing, light
83300100	Blue or roquefort cheese dressing, fat free
83300200	Caesar dressing, fat free
83300300	Creamy dressing, fat free
83300400	French or Catalina dressing, fat free
83300500	Honey mustard dressing, fat free
83300600	Italian dressing, fat free
83300700	Mayonnaise, fat free
83300800	Russian dressing, fat free
83300900	Salad dressing, fat free, NFS
83301000	Thousand Island dressing, fat free

Mixtures containing salad dressings

Adjusted for salad dressing content of 20 to 91%

[Rice protein concentrate] = 1.6 to 7.3%

12350100	Spinach dip, sour cream base
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32103000	Egg salad
32203010	Egg salad sandwich
53104920	Cake, chocolate, made with mayonnaise or salad dressing, without icing or filling
73101110	Carrots, raw, salad
75140500	Broccoli salad with cauliflower, cheese, bacon bits, and dressing
75145000	Seven-layer salad (lettuce salad made with a combination of onion, celery, green pepper, peas, mayonnaise, cheese, eggs, and/or bacon)
75416500	Pea salad
81302050	Tartar sauce
81312000	Tartar sauce, low calorie

Mixtures containing salad dressings

Adjusted for salad dressing content of 1.6 to 18.8%

[Rice protein concentrate] = 0.13 to 1.5%

14620100	Dip, cream cheese base
14620120	Shrimp dip, cream cheese base
27416250	Beef salad
27420020	Ham or pork salad
27446200	Chicken or turkey salad
27446220	Chicken or turkey salad with egg
27450010	Crab salad
27450020	Lobster salad
27450030	Salmon salad
27450060	Tuna salad
27450070	Shrimp salad
27450090	Tuna salad with cheese
27450100	Tuna salad with egg
27450130	Crab salad made with imitation crab
27510220	Cheeseburger, with mayonnaise or salad dressing, on bun
27510230	Cheeseburger, with mayonnaise or salad dressing and tomatoes, on bun
27510250	Cheeseburger, 1/4 lb meat, with mayonnaise or salad dressing, on bun
27510280	Double cheeseburger (2 patties), with mayonnaise or salad dressing, on bun
27510300	Double cheeseburger (2 patties), with mayonnaise or salad dressing, on double-decker bun
27510340	Double cheeseburger (2 patties), with mayonnaise or salad dressing and tomatoes, on bun
27510350	Cheeseburger, 1/4 lb meat, with mayonnaise or salad dressing and tomatoes, on bun
27510355	Cheeseburger, 1/3 lb meat, with mayonnaise or salad dressing, tomato and/or catsup on bun
27510359	Cheeseburger, 1/3 lb meat, with mayonnaise or salad dressing, and mushrooms, on bun
27510360	Cheeseburger with mayonnaise or salad dressing, tomato and bacon, on bun
27510370	Double cheeseburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dressing, on bun
27510380	Triple cheeseburger (3 patties, 1/4 lb meat each), with mayonnaise or salad dressing and tomatoes, on bun
27510425	Double bacon cheeseburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dressing, on bun
27510430	Double bacon cheeseburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dressing and tomatoes, on bun
27510435	Double bacon cheeseburger (2 patties, 1/3 lb meat each), with mayonnaise or salad dressing, on bun
27510520	Hamburger, with mayonnaise or salad dressing and tomatoes, on bun
27510550	Double hamburger (2 patties), with mayonnaise or salad dressing and tomatoes, on double-decker bun

27510560 Hamburger, 1/4 lb meat, with mayonnaise or salad dressing and tomatoes, on bun
 27510570 Hamburger, 2-1/2 oz meat, with mayonnaise or salad dressing and tomatoes, on bun
 27510590 Hamburger, with mayonnaise or salad dressing, on bun
 27510630 Hamburger, 1/4 lb meat, with mayonnaise or salad dressing, on bun
 27510660 Double hamburger (2 patties), with mayonnaise or salad dressing, on bun
 27510670 Double hamburger (2 patties), with mayonnaise or salad dressing and tomatoes, on bun
 27510690 Double hamburger (2 patties, 1/4 lb meat each), with mayonnaise or salad dressing and tomatoes and/or catsup, on double-decker bun
 27510950 Reuben sandwich (corned beef sandwich with sauerkraut and cheese), with spread
 27513040 Roast beef submarine sandwich, on roll, with lettuce, tomato and spread
 27515150 Steak patty (breaded, fried) sandwich, with mayonnaise or salad dressing, lettuce, and tomato, on bun
 27516010 Gyro sandwich (pita bread, beef, lamb, onion, condiments), with tomato and spread
 27520110 Bacon sandwich, with spread
 27520120 Bacon and cheese sandwich, with spread
 27520130 Bacon, chicken, and tomato club sandwich, with lettuce and spread
 27520150 Bacon, lettuce, and tomato sandwich with spread
 27520160 Bacon, chicken, and tomato club sandwich, on multigrain roll with lettuce and spread
 27520300 Ham sandwich, with spread
 27520340 Ham salad sandwich
 27520370 Hot ham and cheese sandwich, on bun
 27520390 Ham and cheese submarine sandwich, on multigrain roll, with lettuce, tomato and spread
 27520540 Ham and tomato club sandwich, with lettuce and spread
 27540110 Chicken sandwich, with spread
 27540120 Chicken salad or chicken spread sandwich
 27540150 Chicken fillet (breaded, fried) sandwich with lettuce, tomato and spread
 27540170 Chicken patty sandwich, miniature, with spread
 27540190 Chicken patty sandwich, with lettuce and spread
 27540230 Chicken patty sandwich with cheese, on wheat bun, with lettuce, tomato and spread
 27540240 Chicken fillet, (broiled), sandwich, on whole wheat roll, with lettuce, tomato and spread
 27540250 Chicken fillet, broiled, sandwich with cheese, on whole wheat roll, with lettuce, tomato and non-mayonnaise type spread
 27540260 Chicken fillet, broiled, sandwich, on oat bran bun, with lettuce, tomato, spread
 27540270 Chicken fillet, broiled, sandwich, with lettuce, tomato, and non-mayonnaise type spread
 27540280 Chicken fillet, broiled, sandwich with cheese, on bun, with lettuce, tomato and spread
 27540310 Turkey sandwich, with spread
 27540320 Turkey salad or turkey spread sandwich
 27540350 Turkey submarine sandwich, on roll, with cheese, lettuce, tomato and spread
 27550000 Fish sandwich, on bun, with spread
 27550510 Sardine sandwich, with lettuce and spread
 27550710 Tuna salad sandwich, with lettuce
 27550720 Tuna salad sandwich
 27560910 Submarine, cold cut sandwich, on bun, with lettuce
 27570310 Hors d'oeuvres, with spread
 32102000 Egg, deviled
 41203020 Kidney bean salad
 53104900 Cake, chocolate, made with mayonnaise or salad dressing, NS as to icing
 53104950 Cake, chocolate, made with mayonnaise or salad dressing, with icing, coating, or filling
 58134640 Tortellini, cheese-filled, meatless, with vinaigrette dressing
 58148110 Macaroni salad
 58148120 Macaroni salad with egg
 58148130 Macaroni salad with tuna
 58148140 Macaroni salad with crab meat
 58148150 Macaroni salad with shrimp
 58148160 Macaroni salad with tuna and egg

58148170	Macaroni salad with chicken
58148180	Macaroni salad with cheese
58148500	Pasta salad (macaroni or noodles, vegetables, dressing)
58148550	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing)
63401010	Apple salad with dressing
63401020	Apple and cabbage salad with dressing
63402950	Fruit salad (excluding citrus fruits) with salad dressing or mayonnaise
63403010	Fruit salad (including citrus fruits) with salad dressing or mayonnaise
63412010	Pear salad with dressing
63413010	Pineapple salad with dressing
71601010	Potato salad with egg
71603010	Potato salad
73101210	Carrots, raw, salad with apples
74701000	Tomato sandwich
75141000	Cabbage salad or coleslaw, with dressing
75141100	Cabbage salad or coleslaw with apples and/or raisins, with dressing
75141200	Cabbage salad or coleslaw with pineapple, with dressing
75141300	Cabbage, Chinese, salad, with dressing
75148000	Cobb salad with dressing
75302080	Bean salad, yellow and/or green string beans
75416600	Pea salad with cheese

Grain Products and Pastas

Health Bars and Grain-Based Bars Containing Fruit and Vegetable

[Rice protein concentrate] = 20%

53710400	Fiber One Chewy Bar
53710500	Kellogg's Nutri-Grain Cereal Bar
53710502	Kellogg's Nutri-Grain Yogurt Bar
53710504	Kellogg's Nutri-Grain Fruit and Nut Bar
53710600	Milk 'n Cereal bar
53710700	Kellogg's Special K bar
53710800	Kashi GOLEAN Chewy Bars
53710802	Kashi TLC Chewy Granola Bar
53710804	Kashi GOLEAN Crunchy Bars
53710806	Kashi TLC Crunchy Granola Bar
53710900	Nature Valley Chewy Trail Mix Granola Bar
53710902	Nature Valley Chewy Granola Bar with Yogurt Coating
53710904	Nature Valley Sweet and Salty Granola Bar
53710906	Nature Valley Crunchy Granola Bar
53711000	Quaker Chewy Granola Bar
53711002	Quaker Chewy 90 Calorie Granola Bar
53711004	Quaker Chewy 25% Less Sugar Granola Bar
53711006	Quaker Chewy Dipps Granola Bar
53711100	Quaker Granola Bites
53712000	Snack bar, oatmeal
53712100	Granola bar, NFS
53712200	Granola bar, lowfat, NFS
53712210	Granola bar, nonfat
53713000	Granola bar, reduced sugar, NFS
53713100	Granola bar, peanuts, oats, sugar, wheat germ
53714200	Granola bar, chocolate-coated, NFS
53714210	Granola bar, with coconut, chocolate-coated
53714220	Granola bar with nuts, chocolate-coated

