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## Application A1136 Protein Glutaminase as a Processing Aid (Enzyme)

I wish to make a submission in two parts on the above Application on behalf of the Food Intolerance Network (FIN), which has 13,486 current members and so is probably the largest consumer organisation focused on food in Australia.

## Part 1

In our view, this enzyme cannot legally be classified as a Processing Aid and hence hidden from the view of consumers on three separately argued grounds:

1. **declaring Protein Glutaminase as a Processing Aid is in breach of Object (c) of the Food Standards Australia New Zealand Act 1991: *the provision of adequate information relating to food to enable consumers to make informed choices.***

This is particularly the case with Protein Glutaminase because some consumers have been scientifically proven to react to the products created by this enzyme and so seek to avoid these products in foods. Classification as a Processing Aid will deny them this information and this choice. This reason is further supported in Part 2 of this submission.

Protein Glutaminase is clearly a Food as defined by the Food Standards Australia New Zealand Act 1991, where Food includes (a) any substance or thing of a kind used, capable of being used, or represented as being for use, for human consumption (whether it is live, raw, prepared or partly prepared); and (c) **any substance used in preparing a substance** or thing referred to in paragraph (a). Therefore Protein Glutaminase should be treated as a food subject to full disclosure.

2. **Protein Glutaminase is an Additive and not a Processing Aid as defined by the Australia New Zealand Food Standards Code and therefore is required to be shown in the Statement of Ingredients**

We argue that the products of the enzyme Protein Glutaminase perform a 'technological function' in the food for sale, despite the Call for Submissions and presumably the Commercial in Confidence application from Amano studiously avoiding any mention at all of this function. This function is flavour enhancement yet the words 'glutamate' and 'enhancer'appear nowhere , which is rather astonishing given that this enzyme is designed to produce free glutamates which are flavour enhancers.

Nor is there any evidence in the public documentation that this issue was even considered in assessment, just the bald statement without evidence '*FSANZ also concludes that...the enzyme performs its technological purpose during processing and manufacture of food only*'. Is there an elevated level of free glutamates in the end product with a flavour enhancing effect? This would be an essential and valid enquiry before approval but there is no evidence such enquiry was made.

The 'technological function' is **explicit** in Application A1136 but in such a mealy-mouthed way as to slip past those who are not food technologists: *"Protein glutaminase enhances protein solubility in various applications such as baking, pasta/noodle making, milk, dairy meat, fish, grain processing, yeast products and egg based products. The technological purpose is to improve emulsification, foam stabilisation and gelling in these proteinaceous foods. It also* ***decreases flavour fade or 'off flavour' problems associated with flavour-protein interactions"****.*

In fact, this enzyme increases the amount of free glutamates with the technological function of flavour enhancement. Some people have been shown scientifically to react to elevated levels of glutamates and so seek to avoid products with this risk. They will not be able to make that choice unless Protein Glutaminase is classifed as an Additive.

In the Code, the distinction between an Additive and Processing Aid is essentially that a Processing Aid does not perform a 'technological function in a food for sale', yet clearly Protein Glutaminase does so and is intended to do so. Therefore logically it cannot be classified as a Processing Aid and must be classified as an Additive and shown in the Statement of Ingredients.

This argument is based on Sections 1.1.2—11 Definition of used as a food additive and 13 Definition of used as a processing aid in the Australia New Zealand Food Standards Code. Protein Glutaminase is not excluded by 1.2.4—3 Requirement to list all ingredients. Standard 1.3.3 Processing aids and 1.3.3—6 Enzymes refer to Schedule S18-4 where the source and acceptability of Protein Glutaminase could be shown while still requiring that it appear as an Additive.

### 3. Protein Glutaminase is a protease as currently listed in the Australia New Zealand Food Standards Code and so is legally required to be shown in the Statement of Ingredients

Protein Glutaminase is a protease that generates glutamate from glutamine. Three proteases are presently required to be listed as Additive 1101 (papain, bromelain, ficin). Given the concerns of consumers as developed in Part 2, it would be entirely possible to approve Protein Glutaminase and add it to the definition of Proteases under 1101 in Schedule 8 of the Code.

It is difficult to understand why Protein Glutaminase would not automatically appear as a protease given that reasons for the inclusions of three other proteases are not given but would be presumed to be identical to the reasons that might be advanced for this enzyme, and that if these are legally required to appear then so should Protein Glutaminase.

The Call for Submissions claims that '*Enzymes used in the production and manufacture of food are considered processing aids and are regulated by Schedule 18 of the Australia New Zealand Food Standards Code (the Code)*' which is not accurate given that three classes of enzymes are presently required by the Code to be listed.

As consumers we also want to make clear our opposition to the recent proposal to delete amylases, proteases and lipases from the list of additives that are required to be shown in the Statement of Ingredients, as detailed in Annex A.

