

BBL™ Acidicase™ Peptone

Bacto™ Casamino Acids

Bacto™ Casamino Acids, Technical

Acid Hydrolysates of Casein Product Description

BBL™ Acidicase™ Peptone is a hydrochloric acid hydrolysate of casein. The manufacturing process produces a casein hydrolysate that has a high salt content of approximately 37% and nitrogen content of approximately 8%. The hydrolysis of the casein, a milk protein rich in amino acid nitrogen, is carried out until all the nitrogen is converted to amino acids or other compounds of relative simplicity. It is deficient in cystine, because casein contains little cystine, and in tryptophan, which is destroyed by the acid treatment.

Bacto™ Casamino Acids is an acid hydrolysate of casein, prepared according to the method described by Mueller and Miller.¹ The method described, reduces the sodium chloride and iron content of the hydrolyzed casein. This hydrolyzed casein, supplemented with inorganic salts, growth factors, cystine, maltose and an optimum amount of iron was used by Mueller and Miller to prepare diphtheria toxin. Bacto Casamino Acids duplicate this specially treated hydrolyzed casein.

Bacto Casamino Acids, Technical is prepared similarly to Bacto Casamino Acids but is a less refined product, leaving a higher sodium chloride and iron content than in Bacto Casamino Acids.

Potential Applications

BBL Acidicase Peptone is intended for use as a nutritional supplement in vitamin assay, susceptibility testing and other laboratory media and microbial fermentation where the high salt content will not interfere.

Bacto Casamino Acids, due to the nearly complete hydrolysis of casein and the low sodium chloride and iron content, make an excellent supplement for many media formulations where nitrogen requirements are minimal. It has been recommended as a compromise for the replacement of pure amino acids in a defined medium for the growth of *Lactobacillus*, thus eliminating the complexity of preparation.² Additionally, it has been successfully used, along with Tryptone Peptone in nutritional studies to determine a bacterium's growth requirement for peptides or amino acids.^{3,4} It also works well as a component in laboratory media. It has been utilized in such diverse applications as TYI-S-33 media for the parasite *Entamoeba histolytica* and LCM medium for the growth of a nematode-bacterium complex.⁵

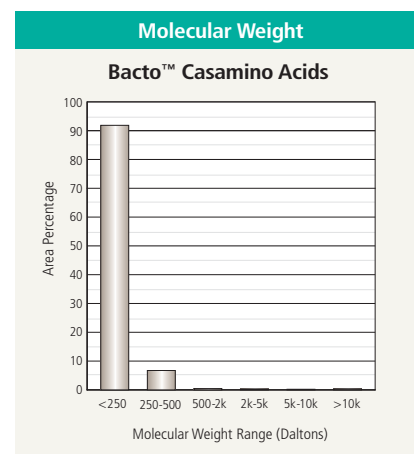
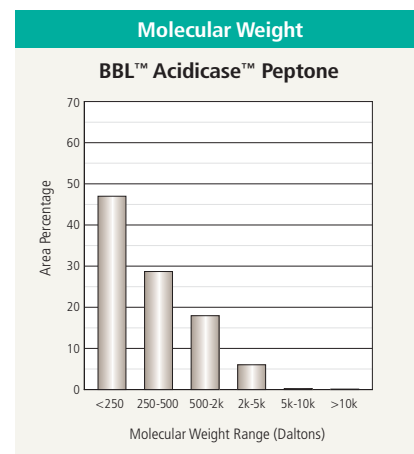
Bacto Casamino Acids, Technical provides similar benefits to Bacto Casamino Acids, for applications requiring a less refined hydrolysate.

Physical Characteristics

BBL™ Acidicase™ Peptone is a light beige, fine, homogeneous, free-flowing powder.

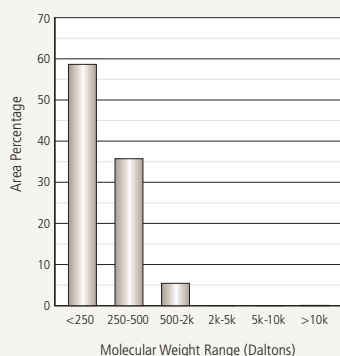
Bacto™ Casamino Acids is a very light beige, fine, homogeneous, free-flowing powder.

Bacto™ Casamino Acids, Technical, is a very light beige, fine, homogeneous, free-flowing powder.



Molecular Weight

Bacto™ Casamino Acids, Technical



Availability

Product Description	Cat. No.	Qty.
BBL™ Acidicase™ Peptone	211843	500 g
Bacto™ Casamino Acids	223050	500 g
Bacto™ Casamino Acids	223020	2 kg
Bacto™ Casamino Acids	223030	10 kg
Bacto™ Casamino Acids, Technical	223120	500 g
Bacto™ Casamino Acids, Technical	223110	10 kg

References

1. Mueller and Miller. 1941. Production of diphtheria toxin of high potency (100 lf) on a reproducible medium. *J. Immunol.* 40:21-32.
2. Van Niel and Hahn-Hägerdal. 1999. Nutrient requirements of lactococci in defined growth media. *Appl. Microbiol. Biotechnol.* 52:617-627.
3. Takahashi, Sato and Yamada. 2000. Metabolic pathways for cytotoxic end product formation from glutamate- and aspartate-containing peptides by *Porphyromonas gingivalis*. *J. Bacteriol.* 182:4704-4710.
4. Attwood, Klieve, Ouwerkerk and Patel. 1998. Ammonia-hyperproducing bacteria from New Zealand ruminants. *Appl. Environ. Microbiol.* 64:1796-1804.
5. Strauch and Ehlers. 2000. Influence of the aeration rate on the yields of the biocontrol nematode *Heterorhabditis megidis* in monoxenic liquid cultures. *Appl. Microbiol. Biotechnol.* 54:9-13.