53714230	Granola bar, oats, nuts, coated with non-chocolate coating
53714250	Granola bar, coated with non-chocolate coating
53714300	Granola bar, high fiber, coated with non-chocolate yogurt coating
53714400	Granola bar, with rice cereal
53714500	Breakfast bar, NFS
53714510	Breakfast bar, date, with yogurt coating
53714520	Breakfast bar, cereal crust with fruit filling, lowfat
53720100	Balance Original Bar
53720200	Clif Bar
53720300	PowerBar
53720400	Slim Fast Original Meal Bar
53720500	Snickers Marathon Protein bar
53720510	Snickers Marathon Energy bar
53720600	South Beach Living Meal Bar
53720610	South Beach Living High Protein Bar
53720700	Tiger's Milk bar
53720800	Zone Perfect Classic Crunch nutrition bar
53729000	Nutrition bar or meal replacement bar, NFS

Meat Products

Meat Patty with Soy Protein

[Rice protein concentrate] = 4.4%

21540100	Ground beef with textured vegetable protein, cooked
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Milk Products

Flavored Milk Drinks

[Rice protein concentrate] = 1.04%

11511000	Milk, chocolate, NFS
11511100	Milk, chocolate, whole milk-based
11511200	Milk, chocolate, reduced fat milk-based, 2% (formerly "lowfat")
11511300	Milk, chocolate, skim milk-based
11511400	Milk, chocolate, lowfat milk-based
11512000	Cocoa, hot chocolate, not from dry mix, made with whole milk
11512500	Hot chocolate, Puerto Rican style, made with whole milk
11512510	Hot chocolate, Puerto Rican style, made with low fat milk
11513000	Cocoa and sugar mixture, milk added, NS as to type of milk
11513100	Cocoa and sugar mixture, whole milk added
11513150	Cocoa and sugar mixture, reduced fat milk added
11513200	Cocoa and sugar mixture, lowfat milk added
11513300	Cocoa and sugar mixture, skim milk added
11513350	Cocoa and sugar mixture, reduced sugar, milk added, NS as to type of milk
11513355	Cocoa and sugar mixture, reduced sugar, whole milk added
11513360	Cocoa and sugar mixture, reduced sugar, reduced fat milk added
11513365	Cocoa and sugar mixture, reduced sugar, lowfat milk added
11513370	Cocoa and sugar mixture, reduced sugar, skim milk added
11513400	Chocolate syrup, milk added, NS as to type of milk
11513500	Chocolate syrup, whole milk added
11513550	Chocolate syrup, reduced fat milk added
11513600	Chocolate syrup, lowfat milk added
11513700	Chocolate syrup, skim milk added
11514100	Cocoa, sugar, and dry milk mixture, water added

11514300 Cocoa with nonfat dry milk and low calorie sweetener, mixture, water added
 11514500 Cocoa, whey, and low calorie sweetener, mixture, fortified, water added
 11515100 Cocoa and sugar mixture fortified with vitamins and minerals, milk added, NS as to type of milk, Puerto Rican style
 11516000 Cocoa, whey, and low-calorie sweetener mixture, lowfat milk added
 11518050 Milk beverage with nonfat dry milk and low calorie sweetener, water added, flavors other than chocolate
 11519000 Milk beverage, made with whole milk, flavors other than chocolate
 11519040 Milk, flavors other than chocolate, NFS
 11519050 Milk, flavors other than chocolate, whole milk-based
 11519105 Milk, flavors other than chocolate, reduced fat milk-based
 11519200 Milk, flavors other than chocolate, lowfat milk-based
 11519205 Milk, flavors other than chocolate, skim-milk based
 11520000 Milk, malted, unfortified, NS as to flavor, made with milk
 11521000 Milk, malted, unfortified, chocolate, made with milk
 11522000 Milk, malted, unfortified, natural flavor, made with milk
 11525000 Milk, malted, fortified, natural flavor, made with milk
 11526000 Milk, malted, fortified, chocolate, made with milk
 11527000 Milk, malted, fortified, NS as to flavor, made with milk
 11531000 Eggnog, made with whole milk
 11531500 Eggnog, made with 2% reduced fat milk (formerly eggnog, made with "2% lowfat" milk)
 11541000 Milk shake, NS as to flavor or type
 11541100 Milk shake, homemade or fountain-type, NS as to flavor
 11541110 Milk shake, homemade or fountain-type, chocolate
 11541120 Milk shake, homemade or fountain-type, flavors other than chocolate
 11541400 Milk shake with malt
 11541500 Milk shake, made with skim milk, chocolate
 11541510 Milk shake, made with skim milk, flavors other than chocolate
 11542000 Carry-out milk shake, NS as to flavor
 11542100 Carry-out milk shake, chocolate
 11542200 Carry-out milk shake, flavors other than chocolate
 11551050 Milk fruit drink
 11552200 Orange Julius
 11560000 Chocolate-flavored drink, whey- and milk-based
 11560020 Flavored milk drink, whey- and milk-based, flavors other than chocolate

Non-Reconstituted Flavored Milk Drinks

(Adjusted for not being reconstituted, 28 g of powder to 240 mL of water)

[Rice protein concentrate] = 9.95%

11830100 Cocoa (or chocolate) with dry milk and sugar, dry mix, not reconstituted
 11830110 Cocoa powder with nonfat dry milk and low calorie sweetener, dry mix, not reconstituted
 11830120 Cocoa, whey, and low calorie sweetener, fortified, dry mix, not reconstituted
 11830140 Chocolate, instant, dry mix, fortified with vitamins and minerals, not reconstituted, Puerto Rican style
 11830150 Cocoa powder, not reconstituted (no dry milk)
 11830160 Cocoa (or chocolate) flavored beverage powder with sugar, dry mix, not reconstituted
 11830165 Cocoa (or chocolate) flavored beverage powder with reduced sugar, dry mix, not reconstituted
 11830170 Cocoa (or chocolate) flavored beverage powder with low-calorie sweetener, dry mix, not reconstituted
 11830200 Milk, malted, dry mix, unfortified, not reconstituted, flavors other than chocolate
 11830210 Milk, malted, dry mix, fortified, not reconstituted, flavors other than chocolate
 11830250 Milk, malted, dry mix, unfortified, not reconstituted, chocolate
 11830260 Milk, malted, dry mix, fortified, not reconstituted, chocolate

- 11830400 Milk beverage, powder, dry mix, not reconstituted, flavors other than chocolate
- 11830450 Milk beverage with sugar, dry milk, and egg white powder, dry mix, not reconstituted
- 11830500 Milk beverage, powder, with nonfat dry milk and low calorie sweetener, dry mix, not reconstituted, chocolate
- 11830550 Milk beverage, powder, with nonfat dry milk and low calorie sweetener, dry mix, not reconstituted, flavors other than chocolate

Milk-Based Meal Replacements

[Rice protein concentrate] = 1.04%

- 95101000 Boost, nutritional drink, ready-to-drink
- 95101010 Boost Plus, nutritional drink, ready-to-drink
- 95102000 Carnation Instant Breakfast, nutritional drink, regular, ready-to-drink
- 95102010 Carnation Instant Breakfast, nutritional drink, sugar free, ready-to-drink
- 95103000 Ensure, nutritional shake, ready-to-drink
- 95103010 Ensure Plus, nutritional shake, ready-to-drink
- 95104000 Glucerna, nutritional shake, ready-to-drink
- 95105000 Kellogg's Special K Protein Shake
- 95106000 Muscle Milk, ready-to-drink
- 95106010 Muscle Milk, light, ready-to-drink
- 95110000 Slim Fast Shake, meal replacement, regular, ready-to-drink
- 95110010 Slim Fast Shake, meal replacement, sugar free, ready-to-drink
- 95110020 Slim Fast Shake, meal replacement, high protein, ready-to-drink
- 95120000 Nutritional drink or meal replacement, ready-to-drink, NFS
- 95120010 Nutritional drink or meal replacement, high protein, ready-to-drink, NFS
- 95120020 Nutritional drink or meal replacement, high protein, light, ready-to-drink, NFS

Non-Reconstituted Milk-Based Meal Replacements

(Adjusted for not being reconstituted, 16 g of powder to 240 mL of water)

[Rice protein concentrate] = 16.6%

- 95201700 Kellogg's Special K20 Protein Water Mix
- 95220000 Nutritional drink mix or meal replacement, powder, NFS
- 95220010 Nutritional drink mix or meal replacement, high protein, powder, NFS
- 95230020 Protein powder, light, NFS
- 95230030 Protein powder, NFS