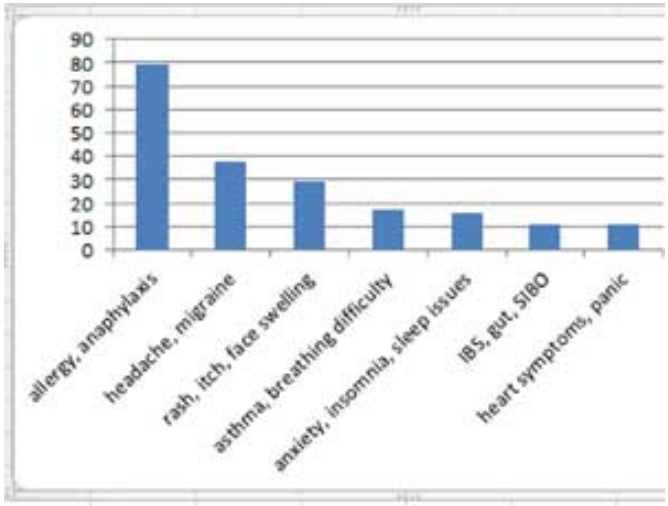
## Part 2

Consumers have expressed their concerns about this particular enzyme in the petition at Annex B which has collected 6,931 (and counting) signatures and 126 pages of trenchant comments.

Of those who made comments, the strongest by far is that **consumers have a right to know what is in our food**:

> *Adding it without our knowledge is just criminal – John*
> *We have a human right to know what is in the food we eat - Monique*
> *If they need to "hide it" we have a problem!!! - Renette*

Some people said what specific reactions they have to MSG. These were the most often reported:




And the best answer to Reason for Signing? *I'm human - Daniel*

Clearly this is a hot button issue for consumers, who are concerned at manipulation of their food with information being deliberately hidden that might inform their choices. The full list of signatures and comments is in Annex C.

The rash in this photo is a reaction to a dietitian-supervised MSG challenge: this is why consumers want Protein Glutaminase to appear on the Statement of Ingredients and not be hidden as a Processing Aid.

## Conclusion

From the point of view of consumers, while we do not oppose the approval and use of the enzyme *per se*, we object strongly to it being classified as a Processing Aid. As consumers, we want to know what changes have been made in our food. To hide the cause of the change as a 'Processing Aid' is deliberately misleading.

There is a world-wide trend by the food industry to reduce additives shown on the Ingredients Panel because up to 80% of consumers are concerned about what is in their food (Ref 1). One food industry strategy is to have current additives classified or reclassified as 'processing aids' so that they do not appear on the ingredients panel.

However as consumers we want to know if these additives have been used in the food because they alter the composition of the food in ways that may affect certain people.

A practical example of the problem is that some existing permitted proteases increase the levels of free glutamates to levels that affect sensitive individuals. At present the use of these proteases must be declared because they are additives, so consumers can make an educated guess about free glutamates and avoid foods containing them if necessary.

If they are deleted as permitted additives or reclassified as processing aids but are still used in foods, consumers are denied this information and choice.

**We seek to have Protein Glutaminase listed in Schedule 8 under 1101 Proteases (and wherever else required) so that it appears in the Statement of Ingredients on foods.**

We look forward to a favourable response to this reasonable request that consumers are informed what is in their food, as your Act requires.

Regards

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Ref 1: http://www.fedup.com.au/images/stories/TheRealFoodtrend.pdf

## ANNEX A

EXERPT FROM: **JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON FOOD ADDITIVES Forty-Ninth Session Macao SAR, China, 20-24 March 2017**

**PROPOSED DRAFT REVISION TO THE INTERNATIONAL NUMBERING SYSTEM (INS) FOR FOOD ADDITIVES (CAC/GL 36-1989): Deletion of amylases(INS 1100 i, ii, iii, iv, v, vi), proteases(INS 1101 i, ii, iii, iv, v, vi)and lipases(INS 1104)**

10. Amylases (INS 1100 i, ii, iii, iv, v, vi), proteases (INS 1101 i, ii, iii, iv, v, vi), lipases (INS 1104) are not justified for use as food additives since they fall outside the scope of the definition for food additives. These substances have no activity in final food (flour and bakery products) because the production process typically includes heat inactivation of the enzyme in order to terminate the process when the desired effect is obtained.

11. In compliance with table 3 of GSFA, amylases (INS 1100 i, ii, iii, iv, v, vi), proteases (INS 1101 i, ii, iii, iv, v, vi) and lipases (INS 1104) could be used in broad food categories in accordance with GMP. In some of these FC activity enzymes could be manifested.

12. Amylases (INS 1100 i, ii, iii, iv, v, vi), proteases (INS 1101 i, ii, iii, iv, v, vi) and lipases (INS 1104) are digestive enzymes. They have been broadly used in therapy of digestive tract diseases. However in case of systematic use of digestive enzymes with food there could be imbalance in digestive process:

- Decrease production of endogenic digestive enzyme
- Change of Michaelis constant, from which depend of enzymatic reaction rate in the digestion of food
- Violation allosteric control of enzyme activity
- Hormone imbalance which are for supervising production of digestive enzyme responsible in the human organism.

