

Caseinate

Acid or rennet casein are insoluble in water but they may be treated with alkali to make a caseinate which is soluble. The exact alkali used will determine the functional properties of the resulting caseinate.

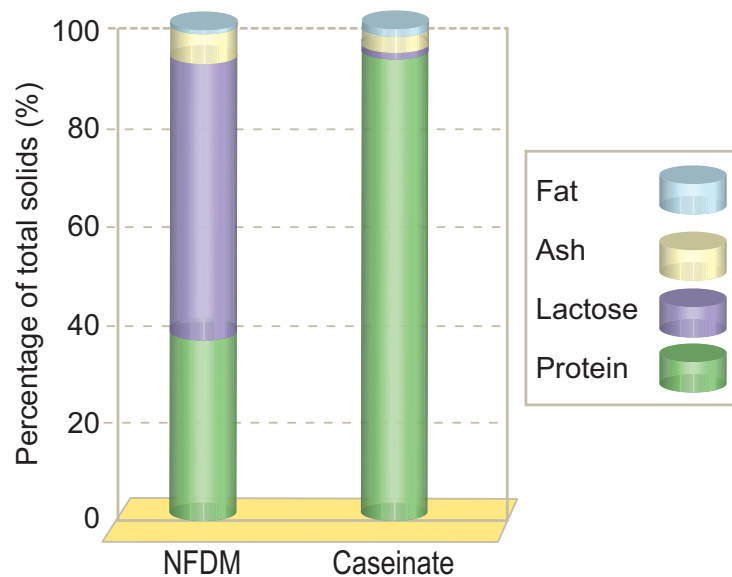
Types

- ◆ Alkali used
 - Sodium hydroxide or carbonate
 - Potassium hydroxide
 - Calcium hydroxide
 - Ammonium hydroxide
- ◆ Dryer used
 - Roller dryer
 - Spray dryer
 - Extruded

Regulations

- ◆ Codex Stan A-18-1995 Rev 1-2001

Caseinate composition



General composition of caseinate

Component	Caseinate type		
	Potassium	Calcium	Sodium
	----- % -----		
Protein	88	88	88
Lactose	0.3	0.3	0.3
Ash	4.7	4.7	4.7
Fat	1.5	1.5	1.5
Calcium	0.2	1	0.2
Moisture	5.5	5.5	5.5
pH	6.5-7.0	6.5-7.0	6.5-7.0
Solubility	99	95	99

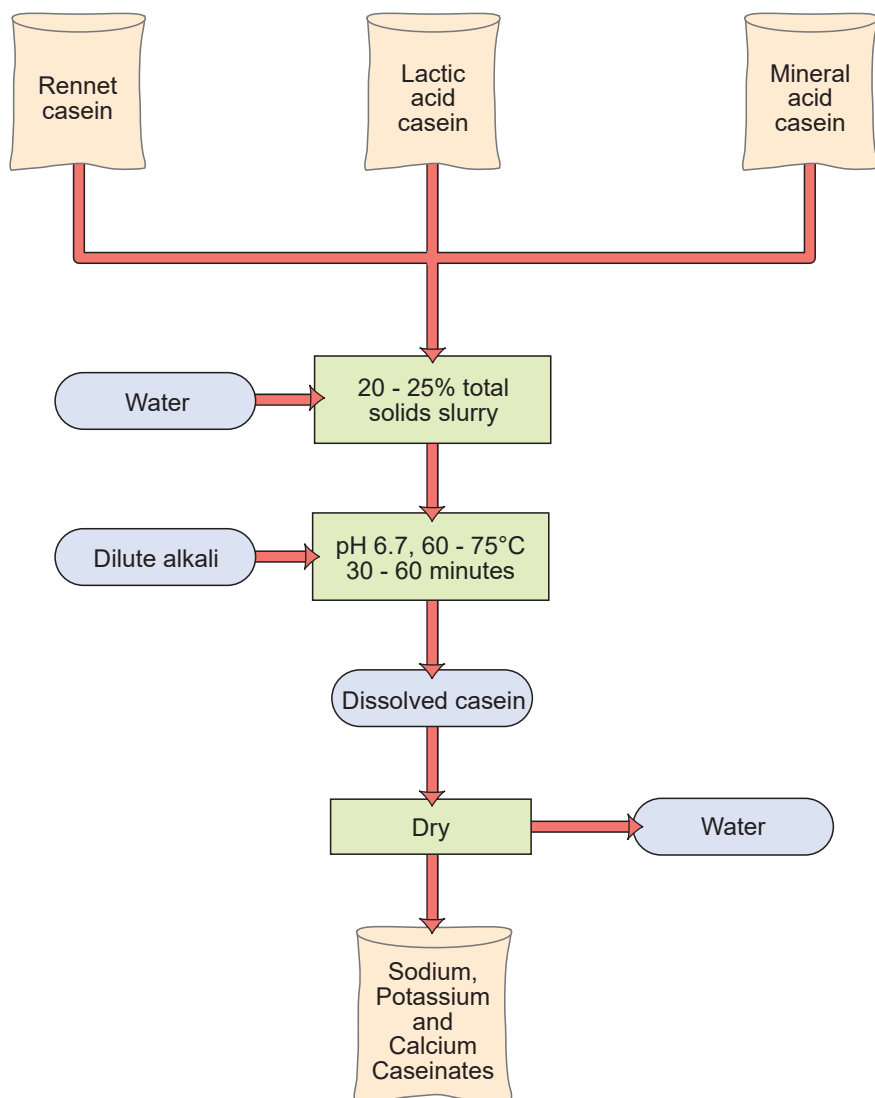
Codex specifications for caseinate*

Component	Caseinate	
	not less than	not greater than
Milkfat	-	2.0%
Protein (db)	88.0%	-
Casein in protein	95.0%	-
Moisture	-	8.0%
Lactose**	-	1.0%
Scorched particles	-	-
Spray	-	22.5 mg
Roller	-	81.5 mg
pH	-	8.0

* Codex Stan A-18-1995 Rev 1-2001

** Expressed in anhydrous form

Manufacture of Caseinate



Typical composition and characteristics

Potassium caseinate

- ♦ Typical composition

Protein (db)	92%
Moisture	6%
Lactose	<1%
Fat	2%
Ash	5%
Potassium	1.5%
Calcium	0.2%

- ♦ Characteristics

Color: white to cream
Flavor: bland
pH 6 - 7

- ♦ Storage

<25 C, <65% rh
12 - 24 months

Calcium caseinate

- ♦ Typical composition

Protein (db)	91%
Moisture	6%
Lactose	<1%
Fat	1.5%
Ash	5%
Calcium	1.2%

- ♦ Characteristics

Color: white to cream
Flavor: bland
pH 6.6 - 7

- ♦ Storage

<25 C, <65% rh
12 - 24 months

Sodium caseinate

- ♦ Typical composition

Protein (db)	92%
Moisture	6%
Lactose	<1%
Fat	1.5%
Ash	5%
Sodium	1.2%
Calcium	0.2%

- ♦ Characteristics

Color: white to cream
Flavor: bland
pH 6.6 - 7

- ♦ Storage

<26 C, <65% rh
12 months

Ammonium caseinate

- ♦ Typical composition

Protein (db)	91%
Moisture	6%
Lactose	1%
Fat	1.5%
Ash	5%

- ♦ Characteristics

Color: white to cream
Flavor: bland
pH 5.7 - 6.7

- ♦ Storage

<25 C, <65% rh