Non-Reconstituted Milk-Based Meal Replacements

(Adjusted for not being reconstituted, 50 g of powder to 454 mL of water)

[Rice protein concentrate] = 10.4%

- 95202010 Muscle Milk, light, powder

Non-Reconstituted Milk-Based Meal Replacements

(Adjusted for not being reconstituted, 26 g of powder to 227 mL of water)

[Rice protein concentrate] = 10.4%

- 95210000 Slim Fast Shake Mix, powder
- 95210010 Slim Fast Shake Mix, sugar free, powder
- 95210020 Slim Fast Shake Mix, high protein, powder

Non-Reconstituted Milk-Based Meal Replacements

(Adjusted for not being reconstituted, 70 g of powder to 454 mL of water)

[Rice protein concentrate] = 7.8%

95202000 Muscle Milk, regular, powder

Non-Reconstituted Milk-Based Meal Replacements
(Adjusted for not being reconstituted, 40 g of powder to 250 mL of water)
[Rice protein concentrate] = 7.54%

95201000 Carnation Instant Breakfast, nutritional drink mix, regular, powder
95201010 Carnation Instant Breakfast, nutritional drink mix, sugar free, powder

Yogurt (Regular)

[Rice protein concentrate] = 1.1%

11410000 Yogurt, NS as to type of milk or flavor
11411010 Yogurt, plain, NS as to type of milk
11411100 Yogurt, plain, whole milk
11411200 Yogurt, plain, lowfat milk
11411300 Yogurt, plain, nonfat milk
11420000 Yogurt, vanilla, lemon, or coffee flavor, NS as to type of milk
11421000 Yogurt, vanilla, lemon, or coffee flavor, whole milk
11422000 Yogurt, vanilla, lemon, maple, or coffee flavor, lowfat milk
11422100 Yogurt, vanilla, lemon, maple, or coffee flavor, lowfat milk, sweetened with low calorie sweetener
11423000 Yogurt, vanilla, lemon, maple, or coffee flavor, nonfat milk
11424000 Yogurt, vanilla, lemon, maple, or coffee flavor, nonfat milk, sweetened with low calorie sweetener
11425000 Yogurt, chocolate, NS as to type of milk
11426000 Yogurt, chocolate, whole milk
11427000 Yogurt, chocolate, nonfat milk
11430000 Yogurt, fruit variety, NS as to type of milk
11431000 Yogurt, fruit variety, whole milk
11432000 Yogurt, fruit variety, lowfat milk
11432500 Yogurt, fruit variety, lowfat milk, sweetened with low-calorie sweetener
11433000 Yogurt, fruit variety, nonfat milk
11433500 Yogurt, fruit variety, nonfat milk, sweetened with low-calorie sweetener
11446000 Fruit and lowfat yogurt parfait

Mixtures containing yogurt (regular)
(Adjusted for yogurt content of 5 to 50%)
[Rice protein concentrate] = 0.05 to 0.5%

53104580 Cheesecake -type dessert, made with yogurt, with fruit
53441210 Basbousa (semolina dessert dish)
54430010 Yogurt chips
58124500 Pastry, filled with potatoes and peas, fried

Yogurt (Frozen)

[Rice protein concentrate] = 2.0%

11459990 Yogurt, frozen, NS as to flavor, NS as to type of milk
11460000 Yogurt, frozen, flavors other than chocolate, NS as to type of milk
11460100 Yogurt, frozen, chocolate, NS as to type of milk
11460150 Yogurt, frozen, NS as to flavor, lowfat milk
11460160 Yogurt, frozen, chocolate, lowfat milk
11460170 Yogurt, frozen, flavors other than chocolate, lowfat milk
11460190 Yogurt, frozen, NS as to flavor, nonfat milk

11460200 Yogurt, frozen, chocolate, nonfat milk
 11460250 Yogurt, frozen, flavors other than chocolate, with sorbet or sorbet-coated
 11460300 Yogurt, frozen, flavors other than chocolate, nonfat milk
 11460400 Yogurt, frozen, chocolate, nonfat milk, with low-calorie sweetener
 11460410 Yogurt, frozen, flavors other than chocolate, nonfat milk, with low-calorie sweetener
 11460420 Yogurt, frozen, NS as to flavor, whole milk
 11460430 Yogurt, frozen, chocolate, whole milk
 11460440 Yogurt, frozen, flavors other than chocolate, whole milk
 11461000 Yogurt, frozen, chocolate-coated
 11461200 Yogurt, frozen, sandwich
 11461250 Yogurt, frozen, cone, chocolate
 11461260 Yogurt, frozen, cone, flavors other than chocolate
 11461270 Yogurt, frozen, cone, flavors other than chocolate, lowfat milk
 11461280 Yogurt, frozen, cone, chocolate, lowfat milk

Mixtures containing yogurt (frozen)
 (Adjusted for yogurt content of 31 to 44%)
 [Rice protein concentrate] = 0.63 to 0.88%

53112150 Cake, frozen yogurt and cake layer, not chocolate, with icing
 53112160 Cake, frozen yogurt and cake layer, chocolate, with icing
 53366000 Pie, yogurt, frozen

Plant Protein Products

Meat Alternatives

[Rice protein concentrate] = 1 to 34.3%

41812800 Vegetarian stew
 41812400 Vegetarian pot pie
 41812450 Vegetarian chili (made with meat substitute)
 41812500 Tofu and vegetables (including carrots, broccoli, and/or dark-green leafy vegetables (no potatoes)), with soy-based sauce (mixture)
 41812510 Tofu and vegetables (excluding carrots, broccoli, and dark-green leafy vegetables (no potatoes)), with soy-based sauce (mixture)
 41812850 Vegetarian stroganoff (made with meat substitute)
 41810600 Chicken, meatless, NFS
 41810610 Chicken, meatless, breaded, fried
 41811200 Fish stick, meatless
 41811850 Scallops, meatless, breaded, fried (made with meat substitute)
 41811890 Vegetarian burger or patty, meatless, no bun
 41811950 Swiss steak, with gravy, meatless
 41812600 Vegetarian, fillet
 41812900 Vegetarian meat loaf or patties (meat loaf made with meat substitute)
 41901020 Soyburger, meatless, with cheese on bun
 41811800 Meatball, meatless
 41810200 Bacon strip, meatless
 41810400 Breakfast link, pattie, or slice, meatless
 41811400 Frankfurter or hot dog, meatless
 41811600 Luncheon slice, meatless-beef, chicken, salami or turkey
 41810250 Bacon bits, meatless

Processed Fruits and Fruit Juices

Fruit Juice

[Rice protein concentrate] = 1.04%

61201020	Grapefruit juice, NS as to form
61201220	Grapefruit juice, canned, bottled or in a carton
61201620	Grapefruit juice, frozen (reconstituted with water)
61204000	Lemon juice, NS as to form
61204200	Lemon juice, canned or bottled
61204600	Lemon juice, frozen
61207000	Lime juice, NS as to form
61207200	Lime juice, canned or bottled
61207600	Lime juice, frozen
61210000	Orange juice, NFS
61210220	Orange juice, canned, bottled or in a carton
61210250	Orange juice, with calcium added, canned, bottled or in a carton
61210620	Orange juice, frozen (reconstituted with water)
61210820	Orange juice, frozen, with calcium added (reconstituted with water)
61213000	Tangerine juice, NFS
61213220	Tangerine juice, canned
61213620	Tangerine juice, frozen (reconstituted with water)
61213800	Fruit juice blend, including citrus, 100% juice
61213900	Fruit juice blend, including citrus, 100% juice, with calcium added
64100100	Fruit juice, NFS
64100110	Fruit juice blend, 100% juice
64100200	Fruit juice blend, with cranberry, 100% juice
64101010	Apple cider
64104010	Apple juice
64104600	Blackberry juice
64105400	Cranberry juice, 100%, not a blend
64116020	Grape juice
64120010	Papaya juice
64121000	Passion fruit juice
64124020	Pineapple juice
64126000	Pomegranate juice
64132010	Prune juice
64132500	Strawberry juice
64133100	Watermelon juice

Non-Reconstituted Fruit Juice

(Adjusted for not being reconstituted, 1 cup of juice mix to 3 cups of water)

[Rice protein concentrate] = 4.16%

61210720 Orange juice, frozen, not reconstituted

Mixtures containing fruit juice

(Adjusted for fruit juice content of 26 to 81%)

[Rice protein concentrate] = 0.27 to 0.84%

55207000	Waffle, multi-bran
92432000	Carbonated citrus juice drink
93301140	Screwdriver
93301320	Tequila Sunrise
93301370	Fuzzy Navel

Mixtures containing fruit juice

(Adjusted for fruit juice content of 0.6 to 18%)

[Rice protein concentrate] = 0.006 to 0.19%

27115100	Steak teriyaki with sauce (mixture)
27116300	Beef with sweet and sour sauce (mixture)
27120060	Sweet and sour pork
27146100	Sweet and sour chicken or turkey
27320500	Sweet and sour pork with rice
28500020	Gravy, meat, with fruit
53104300	Cake, carrot, diet
53105500	Cake, chocolate, with icing, diet
53430250	Crepe suzette
91361020	Fruit sauce
91361050	Duck sauce
92431000	Carbonated juice drink, NS as to type of juice
93404500	Sangria

