

Whey Protein Concentrate Commodity Fact Sheet

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WBSCM Material Description and Number

Not yet available in WBSCM

General Information

Whey protein concentrate (WPC) is a family of dry dairy ingredients used to add concentrated whey protein to food products. WPC is produced by removing a certain percentage of non-protein constituents from pasteurized whey derived from cheese processing. The finished WPC products available for food aid are WPC34, which contains more than 34 percent whey protein, and WPC80, which contains more than 80 percent protein. WPC is processed by physical separation techniques such as precipitation, filtration or dialysis. WPC must be pasteurized and manufactured in the U.S. from cow's milk that was produced in the U.S. For more information on nutrition, processing, packaging and shelf life, refer to the [United States Dairy Export Council Reference Manual](#). It is recommended that WPC be stored in cool, dry environments with temperatures of less than 80 degrees Fahrenheit and relative humidity of less than 65 percent. WPC should be used within 9 to 12 months. It is typically packaged in air tight bags containing an inner film lining including pinch top, block bottom bags, or pinch top, pinch bottom, flat tube bags. For full product specifications refer to the USDA Commodity Requirements Document for dried dairy ingredients. The appropriate Web Based Supply Chain Management (WBSCM) code should be used to order WPC34 or WPC80.

Programming Guidance

WPC is a dairy ingredient that can be used to enrich the protein content and quality of processed food products including emergency food products A-20, A-28 and A-29, ready-to-use supplementary and therapeutic foods (RUSF, RUTF) and other nutritional supplements. It can be used for applications involving food product development to enhance protein content.

Nutrition/Preparation Information

WPC is a nutrient-dense, high-quality animal-based protein used for supplementation or fortification. WPC improves texture, enhances flavor and color, emulsifies and stabilizes dry mixes, extends shelf-life, and improves the quality of processed dairy and meats products, bakery products, snack foods, beverages, cereal products and is used in special sports and nutritional products. WPC34 and WPC80 are nutritionally similar in fat content, but differ in lactose and protein concentrations. WPC34 contains 34 to 36 percent protein and 48 to 52 percent lactose, while WPC80 contains 80 to 82 percent protein and 4 to 8 percent lactose. WPC34 provides similar concentration of lactose, protein and minerals as non-fat dry milk and can be used in comparable applications.

Nutritional Content

The table below includes values for WPC34 and WPC80 taken from the [U.S. Dairy Export Council Reference Manual](#).

Nutrient	WPC34 (100g)	WPC80 (100g)
Water (g)	3.93	4.11
Energy (kcal)	369.00	412.00
Protein (g)	34.36	80.00
Total Lipid (fat) (g)	3.93	6.60
Carbohydrate	50.80	5.31
Fiber, total dietary (g)	0.0	0.0
Sugars, total (g)	0.0	0.0
Minerals		
Calcium (mg)	569.00	423.00
Iron (total mg)	0.89	1.20
Magnesium (mg)	104.00	50.00
Phosphorous (mg)	547.00	0.00

Potassium (mg)	1680.00	517.00
Sodium (mg)	630.00	255.00
Zinc (mg)	0.21	n/a
Iodine (mg)	0.0	0.0
Vitamins		
Vitamin C, total ascorbic acid (mg)	2.00	0.0
Thiamin (mg)	0.36	0.0
Riboflavin (mg)	1.80	0.0
Niacin (mg)	0.37	0.0
Vitamin B5 (mg)	0.0	0.0
Vitamin B6 (mg)	0.0	0.0
Folate, DFE (µg)	0.0	0.0
Vitamin B12 (µg)	0.0	0.0
Vitamin A (IU)	100.00	0.0
Vitamin E (alpha-tocopherol) (mg)	0.0	0.0
Vitamin D (D3) (µg)	0.0	0.0
Vitamin K (phylloquinone) (µg)	0.0	0.0
Lipids		
Fatty acids, total saturated (g)	0.0	0.0

Fatty acids, total monounsaturated (g)	0.0	0.0
Fatty acids, total polyunsaturated (g)	0.0	0.0
Cholesterol (mg)	97.00	n/a
Other		
Caffeine	0.0	0.0

USDA Commodity Requirements Document

http://www.fsa.usda.gov/Internet/FSA_File/ddi2.pdf

Shelf Life/Best if Used By Date (BUBD)

- Shelf life - not available
- BUBD - not available

Sources

United States Dairy Export Council. 2004. Reference Manual for U.S. Whey and Lactose Products. U.S. Dairy Export Council; Arlington, VA. Retrieved on May 31, 2016 from: http://usdec.files.cms-plus.com/PDFs/2008ReferenceManuals/Whey_Lactose_Reference_Manual_Complete2_Optimized.pdf

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