

11 February 2013

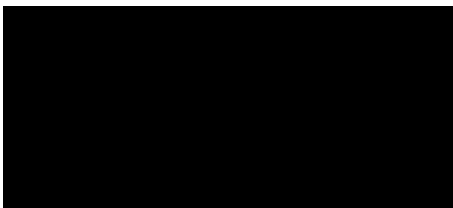
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Dear Sir/Madam

Attached are the comments that the New Zealand Food & Grocery Council wishes to present on the Call for Submissions for **Proposal P1019** *Carbon monoxide as a processing aid for fish*.

Yours sincerely



Katherine Rich
Chief Executive

Food Standards Australia New Zealand
PROPOSAL P1019 CARBON MONOXIDE AS A PROCESSING AID
FOR FISH

Call for Submissions

11 February 2013

The New Zealand Food & Grocery Council (the “NZFGC”) welcomes the opportunity to make a submission on *Proposal P1019 Carbon monoxide as a processing aid for fish*.

New Zealand Food & Grocery Council

The NZFGC represents the major manufacturers and suppliers of food, beverage and grocery products in New Zealand. Collectively this sector generates \$28.7 billion in the New Zealand domestic retail food, beverage and grocery products market and \$26.3 billion in export revenue from exports to 183 countries. Food and beverage manufacturing is the largest manufacturing sector in New Zealand representing 46% of total manufacturing income and 34% of all manufacturing salaries and wages.

Food and beverage manufacturing and wholesaling in New Zealand directly employs 104,160 people (5% total employment) and, when taking the wider food and beverage value chain (including farming and food retailing/foodservice) into account, employment soars to 344,820 in 85,252 enterprises. This represents around one in five people employed in our country.

No matter how you look at it, the New Zealand food, beverage and grocery sector makes a substantial contribution to the New Zealand domestic economy, to our exports and to the general economic well-being of the country.

Application A1055

The NZFGC understands that the proposal is to make it clear that carbon monoxide is not permitted for use as a processing aid in fish.

Comments

The NZFGC supports the conclusion reached by FSANZ that would see the Food Standards Code amended to make it clear that, because of an ongoing technological function in fish (colouring and/or colour fixing), carbon monoxide applied directly not be permitted to be used as a processing aid.

Source of confusion in relation to use

The two main reasons that confusion has arisen concerning carbon monoxide use in fish processing relates to the definition of processing aid and the effect of directly applying carbon monoxide in fish processing.

In the *Australia New Zealand Food Standards Code* (the Food Standards Code), a processing aid is defined in part as:

“the substance is used in the processing of raw materials, foods or ingredients, to fulfil a technological purpose relating to treatment or processing, **but does not perform a technological function in the final food**; ...” (NZFGC bolding).

Carbon monoxide is currently not used as a direct application in New Zealand according to Seafood New Zealand but is used in some imports, particularly yellow-fin tuna, to enhance the colour of the fish. Direct application therefore has a technological function in the final food which is contrary to the definition of a processing aid.

The more concerning aspect of the use of carbon monoxide is that fish processed with direct application of carbon monoxide may have the appearance of being fresh and safe when that is not the case. The use of carbon monoxide may mask deterioration of the fish and therefore its safe use by the consumer.

For these reasons, FSANZ is proposing that the use of carbon monoxide in fish processing be prohibited by amending clause 3 in Standard 1.3.3 in the Food Standards Code to add new subclauses (2) and (3) as follows:

“(2) Carbon monoxide may be used as a processing aid in the course of manufacture of any food, except for fish, at a level necessary to achieve a function in the processing of that food.

(3) Fish that has been treated with carbon monoxide prior to the commencement of Item 1 of the Schedule to the *Food Standards (Proposal P1019 – Carbon Monoxide as a Processing Aid for Fish) Variation* shall not be taken to comply with subclause 3(2) by virtue of subclause 1(2) of Standard 1.1.1.”