Fruit Nectars

[Rice protein concentrate] = 1.04%

64200100	Fruit nectar, NFS
64201010	Apricot nectar
64201500	Banana nectar
64202010	Cantaloupe nectar
64203020	Guava nectar
64204010	Mango nectar
64205010	Peach nectar
64210010	Papaya nectar
64213010	Passion fruit nectar
64215010	Pear nectar
64221010	Soursop (Guanabana) nectar

Fruit-Flavored Drinks

[Rice protein concentrate] = 1.04%

92510610	Fruit juice drink
92510650	Tamarind drink, Puerto Rican (Refresco de tamarindo)
92510720	Fruit punch, made with fruit juice and soda
92510730	Fruit punch, made with soda, fruit juice, and sherbet or ice cream
92511010	Fruit flavored drink (formerly lemonade)
92511250	Citrus fruit juice drink, containing 40-50% juice
92512050	Frozen daiquiri mix, from frozen concentrate, reconstituted
92512090	Pina Colada, nonalcoholic
92512110	Margarita mix, nonalcoholic
92513000	Fruit flavored frozen drink
92530410	Fruit flavored drink, with high vitamin C
92530510	Cranberry juice drink or cocktail, with high vitamin C
92530610	Fruit juice drink, with high vitamin C
92530950	Vegetable and fruit juice drink, with high vitamin C
92531030	Fruit juice drink, with thiamin (vitamin B1) and high vitamin C
92541010	Fruit flavored drink, made from powdered mix
92542000	Fruit flavored drink, made from powdered mix, with high vitamin C
92550030	Fruit juice drink, low calorie, with high vitamin C
92550040	Fruit juice drink, low calorie
92550110	Cranberry juice drink or cocktail, low calorie, with high vitamin C

- 92550350 Light orange juice beverage, 40-50% juice, lower sugar and calories, with artificial sweetener
- 92550400 Vegetable and fruit juice drink, low calorie, with high vitamin C
- 92550405 Vegetable and fruit juice drink, low calorie, with high vitamin C plus added vitamin E and vitamin A
- 92550610 Fruit flavored drink, low calorie, with high vitamin C
- 92550620 Fruit flavored drink, low calorie
- 92552000 Fruit flavored drink, made from powdered mix, low calorie, with high vitamin C
- 92552010 Fruit flavored drink, made from powdered mix, low calorie
- 92552020 Fruit juice drink, reduced sugar, with thiamin (vitamin B1) and high vitamin C
- 92552030 Fruit juice drink, reduced sugar, with vitamin E
- 92582100 Fruit juice drink, with high vitamin C, plus added calcium
- 92582110 Fruit juice drink, with thiamin (vitamin B1) and high vitamin C plus calcium

Non-Reconstituted Fruit-Flavored Drinks

(Adjusted for not being reconstituted, 1 cup of juice mix to 3 cups of water)
 [Rice protein concentrate] = 4.16%

- 92511000 Lemonade, frozen concentrate, not reconstituted

Non-Reconstituted Fruit-Flavored Drinks

(Adjusted for not being reconstituted, 55 mL of frozen concentrate used to produce 240 mL beverage)
 [Rice protein concentrate] = 5.57%

- 92512040 Frozen daiquiri mix, frozen concentrate, not reconstituted

Non-Reconstituted Fruit-Flavored Drinks

(Adjusted for not being reconstituted, 16 g of powder to 240 mL of water)
 [Rice protein concentrate] = 16.64%

- 92900100 Tang, dry concentrate
- 92900110 Fruit-flavored beverage, dry concentrate, with sugar, not reconstituted
- 92900200 Fruit-flavored beverage, dry concentrate, low calorie, not reconstituted
- 92900300 Fruit-flavored thirst quencher beverage, dry concentrate, not reconstituted

Fruit Smoothies

[Rice protein concentrate] = 20%

- 11553000 Fruit smoothie drink, made with fruit or fruit juice and dairy products
- 11553100 Fruit smoothie drink, NFS
- 64134000 Fruit smoothie drink, made with fruit or fruit juice only (no dairy products)

Processed Vegetables and Vegetable Juices

Vegetable/Tomato Juice Including Vegetable Smoothies

[Rice protein concentrate] = 20%

- 74301100 Tomato juice
- 74301150 Tomato juice, low sodium
- 74302000 Tomato juice cocktail
- 74303000 Tomato and vegetable juice, mostly tomato
- 74303100 Tomato and vegetable juice, mostly tomato, low sodium
- 74304000 Tomato juice with clam or beef juice

Soups and Soup Mixes

Prepared Soups, Dry Soup Mixes, and Condensed Soups

[Rice protein concentrate] = 0.96%

14710100	Cheddar cheese soup
14710200	Beer cheese soup, made with milk
27250124	Shrimp and noodles with (mushroom) soup (mixture)
28310110	Beef, broth, bouillon, or consommé
28310120	Beef, broth, bouillon, or consommé, canned, low sodium
28310150	Oxtail soup
28310210	Chili beef soup
28310220	Chili beef soup, chunky style
28310320	Beef noodle soup, Puerto Rican style (Sopa de carne y fideos)
28310330	Meat and rice noodle soup, Asian style (Vietnamese Pho Bo)
28310420	Beef and rice soup, Puerto Rican style
28311010	Pepperpot (tripe) soup
28311030	Menudo soup, canned, prepared with water or ready-to-serve
28315050	Beef vegetable soup with potato, pasta, or rice, chunky style, canned, or ready-to-serve
28315100	Beef vegetable soup with potato, stew type
28315110	Beef noodle soup, chunky style
28315120	Beef vegetable soup with noodles, stew type, chunky style
28315130	Beef vegetable soup with rice, stew type, chunky style
28315160	Italian Wedding Soup
28316020	Beef and mushroom soup, canned, low sodium
28317010	Beef stroganoff soup, chunky style
28320130	Ham, rice, and potato soup, Puerto Rican style
28320140	Ham, noodle, and vegetable soup, Puerto Rican style
28320160	Pork vegetable soup with potato, pasta, or rice, stew type, chunky style
28320300	Pork with vegetable (excluding carrots, broccoli and/or dark-green leafy) soup, Asian Style
28321130	Bacon soup, cream of, prepared with water
28330110	Scotch broth (lamb, vegetables, and barley)
28331110	Lamb, pasta, and vegetable soup, Puerto Rican style
28340110	Chicken, broth, bouillon, or consommé
28340150	Mexican style chicken broth soup stock
28340160	Chicken broth, canned, less or reduced sodium
28340170	Chicken broth, canned, low sodium
28340210	Chicken rice soup, Puerto Rican style (Sopa de pollo con arroz)
28340220	Chicken soup with noodles and potatoes, Puerto Rican style
28340310	Chicken gumbo soup
28340510	Chicken noodle soup, chunky style
28340530	Chicken soup
28340550	Sweet and sour soup
28340580	Chicken or turkey soup with vegetables (broccoli, carrots, celery, potatoes and onions), Asian style
28340600	Chicken or turkey vegetable soup, canned, prepared with water or ready-to-serve
28340610	Chicken or turkey vegetable soup, stew type
28340620	Turkey noodle soup, chunky style
28340630	Chicken vegetable soup with rice, stew type, chunky style
28340640	Chicken vegetable soup with noodles, stew type, chunky style
28340650	Chicken vegetable soup with rice, stew type, chunky style, prepared with milk
28340690	Chicken vegetable soup with potato and cheese, chunky style
28340700	Bird's nest soup (chicken, ham, and noodles)
28340750	Hot and sour soup

28340800	Chicken or turkey soup with vegetables and fruit, Asian Style
28345010	Chicken or turkey soup, cream of, canned, NS as to made with milk or water, reduced sodium
28345020	Chicken or turkey soup, cream of, canned, made with milk, reduced sodium
28345030	Chicken or turkey soup, cream of, canned, made with water, reduced sodium
28345110	Chicken or turkey soup, cream of, NS as to prepared with milk or water
28345120	Chicken or turkey soup, cream of, prepared with milk
28345130	Chicken or turkey soup, cream of, prepared with water
28345160	Chicken and mushroom soup, cream of, prepared with milk
28345170	Duck soup
28350050	Fish chowder
28350110	Crab soup, NS as to tomato-base or cream style
28350120	Crab soup, tomato-base
28350210	Clam chowder, NS as to Manhattan or New England style
28350220	Clam chowder, Manhattan
28350310	Turtle and vegetable soup
28351110	Fish and vegetable soup, no potatoes (Sopa de pescado)
28351120	Fish soup, with potatoes (Sopa de Pescado)
28351160	Codfish, rice, and vegetable soup, Puerto Rican style
28351170	Codfish soup with noodles, Puerto Rican style
28355110	Clam chowder, New England, NS as to prepared with water or milk
28355120	Clam chowder, New England, prepared with milk
28355130	Clam chowder, New England, prepared with water
28355210	Crab soup, cream of, prepared with milk
28355350	Salmon soup, cream style
28355410	Shrimp soup, cream of, NS as to prepared with milk or water
28355420	Shrimp soup, cream of, prepared with milk
28355430	Shrimp soup, cream of, prepared with water
28355450	Seafood soup with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy)
28355460	Seafood soup with potatoes and vegetables (excluding carrots, broccoli, and dark-green leafy)
28355470	Seafood soup with vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes))
28355480	Seafood soup with vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes))
28360100	Meat broth, Puerto Rican style (Caldo)
28360210	Spanish vegetable soup, Puerto Rican style (Caldo gallego)
32300100	Egg drop soup
32301100	Garlic egg soup, Puerto Rican style (Sopa de ajo)
41601010	Bean soup, NFS
41601020	Bean with bacon or pork soup
41601030	Black bean soup
41601040	Lima bean soup, home recipe, canned or ready-to-serve
41601050	Soybean soup, made with milk
41601070	Soybean soup, miso broth
41601080	Pinto bean soup, home recipe, canned or ready-to-serve
41601090	Bean soup, with macaroni
41601100	Portuguese bean soup, home recipe, canned or ready-to-serve
41601110	Bean and ham soup, chunky style, canned or ready-to-serve
41601120	Bean soup with vegetables, rice, and pork
41601130	Bean soup, mixed beans
41601160	Bean and ham soup, canned, reduced sodium, prepared with water or ready-to-serve
41601170	Bean and rice soup
41602010	Chunky pea and ham soup

