Comments from the Victorian Department of Health and the Victorian Department of Jobs, Precincts and Regions.

Due date of submission – 20 May 2021

The Victorian Departments of Health and Jobs, Precincts and Regions (the departments) welcome the opportunity to respond to this application to amend the Australia New Zealand Food Standards Code (the Code).

Application A1214 – Nicotinamide riboside chloride as Vitamin B3 in FSMP (the Application) seeks permission for the use of Nicotinamide riboside chloride (NRC) as a form of vitamin B3 in foods for special medical purposes (FSMPs). The Application has been submitted by ChromaDex (the Applicant).

From the Food Standards Australia New Zealand (FSANZ) assessment report, supporting documents and additional discussions with FSANZ, it is understood that:

- Vitamin B3 (also, and henceforth referred to as 'niacin') is the generic descriptor used for the closely related compounds nicotinic acid (pyridine-3-carboxylic acid) and nicotinamide (niacinamide or pyridine-3-carboxamide).
- Niacin is converted and used in the body in the form of the metabolically active coenzymes nicotinamide adenine dinucleotide (NAD, NADH and NAD+) and nicotinamide adenine dinucleotide phosphate (NAD, NADHP and NADP+).
- Standard 2.9.5 of the Code sets out the permitted forms of particular substances that may be added to FSMP. In relation to niacin, nicotinic acid and niacinamide (nicotinamide) are the only forms currently permitted to be added to FSMPs.
- The Application is seeking permission for the use of NRC as an additional permitted form of niacin in FSMPs. It does not seek to amend mandatory requirements in relation to composition, labelling or other aspects of FSMPs.
- Based on the available evidence, FSANZ concluded that NRC is a precursor to NAD+ and is therefore a bioavailable form of niacin. This assessment is based on the following evidence and assumptions:
    - NRC dissociates to nicotinamide in the digestive system and has an equimolar conversion of 1mg NRC = 0.42mg nicotinamide.
    - In human studies, NRC supplementation (between 100mg/day – 2000mg/day) is associated with increased blood and urinary concentrations of NAD+ and related metabolites.
    - While bioequivalence of NRC to other permitted forms of niacin could not be established due to an absence of human studies comparing NRC intake to nicotinic acid or nicotinamide, NRC is not expected to react any differently to nicotinamide in the body.
- Stability data provided by the Applicant was not published due to commercial confidentiality but was deemed by FSANZ as sufficient to support the use of NRC in a range of foods.
- FSANZ concluded that NRC is unlikely to pose any safety concerns when prescribed and used under medical supervision at appropriate intake levels.
- On this basis, FSANZ proposes to permit the use of NRC as a form of niacin for FSMPs.

The departments recognise that FSMPs are specifically designed for consumption by vulnerable individuals with special dietary needs, and in some instances may be the sole source of nutrition. As such, care is necessary to ensure the composition and labelling of FSMPs provide adequate and appropriate delivery of essential nutrients.

We note that FSANZ considered *The Policy Guideline on the Intent of Part 2.9 of the Food Standards Code*, which states that the composition of special purpose foods should be consistent with the intended purpose, and concluded that the Policy Guideline had been met. However, we request further detail be provided regarding the rationale behind this conclusion given the absence of direct evidence in humans at the intended level intake, or in comparison with dietary niacin sources with established bioavailability factors.

Establishing the stability of any new ingredient is also critical to ensuring composition of FSMPs is appropriate to accurately and adequately deliver the intended nutrients. However, as there was minimal information provided in the call for submissions regarding the evidence provided to FSANZ to validate NRC stability, the departments are unable to independently assess any impact of NRC stability on the appropriate use in FSMPs. **While the departments appreciate the need for businesses to maintain confidentiality over commercially proprietary information, further consideration is required for this, and future, applications as to how such critical information for assessment of safety and/or suitability can be provided whilst still maintaining confidentiality for the applicant**. The departments' position is that, at a minimum, information should allow the level and relevance of evidence to be assessed. For example, this could occur by providing a summary of the number of studies and range of conditions assessed (that is, populations or food matrices).

The assessment presents several uncertainties related to the bioavailability and stability of NRC that could impact niacin intake. The implications of this may be significant if the only source of niacin consumed is in a FSMP that replaces the total diet. However, from the evidence presented, it is difficult to accurately assess scope and scale of these risks. On this basis, the departments do not oppose progression of Application A1214, but request further clarification in the Approval Report regarding our concerns in relation to ensuring that the composition of FSMPs deliver appropriate and intended amounts of niacin required by consumers.