13. For example, changing quantity of lipase and amylase could lead to imbalance of endocrine function of pancreas and lowering organism tolerance into glucose. It should be noted that:

- As producers of these food additives permitted microorganisms with modified DNA
- Volumes of enzymes production and food produced with help of enzymes are constantly increased.

14. Produced by GM microorganisms enzymes could have different characteristics from enzymes elaborated in digestive tract:

- Another optimum of temperature and pH for enzyme activity
- Different enantiomers could have different type of enzyme activity.

15. For example, the possibility of negative influence of food additive lipase (in case its use in a higher concentration) showed in:

- WHO Food Additives Series: 71, World Health Organization, Geneva, 2015, p.27-37;
- Safety evaluation of certain food additives World Health Organization, Geneva, 2012.-p.39-51;
- Safety evaluation of certain food additives World Health Organization, Geneva, 2012.-p. 51-63;
- Sixty-first report of the Joint FAO/WHO Expert Committee on Food Additives, WHO 2004, 15-20.

**ANNEX B**

**Petition from** https://www.change.org/p/fsanz-food-standards-australia-new-zealand-reject-a-new-way-of-hiding-msg-in-foods?recruiter=26227191&utm_source=share_for_starters&utm_medium=copyLink

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Petitioning FSANZ (Food Standards Australia New Zealand):

# Reject a new way of hiding MSG in foods

**Sue Dengate** Woolgoolga, Australia

*The rash in this photo is a reaction to a dietitian-supervised MSG challenge*

Did you know that MSG (monosodium glutamate and other free glutamates) may cause a wide range of symptoms like migraines and headaches, sleeplessness, rapid heartbeat, tachycardia and arrhythmias, foggy brain and poor memory, arthritis, cravings and weight gain?

MSG will be added to your food and hidden, not shown on the ingredients list, if a new food industry application is approved.

A1136 is a food company application to FSANZ for approval to use a new enzyme Protein Glutaminase as a "processing aid to improve protein functionality in baking, noodle, dairy, meat, fish and yeast products".

**There are two things wrong about this enzyme:**

- It considerably increases the level of free glutamates in your food. This makes your food more flavour enhanced or, to put it another way, increases the MSG which many consumers seek to avoid.

- It will never be shown on the ingredients label because it will be classified as a "processing aid", part of an international food industry trend to hide the additives which many seek to avoid.

If this enzyme is approved and hidden, there will be many more used to manufacture currently regulated food preservatives inside your food so that they are not listed on the label. You will have no idea that there are propionate or benzoate preservatives hidden in the food. You will have no idea that the free glutamates have been vastly increased then boosted further with hidden ribonucleotides. And the label may legally say "No MSG" or "No added MSG" or "No preservatives".

**Listen to reports**

*After doing the MSG challenge, I developed strong brain fogging within about an hour* - Neil

*I kept becoming hugely bloated with griping abdominal pains* – reader, Victoria

*We went out to a Chinese Restaurant…about an hour after I went to bed it began, I think you'd call it tachycardia, a fast (100) and very irregular heartbeat. I got up, sat up for another 2 hours. Blood pressure had risen incredibly, and over the 2 hours settled down but the feeling of panic stayed* - Joy

*My 8 yo granddaughter was getting headaches three times a week or more. Sometimes they were so bad she had to take time off school and lie down* - Terry

*Within 8 to 12 hours of having MSG our daughter went from no pain to all the symptoms of arthritis, swollen joints, very sore, trouble walking, and lots of pain* - Sandra

The Food Intolerance Network with over 12,000 families has logged many hundreds of complaints about glutamates, see some at
http://www.fedup.com.au/images/stories/SC621MSG.pdf

**Listen to the science**

See scientific studies showing reactions to MSG monosodium glutamate 621 at
http://www.fedup.com.au/factsheets/additive-and-natural-chemical-factsheets/621-msg-msg-boosters-flavour-enhancers-and-natural-glutamates

**Use of this enzyme will blatantly mislead the consumer. It is designed to mislead the consumer. We deserve to know what is in our food, always.**

Please sign to

- Reject A1136 – Protein Glutaminase as a Processing Aid, a new way of hiding MSG in foods.

- Ask for a regulation to show the free glutamate content of foods on all ingredients labels so that such flavour enhancers are in public gaze, forcing food manufacturers to reduce use.

**More information**

Application A1136 details
129 ways to hide glutamates and fool consumers
More on hiding additives as ingredients
Food industry applicant Amano Enzyme product list, including a range of proteases and glutaminase
EU: Application made but not assessed and approved by the European Food Safety Authority (EFSA)
USA: Currently on GRAS (Generally Recognised As Safe) list maintained by USDA

**This petition will be delivered to:**

- FSANZ (Food Standards Australia New Zealand):

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**ANNEX C**

126 pages of signatures and comments from the petition