41602020 Garbanzo bean or chickpea soup, home recipe, canned or ready-to-serve
 41602030 Split pea and ham soup
 41602040 Pea soup, instant type
 41602050 Split pea soup
 41602070 Split pea soup, canned, reduced sodium, prepared with water or ready-to-serve
 41602090 Split pea and ham soup, canned, reduced sodium, prepared with water or ready-to-serve
 41603010 Lentil soup, home recipe, canned, or ready-to-serve
 41610100 White bean soup, Puerto Rican style (Sopon de habichuelas blancas)
 58400000 Soup, NFS
 58400100 Noodle soup, NFS
 58400200 Rice soup, NFS
 58401010 Barley soup
 58401200 Barley soup, sweet, with or without nuts, Asian Style
 58402010 Beef noodle soup
 58402020 Beef dumpling soup
 58402030 Beef rice soup
 58403010 Chicken noodle soup
 58403030 Chicken noodle soup, canned, low sodium, ready-to-serve
 58403050 Chicken noodle soup, cream of
 58403060 Chicken noodle soup, canned, reduced sodium, ready-to-serve
 58403100 Noodle and potato soup, Puerto Rican style
 58404010 Chicken rice soup
 58404040 Chicken rice soup, canned, reduced sodium, prepared with water or ready-to-serve
 58404050 Chicken rice soup, canned, reduced sodium, prepared with milk
 58404100 Rice and potato soup, Puerto Rican style
 58404500 Matzo ball soup
 58404510 Chicken soup with dumplings and potatoes
 58404520 Chicken soup with dumplings
 58406010 Turkey noodle soup
 58407000 Instant soup, NFS
 58407010 Instant soup, noodle
 58407030 Soup, mostly noodles
 58407035 Soup, mostly noodles, reduced sodium
 58407040 Instant soup, rice
 58407050 Instant soup, noodle with egg, shrimp or chicken
 58408010 Won ton (wonton) soup
 58408500 Noodle soup with vegetables, Oriental style
 58409000 Noodle soup, with fish ball, shrimp, and dark green leafy vegetable
 71801000 Potato soup, NS as to made with milk or water
 71801010 Potato soup, cream of, prepared with milk
 71801020 Potato soup, prepared with water
 71801100 Potato and cheese soup
 71851010 Plantain soup, Puerto Rican style (Sopa de platano)
 72302000 Broccoli soup, prepared with milk, home recipe, canned or ready-to-serve
 72302020 Broccoli soup, prepared with water, home recipe, canned, or ready-to-serve
 72302100 Broccoli cheese soup, prepared with milk, home recipe, canned, or ready-to-serve
 72307000 Spinach soup
 72308000 Dark-green leafy vegetable soup with meat, Asian style
 72308500 Dark-green leafy vegetable soup, meatless, Asian style
 73501000 Carrot soup, cream of, prepared with milk
 73501010 Carrot with rice soup, cream of, prepared with milk
 74601000 Tomato soup, NFS
 74601010 Tomato soup, cream of, prepared with milk
 74602010 Tomato soup, prepared with water
 74602050 Tomato soup, instant type, prepared with water

74602100 Tomato soup, canned, low sodium, ready-to-serve
 74602200 Tomato soup, canned, reduced sodium, prepared with water, or ready-to-serve
 74602300 Tomato soup, canned, reduced sodium, prepared with milk
 74603010 Tomato beef soup, prepared with water
 74604010 Tomato beef noodle soup, prepared with water
 74604100 Tomato beef rice soup, prepared with water
 74604500 Tomato noodle soup, prepared with water
 74604600 Tomato noodle soup, cream of
 74605010 Tomato rice soup, prepared with water
 74606010 Tomato vegetable soup, prepared with water
 74606020 Tomato vegetable soup with noodles, prepared with water
 75600150 Soup, cream of, NFS
 75601000 Asparagus soup, cream of, NS as to made with milk or water
 75601010 Asparagus soup, cream of, prepared with milk
 75601020 Asparagus soup, cream of, prepared with water
 75601200 Cabbage soup, home recipe, canned or ready-to-serve
 75601210 Cabbage with meat soup, home recipe, canned or ready-to-serve
 75603000 Celery soup, cream of, NS as to made with milk or water
 75603010 Celery soup, cream of, prepared with milk
 75603020 Celery soup, cream of, prepared with water
 75604010 Corn soup, cream of, prepared with milk
 75604020 Corn soup, cream of, prepared with water
 75604600 Gazpacho
 75605010 Leek soup, cream of, prepared with milk
 75605030 Leek soup, made from dry mix
 75607000 Mushroom soup, NFS
 75607010 Mushroom soup, cream of, prepared with milk
 75607020 Mushroom soup, cream of, prepared with water
 75607040 Mushroom soup, with meat broth, prepared with water
 75607050 Mushroom soup, cream of, prepared with water, low sodium
 75607060 Mushroom soup, cream of, NS as to made with milk or water
 75607080 Mushroom with chicken soup, cream of, prepared with milk
 75607090 Mushroom soup, cream of, canned, NS as to made with milk or water, reduced sodium
 75607100 Mushroom soup, cream of, canned, prepared with milk, reduced sodium
 75607130 Mushroom soup, made from dry mix
 75607140 Mushroom soup, cream of, canned, prepared with water, reduced sodium
 75608010 Onion soup, cream of, prepared with milk
 75608100 Onion soup, French
 75608200 Onion soup, made from dry mix
 75609000 Pea soup, NFS
 75609010 Pea soup, prepared with milk
 75609020 Pea soup, prepared with water
 75609050 Pea soup, canned, prepared with water, low sodium
 75611010 Vegetable soup, cream of, prepared with milk
 75612010 Zucchini soup, cream of, prepared with milk
 75646010 Shav soup
 75647000 Seaweed soup
 75649010 Vegetable soup, prepared with water or ready-to-serve
 75649030 Vegetable soup, canned, low sodium, prepared with water or ready-to-serve
 75649050 Vegetable soup, made from dry mix
 75649070 Vegetable soup, made from dry mix, low sodium
 75650990 Minestrone soup, canned, reduced sodium, ready-to-serve
 75651010 Vegetable bean soup, prepared with water or ready-to-serve
 75651020 Vegetable beef soup, prepared with water
 75651030 Vegetable beef noodle soup, prepared with water

75651040	Vegetable noodle soup, prepared with water
75651050	Vegetable chicken or turkey soup, prepared with water or ready-to-serve
75651070	Vegetable rice soup, prepared with water
75651080	Vegetable beef soup with rice, prepared with water or ready-to-serve
75651090	Vegetable chicken soup, canned, prepared with water, low sodium
75651110	Vegetable chicken rice soup, prepared with water or ready-to-serve
75651120	Vegetable chicken noodle soup, prepared with water or ready-to-serve
75651150	Vegetable noodle soup, canned, reduced sodium, prepared with water or ready-to-serve
75652030	Vegetable beef soup, prepared with milk
75654010	Vegetarian vegetable soup, prepared with water
75656010	Vegetable soup, Spanish style, stew type
75656020	Vegetable soup, chunky style
75656040	Vegetable soup, with pasta, chunky style
75656060	Vegetable beef soup, chunky style
75657000	Vegetable broth, bouillon

Mixtures containing prepared soups, dry soup mixes, and condensed soups
(Adjusted for soup content of 40 to 75%)
[Rice protein concentrate] = 0.38 to 0.72%

27114000	Beef with (mushroom) soup (mixture)
27115000	Beef with soy-based sauce (mixture)
27120090	Ham or pork with (mushroom) soup (mixture)
27142100	Chicken or turkey fricassee
27150190	Lobster sauce (broth-based)
27220150	Sausage and rice with (mushroom) soup (mixture)
27350020	Paella with seafood
27360090	Paella, NFS
27464000	Gumbo, no rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra)
28522000	Mole poblano (sauce)
28522050	Mole verde (sauce)
41205100	Black bean sauce
58103250	Tamale, plain, meatless, no sauce, Mexican style
58147510	Flavored pasta
58163130	Dirty rice
58163610	Rice-vegetable medley
72201241	Broccoli, cooked, from fresh, with mushroom sauce
75403020	Beans, string, green, cooked, NS as to form, with mushroom sauce
75403021	Beans, string, green, cooked, from fresh, with mushroom sauce
75403022	Beans, string, green, cooked, from frozen, with mushroom sauce
75403023	Beans, string, green, cooked, from canned, with mushroom sauce
75601100	Beet soup (borscht)
81302030	Orange sauce (for duck)