Issues with proposed clarification

There are three issues with proceeding with this amendment:

- benefits of direct application of carbon monoxide
- residual carbon monoxide in fish from processes other than direct application
- testing.

In relation to benefits, NZFGC understands that there is research currently in train in the USA that is examining the benefits of processing fish with carbon monoxide. There is already research in the literature identifying that carbon monoxide stunning of fish may enhance animal welfare concerns about fish processing (see “Slaughter of Atlantic salmon (*Salmo salar* L.) in the presence of carbon monoxide” by GA Bjørlykke et al in *Fish Physiology and Biochemistry* 2012 Nov 21 (Epub ahead of print) and “Carbon monoxide treatments to impart and retain muscle color in tilapia fillets” by D Mantilla et al in the *Journal of Food Science*, 2008 Jun; 73(5); C390-9). These benefits should be considered in the process of proceeding with amendment to the Food Standards Code.

The second issue is that carbon monoxide is a by-product of wood smoke and as a result smoked fish may contain a small amount of carbon monoxide residue. As well, some packaging processes may generate residual carbon monoxide in fish. Neither of these practices are the purpose of the amendment. The proposed amendment to Standard 1.3.3 should therefore more accurately read:

“(2) Carbon monoxide may be used as a processing aid in the course of manufacture of any food, except by direct application to fish, at a level necessary to achieve a function in the processing of that food.”

In relation to testing, one result of clarification for regulatory agencies and industry is that processed fish will at some stage be subject to testing to provide assurances that carbon monoxide has not been used in the processing of fish.

There seem to be differences in the tests used to determine whether carbon monoxide has been used in processing because carbon monoxide is ubiquitous in the environment and, as noted above, is a by-product of some processes that do not involve direct application of carbon monoxide. See for example “Determination of carbon monoxide in tuna by gas chromatography with micro-thermal conductivity detector” by C Bernardi et al in the *Journal of Chromatographic Science*, 2008 May-Jun; 46(5); 392-4; “Improvement of carbon monoxide analysis in fish meat” by T Ohtsuki et al in *Shokuhin Eisegaku Zasshi*, 2011; 52(2); 130-4 and “Inspection of carbon monoxide in imported tilapia” by Y Takeda et al in *Eisei Shikenjo Hokoku* 1995; (113):74-6. For this reason, NZFGC suggests that amendment be deferred until agreed methodologies and levels of carbon monoxide reflective of direct application have been developed and agreed with industry in the form of guidance.

Conclusion

The NZFGC supports amendment to the Food Standards Code that enhances clarity and consistency. Amendment to Standard 1.3.3 to clarify that carbon monoxide may not be used as a processing aid in the processing of fish, is intended to clarify the issue for regulators and industry.

NZFGC suggests the proposed amendment to Standard 1.3.3 concerning carbon monoxide use in fish processing consider other benefits of directly applying carbon monoxide and make clearer that the proposed amendment refers to ‘direct application of carbon monoxide’ and not to carbon monoxide as a by-product of smoking or some packaging processes.

NZFGC suggests the proposed amendment be deferred until guidance on acceptable and cost efficient methodologies are developed to test for the direct application of carbon monoxide in fish processing together with determination of unacceptable levels of carbon monoxide that results from direct application. Such guidance should be developed in consultation with industry.

References

- Bernardi C, Chiesa LM, Soncin S, Passerò E and Biondi PA “Determination of carbon monoxide in tuna by gas chromatography with micro-thermal conductivity detector” in the *Journal of Chromatographic Science*, 2008 May-Jun; 46(5); 392-4; PMID:18492347
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Takeda Y, Kawasaki Y, Sugita T, Sakamoto S, Sato K, Yashida R, Maitaini T, Ishiwata H and Yamada T, "Inspection of carbon monoxide in imported tilapia" in *Eisei Shikenjo Hokoku* 1995; (113):74-6; PMID:8717232.