

## submissions

**From:** Ross, Judy [REDACTED]  
**Sent:** Friday, 11 July 2014 1:41 PM  
**To:** submissions  
**Cc:** [REDACTED]  
**Subject:** Round 2 submissions P1025- re Renneting enzymes-Chymosin

**Categories:** [REDACTED]

Good Afternoon

Received yesterday the advice round 2 of submissions relating to the Food Standards Code Australia New Zealand.

At the bottom of this document is the email I sent last year requesting the FSANZ specify Chymosin EC 3.4.23.4 of bovine origin in the list of permitted enzymes of animal origin.

Our request has not been addressed in the reviewed code.

**Current situation in the Draft code-**

Schedule 18 processing adis

S18-4 Permitted Enzymes [3]

- Maltotetrahydrolase, protein engineered variant;

(3) The permitted enzymes of animal origin are:

### Permitted enzymes (section 1.3.3—6)—Enzymes of animal origin

Enzyme	Source
Lipase, triacylglycerol (EC 3.1.1.3)	Bovine stomach; salivary glands of forestomach of calf, kid or lamb; [REDACTED] bovine pancreas
Pepsin (EC 3.4.23.1)	Bovine or porcine stomach
Phospholipase A <sub>2</sub> (EC 3.1.1.4)	Porcine pancreas
Thrombin (EC 3.4.21.5)	Bovine or porcine blood
Trypsin (EC 3.4.21.4)	Porcine or bovine pancreas

The list is unchanged from the Standard 1.3.3 Table to clause 16 in the previous version of the FSANZ code.

OF note:

Natural rennet of bovine origin contains approximately 93% of the proteolytic activity as **Chymosin** and only 7% of the proteolytic activity as **pepsin** has been produced in New Zealand by the Rennet Company on their site in Eltham, Taranaki since 1916.

Now operating as Renco New Zealand [Renco] it remains the only processing plant producing natural rennet of animal origin in the Southern Hemisphere. There are a small number of natural rennet plants operating in the Northern Hemisphere.

Its an ANOMALY to list Pepsin [EC3.4.23.1] sourced from Bovine or Porcine Stomach when CHYMOSIN [EC 3.4.23.4] sourced from Bovine stomach accounts for the bulk of the proteolytic activity in rennet produced in New Zealand.

**Calf Rennet [93% CHYMOSIN] has been used in the cheesemaking industry in New Zealand for more than 110 years,** its an essential processing aid added to the milk at the beginning of the cheesemaking process.

Animal rennets are the oldest industrially manufactured food enzymes of them all, and perhaps the oldest food enzyme altogether, with a history that goes back to antiquity.

A number of other coagulants are available now and have found favour in some of the cheese producing plants, some of these are listed in the revised code under the heading 'Enzymes of Microbial origin'.

Renco are currently participating in a group of northern hemisphere enzyme manufacturers who are collaborating together to compile a dossier to submit to the European Commission to gain authorisation for Animal Rennet [Chymosin and Pepsin] in accordance with Regulation (EC) No 1331/2008. This has been a lengthy process, the document is comprehensive covering aspects from raw materials, through to processing and modes of use to risk analysis, unfortunately it is still in draft form. The co ordinator of the dossier, Jens Erik Soerensen [dkjes@chr-hansen.com] has also questioned the wording of the FSANZ code on this matter and would welcome contact from FSANZ.

**Finally, Renco are asking for the table above to be revised to read as follows-**

(3) The permitted enzymes of animal origin are:

**Permitted enzymes (section 1.3.3-9)-Enzymes of animal origin**

Enzyme	Source
Lipase, triacylglycerol (EC3.1.1.3)	Bovine stomach; salivary glands or forestomach of calf, kid or lamb; porcine or bovine pancreas
Chymosin (EC3.4.23.4)	Bovine stomach
Pepsin (EC3.4.23.1)	Bovine or Porcine stomach
Phospholipase A <sub>2</sub> (EC 3.1.1.4)	Porcine pancreas
Thrombin (EC3.4.21.5)	Bovine or porcine blood
Trypsin (EC3.4.21.4)	Porcine or bovine pancreas

Regards  
Jude Ross  
Quality/Compliance Manager  
Renco New Zealand  
Eltham, Taranaki.



Dear Food Standards Australia New Zealand,

We would like to suggest that Chymosin EC 3.4.23.4 of bovine origin be included in the Food Standards Code section 1.3.3. Clause 15. Currently only Pepsin EC 3.4.23.1 sourced from Bovine or porcine stomach is listed in the table attached to Clause 15 { Permitted Enzymes of Animal origin}.

In natural rennet of Bovine origin used in New Zealand and Australia, over 90% of the milk coagulating / proteolytic activity of rennet can be attributed to the enzyme Chymosin.  
It seems an anomaly to have only Pepsin listed in the code as an approved enzyme.

In 2002 we had communication with Peter Keegan of the Standards Information Unit. Our query was "Permitted enzymes of animal origin are listed in Clause 15 and Chymosin is not included".

His initial response was, Chymosin can be used as a processing aid, that it was listed in the table to Clause 17 { microbial enzymes} and also listed in the Standard 1.3.1.{Food Additives} schedule 1, renneting enzymes.

A subsequent response was " chymosin is a rennet, and rennet is permitted in food".

We felt that neither of these responses were at all satisfactory, but it appeared that we had no further options available to us.

We request your review of this apparent anomaly.

Many thanks and regards

Jude Ross

Quality/Compliance Manager

Renco New Zealand

Eltham, Taranaki.



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