Mixtures containing prepared soups, dry soup mixes, and condensed soups
(Adjusted for soup content of 20 to <40%)
[Rice protein concentrate] = 0.19 to <0.38%

27113100	Beef stroganoff
27120080	Ham stroganoff
27120150	Pork or ham with soy-based sauce (mixture)
27130100	Lamb curry
27144000	Chicken or turkey with (mushroom) soup (mixture)
27150160	Shrimp with lobster sauce (mixture)
27160100	Meatballs, NS as to type of meat, with sauce (mixture)

27212400 Beef and noodles with (mushroom) soup (mixture)
 27213120 Porcupine balls with tomato-based sauce (mixture)
 27213400 Beef and rice with (mushroom) soup (mixture)
 27213420 Porcupine balls with (mushroom) soup (mixture)
 27213500 Beef and rice with soy-based sauce (mixture)
 27220030 Ham and rice with (mushroom) soup (mixture)
 27233000 Lamb or mutton and noodles with gravy (mixture)
 27241010 Chicken or turkey and potatoes with gravy (mixture)
 27242200 Chicken or turkey and noodles with gravy (mixture)
 27242250 Chicken or turkey and noodles with (mushroom) soup (mixture)
 27242350 Chicken or turkey tetrazzini
 27250630 Tuna noodle casserole with (mushroom) soup
 27250710 Tuna and rice with (mushroom) soup (mixture)
 27250810 Fish and rice with tomato-based sauce
 27250830 Fish and rice with (mushroom) soup
 27250900 Fish and noodles with (mushroom) soup
 27311610 Beef, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy),
 (mushroom) soup (mixture)
 27311620 Beef, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy),
 (mushroom) soup (mixture)
 27313310 Beef, noodles, and vegetables (including carrots, broccoli, and/or dark-green leafy),
 (mushroom) soup (mixture)
 27313320 Beef, noodles, and vegetables (excluding carrots, broccoli, and dark-green leafy),
 (mushroom) soup (mixture)
 27315410 Beef, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy
 (mixture)
 27315420 Beef, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy
 (mixture)
 27317010 Beef pot pie
 27320020 Ham pot pie
 27320120 Sausage, potatoes, and vegetables (including carrots, broccoli, and/or dark-green leafy),
 gravy (mixture)
 27320130 Sausage, potatoes, and vegetables (excluding carrots, broccoli, and dark-green leafy),
 gravy (mixture)
 27343410 Chicken or turkey, noodles, and vegetables (including carrots, broccoli, and/or dark-green
 leafy), gravy (mixture)
 27343420 Chicken or turkey, noodles, and vegetables (excluding carrots, broccoli, and dark-green
 leafy), gravy (mixture)
 27343910 Chicken or turkey chow mein or chop suey with noodles
 27345310 Chicken or turkey, rice, and vegetables (including carrots, broccoli, and/or dark-green
 leafy), soy-based sauce (mixture)
 27345320 Chicken or turkey, rice, and vegetables (excluding carrots, broccoli, and dark-green
 leafy), soy-based sauce (mixture)
 27347100 Chicken or turkey pot pie
 27350050 Shrimp chow mein or chop suey with noodles
 27350070 Tuna pot pie
 27350410 Tuna noodle casserole with vegetables and (mushroom) soup
 27360050 Meat pie, NFS
 27363000 Gumbo with rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra,
 rice)
 27414100 Beef with vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)),
 (mushroom) soup (mixture)
 27414200 Beef with vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)),
 (mushroom) soup (mixture)

27415100	Beef and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)
27445150	General Tso (General Gau) chicken
27445250	Almond chicken
27446100	Chicken or turkey chow mein or chop suey, no noodles
27450040	Shrimp chow mein or chop suey, no noodles
27450510	Tuna casserole with vegetables and (mushroom) soup, no noodles
27450650	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), (mushroom) soup (mixture)
27450660	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), (mushroom) soup (mixture)
27513070	Roast beef submarine sandwich, on roll, au jus
58123110	Manapua, filled with meat
58145120	Macaroni or noodles with cheese and tuna
58146200	Pasta, meat-filled, with gravy, canned
58156410	Rice with onions, Puerto Rican style (arroz con cebollas)
58156710	Rice with stewed beans, Puerto Rican style
58421000	Sopa seca (dry soup), Mexican style, NFS
58421010	Sopa Seca de Fideo, Mexican style, made with dry noodles
58421060	Sopa seca de arroz (dry rice soup), Mexican style
72125260	Spinach and cheese casserole
72201240	Broccoli, cooked, NS as to form, with mushroom sauce
72201242	Broccoli, cooked, from frozen, with mushroom sauce
75402020	Beans, lima, immature, cooked, NS as to form, with mushroom sauce
75402021	Beans, lima, immature, cooked, from fresh, with mushroom sauce
75402022	Beans, lima, immature, cooked, from frozen, with mushroom sauce
75402023	Beans, lima, immature, cooked, from canned, with mushroom sauce
75417020	Peas, cooked, NS as to form, with mushroom sauce
75417021	Peas, cooked, from fresh, with mushroom sauce
75417022	Peas, cooked, from frozen, with mushroom sauce
75417023	Peas, cooked, from canned, with mushroom sauce

Mixtures containing prepared soups, dry soup mixes, and condensed soups
(Adjusted for soup content of 0.2 to <20%)
[Rice protein concentrate] = 0.002 to <0.19%

27113300	Swedish meatballs with cream or white sauce (mixture)
27135020	Veal scallopini
27135040	Veal with butter sauce (mixture)
27212350	Beef stroganoff with noodles
27243300	Chicken or turkey and rice with cream sauce (mixture)
27243400	Chicken or turkey and rice with (mushroom) soup (mixture)
27313110	Beef chow mein or chop suey with noodles
27315310	Beef, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), (mushroom) soup (mixture)
27315320	Beef, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), (mushroom) soup (mixture)
27315510	Beef, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), soy-based sauce (mixture)
27315520	Beef, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), soy-based sauce (mixture)
27320310	Pork chow mein or chop suey with noodles
27320320	Pork, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), soy-based sauce (mixture)

27320330	Pork, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), soy-based sauce (mixture)
27343510	Chicken or turkey, noodles, and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-based sauce (mixture)
27343520	Chicken or turkey, noodles, and vegetables (excluding carrots, broccoli, and dark-green leafy), tomato-based sauce (mixture)
27345210	Chicken or turkey, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), gravy (mixture)
27345220	Chicken or turkey, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), gravy (mixture)
27345410	Chicken or turkey, rice, and vegetables (including carrots, broccoli, and/or dark-green leafy), (mushroom) soup (mixture)
27345420	Chicken or turkey, rice, and vegetables (excluding carrots, broccoli, and dark-green leafy), (mushroom) soup (mixture)
27360080	Chow mein or chop suey, NS as to type of meat, with noodles
27360120	Chow mein or chop suey, various types of meat, with noodles
27415150	Beef chow mein or chop suey, no noodles
27415200	Beef and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27416400	Sukiyaki (stir fried beef and vegetables in soy sauce)
27420390	Pork chow mein or chop suey, no noodles
27420500	Pork and vegetables (including carrots, broccoli, and/or dark-green leafy), soy-based sauce (mixture)
27420510	Pork and vegetables (excluding carrots, broccoli, and dark-green leafy), soy-based sauce (mixture)
27443110	Chicken or turkey a la king with vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), cream, white, or soup-based sauce
27443120	Chicken or turkey a la king with vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), cream, white, or soup-based sauce
27443150	Chicken or turkey divan
27445110	Chicken or turkey and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)
27445120	Chicken or turkey and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27450410	Shrimp and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)
27450420	Shrimp and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)
27450600	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce
27450610	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce
27460010	Chow mein or chop suey, NS as to type of meat, no noodles
28520000	Gravy or sauce, Chinese (soy sauce, stock or bouillon, cornstarch)
32105190	Egg casserole with bread, cheese, milk and meat
41207030	Beans, dry, cooked with ground beef
58112510	Dumpling, steamed, filled with meat, poultry, or seafood
58120110	Crepes, filled with meat, fish, or poultry, with sauce
58120120	Crepe, filled with beef, pork, fish and/or poultry, no sauce on top
58127110	Vegetables in pastry
58135110	Chow fun noodles with meat and vegetables
58140110	Spaghetti with corned beef, Puerto Rican style
58155210	Stuffed rice with chicken, Dominican style (Arroz relleno Dominicano)
58155320	Seafood paella, Puerto Rican style (Paella a la marinera)
58160130	Rice with beans and chicken

58160140	Rice with beans and pork
58163510	Rice dressing
58306150	Chicken enchilada with salsa, rice, vegetable, and dessert (diet frozen meal)
71801040	Potato soup, instant, made from dry mix
73111400	Carrots in tomato sauce

