



Whey Protein Concentrate (WPC) Standard

Product Definition

Whey Protein Concentrate is obtained by the removal of sufficient non-protein constituents from whey so that the finished dry product contains not less than 25% protein. It is produced by physical separation techniques such as membrane filtration. The acidity of Whey Protein Concentrate may be adjusted by the addition of safe and suitable pH adjusting ingredients. WPC for human consumption complies with all provisions of the U.S. Federal Food, Drug, and Cosmetic Act.

Composition (dry basis)

While WPC products could be produced at various protein concentrations greater than 25%, the most common are listed below:

Classifications	Protein	Lactose	Fat	Ash	Total Moisture
WPC-34	Min. 33.5% Typical: 34.0% - 36.0%	Typical: 48.0% – 55.0%	Max. 5.0% Typical: 3.0% - 4.5%	Typical: 6.5% - 8.0%	Max. 6.0% Typical: 3.0% - 5.0%
WPC-80	Min. 79.5% * Typical: 80.0% - 82.0%	Typical: 4.0% -10.0%	Max. 10.0% Typical: 4.0% - 8.0%	Typical: 3.0% - 5.0%	Max. 6.0% Typical: 3.5% - 5.0%

(*) Protein content $\geq 79.5\%$ is reported on a dry basis, all other parameters are reported “as is”

Other Characteristics

Scorched Particle Content	≤ 15.0 mg
pH	5.7 – 7.5
Color	white to cream
Flavor	bland, clean

Microbiological Analysis

Standard Plate Count	$\leq 30,000$ cfu/g
Coliform	≤ 10 cfu/g
Salmonella	Negative
Listeria	Negative
Coagulase positive	
Staphylococci	< 10 cfu/g
Yeast & Mold	≤ 100 cfu/g

Methods of Analysis

Criteria	Reference Method
Protein	AOAC 991.20 (N x 6.38)
Lactose	ISO 22662/IDF 198
Fat	AOAC 989.05
Ash	AOAC 942.05
Total Moisture	AOAC 925.45

Product Labeling

“Whey Protein Concentrate (____ % protein)”. The percent of protein is declared in 5% increments **OR** as actual percentage, provided an analysis of the product is supplied.

Product Applications and Functionality

Dairy products, dry blends, wet blends, prepared dry mixes, soft drinks/special dietary foods, infant foods, bakery products, confections, frozen desserts, process cheese

Storage & Shipping

Product should be stored and shipped in a cool, dry environment with temperatures below 80°F and relative humidities below 65%. Stocks should be rotated and utilized within 9 mo - 1 yr.

Packaging

Multiwall kraft bags with polyethylene inner liner or other suitable closed container – i.e., “tote bins,” etc.

Hydrolyzed Definition

Hydrolyzed WPC/WPI or MPC/MPI or casein is a whey- or milk-derived ingredient obtained by cleavage of the peptide bonds by specific enzymes (or optionally through use of acid). The product shall be labeled as hydrolyzed whey protein concentrate (or isolate); hydrolyzed milk protein concentrate (or isolate); hydrolyzed casein.

The hydrolyzed protein ingredient is characterized by its molecular weight distribution and by the degree of hydrolysis (DH). The degree of hydrolysis is defined as the proportion of cleaved peptide bonds in the ingredient.

IN NO EVENT SHALL ADPI BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO: THE NEED TO PROCURE SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE PUBLICATION, USE OF, OR RELIANCE UPON ANY STANDARD, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE. FOR MORE DETAILED INFORMATION ABOUT ADPI STANDARDS AND RELATED LIMITATIONS AND LIABILITIES, PLEASE REFER TO THE ADPI STANDARDS BOOK.