Submission to
Food Standards Australia New Zealand

Consultation paper 2 – Nutrient Composition
Proposal P1028—Infant formula

31st August 2021

Introduction

This submission on behalf of Danisco Australia and Danisco New Zealand, is made in response to Consultation paper 2 – Nutrient Composition to Proposal P1028—Infant formula.

Danisco/IFF

Danisco operates in Australia and New Zealand as subsidiary of International Flavors and Fragrances Inc (IFF), manufacturer/marketer of specialty food ingredients (including plant proteins), food additives, flavourings and food processing aids.

Upon consideration of the topics discussed in Consultation Paper 2 we welcome the opportunity to provide comment, to Food Standards Australia New Zealand on the Regulation of Infant Formula Products in respect of nutrient composition.

General Comment

Danisco supports the primary objective of FSANZ's P1028 review to protect public health and safety. We also agree with the premise that infant formula must be safe for formula-fed infants to consume, and its nutrient composition must support normal growth and development when used as the sole or principal source of nutrition up to 12 months of age

It is also our general position that the FSANZ Standard 2.9.1 Infant Formula products should, where FSANZ's primary objectives are satisfied, harmonise with international standards notably Codex Infant Formula Standard (Codex STAN 72-1981), the draft revisions to the essential composition of the Codex STAN 156-1987 Standard for Follow-Up Formula as well as the 2016 EU Regulation on Infant Formula (EU 2016/127)

Our comments to follow are addressed specifically to Section 4 of CP-2, in consideration of the protein composition of infant formula product with a focus on the Nitrogen conversion factor

Section 4 Protein

4.1 Calculation of protein content

IFF supports the recommendation of FSANZ for the adoption of Option 1 which proposes to the use of a Nitrogen Conversion Factor (NCF) of 6.25 as appropriate for all infant formula. We note that this NCF is consistent with both the current Codex infant formula standard (Codex Stan 72-1981) and EU infant formula regulation (EU 2016/127) which, in turn, is consistent with FSANZ goal of international alignment. We consider an NCF of 5.71for soy to be derived from incorrect data sources.

The citing of only one paper by Maubois and Laurient for the soy NCF of 5.71 value is of concern. Although these two scientists used scientific method for determining this NCF value, it has been pointed out by others, specifically E. Krul in her 2019 review of NCFs for soy, that there were several assumptions made by Maubois and Laurient that biased their data considerably. Accordingly, using similar logic for determining the NCF for soy protein isolate (i.e., from amino acid sequence data) could ultimately result in a calculation of 5.92 to 6.65 due to the significant variation in the protein subunit composition among different soy genotypes. Thus, it would be extremely difficult to accurately determine a specific, universal NCF for soy using Maubois and Laurient's methods.

IFF would like to correct several statements in CP2:

- In the "Previous considerations" of section 4.1 (Protein content, soy protein), we wish to address the statement about the nitrogen content of soy protein due to the presence of "side chain glycosylation". The presence of N-glycosylation (which is presumed to be what the authors are referring to) in proteins does not lower the nitrogen content; it stays the same. The Nitrogen group is what the sugar is attached to in this case. Moreover, if this were accurate, then milk proteins would also have lower nitrogen levels since some of these are also glycosylated.

- Furthermore, in the "Nutrition risk assessment" of Section 4.2.1 (Protein range, cow's milk-based) the paper states that soy proteins contain trypsin inhibitors as anti-nutritionals. While it is true that two very well-known trypsin inhibitors are present in soybeans (Kunitz trypsin inhibitor and Bowman-Berk Inhibitor), both are removed during processing. This is one of the main reasons why protein processing companies use an acid precipitation step for soy protein isolate used in infant formula.

References:
Krul ES (2019). Calculation of nitrogen-to-protein conversion factors: a review with a focus on soy protein. J Am Oil Chem Soc. 96(4):339–64 doi:10.1002/aocs.12196