Condensed Soups

(Adjusted for not being reconstituted, assuming preparation with equal parts water)

[Rice protein concentrate] = 1.92%

14710110	Cheddar cheese soup, canned, undiluted
28340520	Chicken soup, canned, undiluted
28345040	Chicken or turkey soup, cream of, canned, undiluted, reduced sodium
28345140	Chicken or turkey soup, cream of, canned, undiluted
58402000	Beef noodle soup, canned, undiluted
58403020	Chicken noodle soup, canned, undiluted
58404020	Chicken and rice soup, canned, undiluted
74602030	Tomato soup, canned, undiluted
74605000	Tomato rice soup, canned, undiluted
75603030	Celery soup, cream of, canned, undiluted
75604610	Gazpacho, canned, undiluted
75607030	Mushroom soup, canned, undiluted
75607150	Mushroom soup, cream of, canned, undiluted, reduced sodium
75608030	Onion soup, cream of, canned, undiluted
75649020	Vegetable soup, canned, undiluted
75651060	Vegetable chicken or turkey soup, canned, undiluted
75652020	Vegetable beef soup, canned, undiluted
75654020	Vegetarian vegetable soup, undiluted

Dry Soup Mixes

(Adjusted for not being reconstituted, 8 g of dry soup mix to 245 mL of water)

[Rice protein concentrate] = 30.36%

28340140	Chicken broth, bouillon, or consommé, dry, not reconstituted
75608300	Onion soup, dry mix, not reconstituted
75649060	Vegetable soup, dry mix, not reconstituted
28310130	Beef, broth, bouillon, or consommé, dry, not reconstituted
28310140	Beef, broth, bouillon, or consommé, low sodium, dry, not reconstituted
41813000	Vegetarian bouillon, dry



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Report for Axiom Foods / Growing Naturals

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Date: April 11, 2012

Study Title: A Comparative Study of Axiom Foods/Growing Naturals Organic Whole Grain Brown Rice Protein Concentrate Powder as compared to the USDA Standards of *Oryza sativa L.* and Rice milk, the USDA Standards for Cow's Milk and the National Dairy Council Fact Sheet on Whey Protein for the respective Amino Acid profiles.

Type of Study: Prospective analysis using High Performance Liquid Chromatography (HPLC) and standard laboratory analytical methods for determining the total amino acid profile.

Product Tested:

- Axiom Foods – Organic Oryzatein™ 80 Silk (Brown rice protein concentrate).
- Batch No. HZN11018-22

Amino Acids Analyzed:

Aspartic acid, threonine, serine, glutamic acid, proline, glycine, alanine, valine, isoleucine, leucine, tyrosine, phenylalanine, lysine, histidine, arginine, cystine, methionine and tryptophan.

Amino Acid Laboratory Analytical Technique: The samples are hydrolyzed in 6 N Hydrochloric acid for 24 hours at approximately 110°C. Phenol is added to the 6N Hydrochloric acid to prevent halogenation of tyrosine. Cystine and Cysteine are converted to S-2-carboxyethylthiocysteine by the addition of dithiodipropionic acid. Tryptophan is hydrolyzed from proteins by heating at approximately 110°C in 4.2 N Sodium Hydroxide. The samples are analyzed by HPLC after pre-injection derivitization. The primary amino acids are derivitized with o-phthalaldehyde (OPA) and the secondary amino acids are derivitized with fluorenylmethyl chloroformate (FMOC) before injection.¹⁻³

Limit of Technique Quantitation: Most matrices - 0.1 mg/g

Executive Summary:

It is known that only the essential amino acids (EAA's) can have an effect on exercise recovery and that the non-essential amino acids (dispensable amino acids) do not have the same effects.

Research in physically active people has found whole milk (~ one cup) when consumed after a workout stimulates muscle protein synthesis (recovery). Newer research has elucidated that the most important amino acid for stimulating muscle recovery and growth is leucine. One cup of milk contains 730 mg of leucine. In addition, recent research demonstrates that at a minimum, a person needs up to 2.79 grams of the essential amino acid leucine in one serving in order stimulate muscle protein synthesis in the post-workout period.

Organic Oryzatein Silk 80 contains 2.11 grams leucine in a 34 gram serving (2,110 mg).

The product contains 6.2 grams (6,200 mg) leucine in a 100 gram serving.

Organic Oryzatein Silk 80 is a richer source of key essential amino acids as compared to cow's milk, soy protein concentrate and *oryza sativa*.

Comparisons:

USDA Standard Values for <i>Oryza sativa</i> ⁴	
Amino Acid	mg/100g food
Isoleucine	336
Leucine	657
Valine	466
Lysine	303
Methionine	179
Cystine	96
Phenylalanine	410
Tyrosine	298
Threonine	291
Tryptophan	101
Arginine	602
Histidine	202
Alanine	463
Aspartic Acid	743
Glutamic Acid	1,618
Glycine	391
Proline	372
Serine	411

USDA Standard Value for cow's milk ⁹	
Amino Acid	mg/100g food
Isoleucine	219
Leucine	430
Valine	255
Lysine	248
Methionine	86
Phenylalanine	239
Tyrosine	218
Threonine	153
Arginine	88
Histidine	118
Alanine	140
Aspartic Acid	233
Glutamic Acid	633
Glycine	79
Proline	283
Serine	188

National Dairy Council and US Dairy Export Council Fact Sheets on Whey Protein (WPC80 for amino acid profile)¹⁰

Amino Acid	g/100g protein
Isoleucine	6.41
Leucine	11.6
Valine	6.09
Lysine	9.83
Methionine	2.35
Cystine	2.28
Phenylalanine	3.56
Tyrosine	3.26
Threonine	8.44
Tryptophan	1.8
Arginine	3.18
Histidine	2.41
Alanine	4.82
Aspartic Acid	12.26
Glutamic Acid	15.41
Glycine	2.0
Proline	6.28
Serine	6.24

USDA Standard Value for Soy Protein Concentrate¹¹

Amino Acid	g/100g protein
Isoleucine	2.942
Leucine	4.917
Valine	3.064
Lysine	3.929
Methionine	0.814
Cystine	0.886
Phenylalanine	3.278
Tyrosine	2.301
Threonine	2.474
Tryptophan	0.835
Arginine	4.642
Histidine	1.578
Alanine	2.677
Aspartic Acid	7.249
Glutamic Acid	12.013
Glycine	2.688
Proline	3.298
Serine	3.369

**Produced by alcohol extraction*

Organic Oryzatein™ 80 Silk As analyzed by Covance® ¹²	
Amino Acid	mg/34g
Isoleucine	1,150
Leucine	2,110
Valine	1,520
Lysine	721
Methionine	775
Cystine	554
Phenylalanine	1,420
Tyrosine	1,400
Threonine	952
Tryptophan	381
Arginine	2,080
Histidine	578
Alanine	1,470
Aspartic Acid	2,300
Glutamic Acid	4,590
Glycine	1,160
Proline	1,210
Serine	1,290

Organic Oryzatein™ 90 Silk As analyzed by Covance® ¹³	
Amino Acid	mg/34g
Isoleucine	1,180
Leucine	2,180
Valine	1,550
Lysine	823
Methionine	772
Cystine	585
Phenylalanine	1,500
Tyrosine	1,450
Threonine	993
Tryptophan	398
Arginine	2,150
Histidine	619
Alanine	1,520
Aspartic Acid	2,360
Glutamic Acid	4,730
Glycine	1,200
Proline	1,320
Serine	1,330

		Comparator I		
		Cow's Milk	WPC80	Organic Oryzatein™ 80 Silk
Analysis based on:		mg/cup (244cc)¹⁴	mg/34g protein	mg/34g₁₂ protein
Amino Acids	Isoleucine*†	398	2,179.4	1,150
	Leucine*†	730	3,944	2,110
	Valine*†	503	2,070.6	1,520
	Lysine†	644	3,342.2	721
	Methionine†	203	799	775
	Cystine	46	775.2	554
	Phenylalanine†	398	1,210.4	1,420
	Tyrosine	388	1,108.4	1,400
	Threonine†	327	2,869.6	952
	Tryptophan†	98	612	381
	Arginine	220	1,081.2	2,080
	Histidine†	232	819.4	578
	Alanine	261	1,638.8	1,470
	Aspartic Acid	659	4,168.4	2,300
	Glutamic Acid	1,728	5,239.4	4,590
	Glycine	151	680	1,160
	Proline	759	2,135.2	1,210
Serine	464	2,121.6	1,290	

*=*branched-chain amino acids*

†=*Essential Amino Acids*

		Comparator II		
		Cow's Milk	Soy Protein Concentrate	Organic Oryzatein™ 80 Silk
Analysis based on:		mg/cup (244cc)¹³	mg/34g protein	mg/34g protein¹²
Amino Acids	Isoleucine*†	398	1,000.3	1,150
	Leucine*†	730	1,671.8	2,110
	Valine*†	503	1,041.8	1,520
	Lysine†	644	1,335.9	721
	Methionine†	203	276.8	775
	Cystine	46	301.2	554
	Phenylalanine†	398	1,114.5	1,420
	Tyrosine	388	782.3	1,400
	Threonine†	327	841.2	952
	Tryptophan†	98	283.9	381
	Arginine	220	1,578.3	2,080
	Histidine†	232	536.5	578
	Alanine	261	910.2	1,470
	Aspartic Acid	659	2,464.7	2,300
	Glutamic Acid	1,728	4,084.4	4,590
	Glycine	151	913.9	1,160
Proline	759	1,121.3	1,210	
Serine	464	1,145.5	1,290	

