With the method of the present ~~invention~~ disclosure it has become possible to prepare dairy gels by means of high isostatic pressure treatment with a substantially neutral or basic pH, a relatively high water content and without having to use coagulants or agents for lowering the pH. Furthermore, due to the improved properties of the dairy gels according to the present ~~invention~~disclosure, it is possible to use them in a wide variety of applications, in particular food applications.

A first aspect of the present ~~invention~~ disclosure relates to a method for preparing a dairy gel, comprising the steps of:

i) providing a liquid dairy composition comprising:

- a water content of 60 to 90% by weight;
- a pH of at least 6.5;
- a dairy protein content of 15 to 30% by weight, wherein at least 80% by weight of said dairy protein is casein; and wherein on a weight basis the ratio of total calcium to dairy protein is below 0.040; and

ii) subjecting the dairy composition to a high isostatic pressure treatment such that a dairy gel is formed.

As said, with the method according to the present ~~invention~~ disclosure it is possible to prepare dairy gels with a substantially neutral or basic pH, a relatively high water content and which gels are stable for a prolonged period of time. Furthermore, in order to prepare such gels no additives, such as coagulants or agents for lowering the pH are necessary. This is particularly advantageous for reasons that the use of additives in food products is becoming increasingly controversial.

A second aspect of the present ~~invention~~ disclosure relates to dairy gels obtainable by the above mentioned method.

A third aspect of the present ~~invention~~ disclosure relates to a dairy gel comprising:

- a water content of 60 to 90% by weight;
- a dairy protein content of 15 to 30% by weight, wherein on a weight basis at least 80% of the dairy protein is casein;
- pH of at least 6.5;
- on a weight basis a ratio of total calcium to dairy protein of below 0.040; and
- wherein on a weight basis less than 50% of any κ-casein present in the dairy gel is para-κ-casein.

A fourth aspect of the present ~~invention~~ disclosure relates to a food product comprising or prepared from a dairy gel as described above.

DEFINITIONS

The term "*dairy gel*" as used herein has its normal scientific meaning and refers to a viscoelastic solid prepared from amongst others dairy proteins, i.e. a system which depending on the circumstances can flow like a viscous liquid and in others behave like an elastic solid (D.S. Horne *et al*, International Dairy Journal (1999), pp. 261-268)

The term "*milk*" as used herein has its normal scientific meaning and refers to the liquid produced by the mammary glands of mammals, such as bovines (e.g. cows), goats, sheep or camels.

The term "*skim milk*" as used herein has its normal scientific meaning and refers to a milk comprising a relatively low amount of fat, i.e. below 1% by weight of the milk.

The term "*dairy protein*" as used herein has its normal scientific meaning and refers to proteins present in milk from human or non-human mammals, such as bovines (e.g. cows), goats, sheep or camels.

The term "*protein*" as used herein has its normal scientific meaning and refers to a linear polypeptide comprising at least 10 amino acid residues.

The term "*total calcium*" as used herein has its normal scientific meaning and refers to the total amount of calcium (colloidal and non-colloidal) present in a milk composition.

The term "*high isostatic pressure treatment*" as used herein has its normal scientific meaning and refers to a treatment wherein an isostatic pressure of 100 to 1000 MPa is applied to a product, such as a milk composition, during a pre-defined period of time.

The term "*casein*" as used herein has its conventional meaning (Walstra et al., 2006) and comprises native casein and micellar casein, but does not refer to sodium caseinate, potassium caseinate or calcium caseinate.

The term "*coagulant*" as used herein has its normal scientific meaning and refers to enzymes or agents able to specifically split the Phe-Met bond of κ-casein.