*=*branched-chain amino acids*

†=*Essential Amino Acids*

		<i>Oryza sativa L</i>	Cow's Milk	WPC80	Soy Protein Concentrate	Organic Oryzatein™ 80 Silk	Organic Oryzatein™ 90 Silk
Analysis based on:		mg/100g food	mg/100g food	mg/100g protein	mg/100g protein	mg/100g protein	mg/100g protein
Amino Acids	Isoleucine*†	336	219	6,410	2,942	3,370	3,470.59
	Leucine*†	657	430	11,600	4,917	6,200	6,411.76
	Valine*†	466	255	6,090	3,064	4,470	4,558.82
	Lysine†	303	248	9,830	3,929	2,120	2,420.59
	Methionine†	179	86	2,350	814	2,280	2,270.59
	Cystine	96	N/A	2,280	886	1,630	1,720.59
	Phenylalanine†	410	239	3,560	3,278	4,170	4,411.76
	Tyrosine	298	218	3,260	2,301	4,110	4,264.71
	Threonine†	291	153	8,440	2,474	2,800	2,920.59
	Tryptophan†	101	N/A	1,800	835	1,120	1,170.59
	Arginine	602	88	3,180	4,642	6,130	6,323.53
	Histidine†	202	118	2,410	1,578	1,700	1,820.59
	Alanine	463	140	4,820	2,677	4,310	4,470.59
	Aspartic Acid	743	233	12,260	7,249	6,750	6,941.18
	Glutamic Acid	1,618	633	15,410	12,013	13,500	13,911.76
	Glycine	391	79	2,000	2,688	3,400	3,529.41
	Proline	372	283	6,280	3,298	3,570	3,882.35
Serine	411	188	6,240	3,369	3,800	3,911.76	
	Total BCAA	1,459	904	24,100	10,923	14,040	14,441
	Total EAA	2,945	1,748	52,490	23,831	28,230	29,456
	Total AA	7,939	3,610	108,220	62,954	75,430	78,412

*=*branched-chain amino acids*

†=*Essential Amino Acids*

Conclusions:

- Organic Oryzatein™ Ultra 80 Silk contains a different amino acid profile than that of *Oryza sativa*.⁴
- Organic Oryzatein™ Ultra 80 Silk contains a different amino acid profile than that of Cow's milk.⁹
- Organic Oryzatein™ Ultra 80 Silk contains a different amino acid profile than that of Whey protein (WPC-80).¹⁰
- Organic Oryzatein™ Ultra 80 Silk contains a greater amino acid total, leucine value and for branched chain amino and essential amino acids than Soy protein concentrate.¹¹
- Organic Oryzatein™ Ultra 80 Silk contains a unique Essential Amino Acid profile, whereas 37.4% of the amino acids in the protein are EAA.
- Organic Oryzatein™ Ultra 80 Silk contains 1,441.9% more leucine than Cow's milk and 943.7% more leucine than *Oryza sativa* per equalized standard serving.
- Organic Oryzatein™ Ultra 80 Silk comparatively contains 9.437 times (943.7%) leucine, 9.623 times (962.3%) branched chain amino acids, 9.586 times (958.6%) essential amino acids and 9.501 times (950.1%) total amino acids more than *Oryza sativa*.
- Organic Oryzatein™ Ultra 80 Silk comparatively contains 14.419 times (1,441.9%) leucine, 15.531 times (1,553.1%) branched chain amino acids, 16.15 times (1615%) essential amino acids and 20.895 times (2,089.5%) total amino acids more than Cow's milk.
- Organic Oryzatein™ Ultra 80 Silk comparatively contains 1.261 times (1,261%) leucine, 1.28 times (128%) branched chain amino acids, 1.185 times (118.5%) essential amino acids and 1.198 times (119.8%) total amino acids more than Soy Protein Concentrate.
- Cow's milk and leucine (when administered as part of an "EAA" mix) have both been found to positively impact muscle protein synthesis after exercise (recovery and growth). The amount of leucine needed to stimulate MPS is a range of 730 mg to 2,790 mg (2.79 grams) in one serving.^{15, 17 - 26}
- Leucine is considered the most "anabolic" of the amino acids and the only essential amino acid to impact the body's ability to synthesize new protein.^{15, 17 - 26}
- Organic Oryzatein™ Ultra 80 Silk may be optimized by increasing the serving size from 34 grams to 45 grams. This would allow for the leucine content to be even richer allowing the potential benefit for the exercising person to be both for the younger and older adult.²⁴
- Organic Oryzatein™ Ultra 80 Silk is a high quality source of useable protein for health promotion, maintenance and for sports nutrition.
- Organic Oryzatein™ Ultra 80 Silk appears to be a very good protein and great source of essential amino acids, that when used with exercise, can enhance exercise recovery and muscle protein synthesis.¹⁶⁻²⁶
- Although not addressed in this analysis and report, it appears that Organic Oryzatein™ Ultra 80 Silk has utility over cow's milk, whey protein concentrate and isolate as well as soy protein isolate for the following reasons: it is not genetically modified (non-GMO), does not contain lactose (milk sugar), does not come from an animal known to be treated with growth hormones (rbST/bGH), anabolic steroids (AAS), estrogens and other hormones, antibiotics or other chemicals known to, suspected of, to affect or have an impact upon human health.^{27 - 30}

Methods and Select References:

1. R. Schuster. Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivatization and HPLC. *J. Chromatogr* 1988, 431, 271-284.
2. Henderson, J.W., Ricker, R.D., Bidlingmeyer, B.A., Woodward, C. Rapid, Accurate, Sensitive, and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis Using Zorbax Eclipse-AAA columns and the Agilent 1100 HPLC. Agilent Publication, 2000.
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Certificate of Analysis

Miami Research Associates

6141 Sunset Drive
 Suite 301
 South Miami Florida 33143 United States

Sample Name:	Organic Oryzatein Silk 80	Covance Sample:	1250431
Project ID	MIAMI_RES-20120313-0002	Receipt Date	12-Mar-2012
PO Number	Charge - Mastercard	Receipt Condition	Ambient temperature
Lot Number	HZN11018-22	Login Date	13-Mar-2012
Sample Serving Size	34 g	Storage Condition	-20 (+/- 10) Degrees Celsius

Analysis	Result	Result per Serving
Amino Acids		
Aspartic Acid	6750 mg/100g	2300 mg/Serving Size
Threonine	2800 mg/100g	952 mg/Serving Size
Serine	3800 mg/100g	1290 mg/Serving Size
Glutamic Acid	13500 mg/100g	4590 mg/Serving Size
Proline	3570 mg/100g	1210 mg/Serving Size
Glycine	3400 mg/100g	1160 mg/Serving Size
Alanine	4310 mg/100g	1470 mg/Serving Size
Valine	4470 mg/100g	1520 mg/Serving Size
Isoleucine	3370 mg/100g	1150 mg/Serving Size
Leucine	6200 mg/100g	2110 mg/Serving Size
Tyrosine	4110 mg/100g	1400 mg/Serving Size
Phenylalanine	4170 mg/100g	1420 mg/Serving Size
Lysine	2120 mg/100g	721 mg/Serving Size
Histidine	1700 mg/100g	578 mg/Serving Size
Arginine	6130 mg/100g	2080 mg/Serving Size
Cystine	1630 mg/100g	554 mg/Serving Size
Methionine	2280 mg/100g	775 mg/Serving Size
Tryptophan		
Tryptophan	1120 mg/100g	381 mg/Serving Size

Method References
Testing Location
Amino Acids (TAALC_S:6)
Covance Laboratories Inc.

R. Schuster, "Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivatization and HPLC", Journal of Chromatography, 1988, 431, 271-284.
 Henderson, J.W., Ricker, R.D. Bidlingmeyer, B.A., Woodward, C., "Rapid, Accurate, Sensitive, and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis Using Zorbax Eclipse-AAA columns and the Agilent 1100 HPLC," Agilent Publication, 2000. Barkholt and Jensen, "Amino Acid Analysis: Determination of Cystine plus Half-Cystine in Proteins after Hydrochloric Acid Hydrolysis with a Disulfide Compound as Additive", Analytical Biochemistry, 177, 318-322 (1989).

Tryptophan (TRPLC_S:3)
Covance Laboratories Inc.

AOAC International, 982.30 'Protein Efficiency Ratio', Official Methods of Analysis, (ed.) Patricia Cunniff, Sixteenth Ed., Vol. 2, AOAC International: Arlington, VA (1995).

Certificate of Analysis

Miami Research Associates

6141 Sunset Drive
Suite 301
South Miami Florida 33143 United States

Testing Location(s)

Released on Behalf of Covance by

Covance Laboratories Inc.

Lori Ross - Associate Director

3301 Kinsman Blvd
Madison WI 53704
608-242-2712 x4170



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SUBMISSION END