

29 September 2026

413-26

Supporting document 1

Risk and technical assessment – Application A1325

Use of steviol glycosides as a food additive in hot plate flour products

Executive summary

This application from George Weston Foods Ltd. seeks to amend the Australia New Zealand Food Standards Code (the Code) to permit the addition of steviol glycosides to flour products that are cooked on hot plates (such as crumpets, pikelets and pancakes) at a level no greater than the proposed maximum permitted level (MPL) of 350 mg/kg (as steviol equivalents).

Steviol glycosides are currently permitted to be used as an intense sweetener in several foods listed in the table to section S15—5 of the Code. All permissions for steviol glycosides are subject to numerical limits expressed as maximum permitted levels (MPLs). There are existing specifications for steviol glycosides in Schedule 3 of the Code.

The food technology assessment concluded the use of steviol glycosides as a food additive in flour products that are cooked on hot plates is consistent with its technological function as an intense sweetener.

FSANZ has previously assessed an extensive toxicological database on steviol glycosides and established an Acceptable Daily Intake (ADI) of 0-4 mg/kg bw per day, expressed as steviol equivalents, in 2008. Recent reviews on the toxicity of steviol glycosides submitted by the applicant, as well as a literature search conducted by FSANZ, did not identify any new information that would indicate a need to amend the ADI.

FSANZ conducted dietary exposure assessments to estimate chronic dietary exposure to steviol glycosides (expressed as steviol equivalents) for several scenarios considering food classes currently permitted in the Code (*Current Permission* situation) and the combination of current permissions and the proposed use in flour products that are cooked on hot plates (*Combined Exposure* situation). For the *Combined Exposure* situation and under the worst-case scenario (*Baseline*), the estimated combined dietary exposures to steviol glycosides were well below the ADI (<50%) for all Australian and New Zealand population groups assessed.

Based on the available evidence, there are no public health and safety concerns identified from the addition, as a food additive, of steviol glycosides to flour products that are cooked on hot plates in the Australian and New Zealand food supply at the proposed maximum permitted level.

Table of contents

EXECUTIVE SUMMARY.....	1
1. INTRODUCTION	2
1.1 Objectives of the assessment	2
2 FOOD TECHNOLOGY ASSESSMENT	2
2.1 Technological purpose and function.....	2
2.1.1 Application in hot plate products.....	3
2.1.2 Stability of steviol glycosides in foods.....	3
2.1.3 Identity and purity.....	4
2.2 Food technology conclusion.....	4
3 SAFETY ASSESSMENT	4
3.1 Introduction	4
3.2 Toxicokinetics and Metabolism	5
3.3 Toxicity Data	5
3.4 Assessments by other Regulatory Agencies	5
4 DIETARY EXPOSURE ASSESSMENT	5
4.1 Purpose of dietary exposure assessment.....	5
4.2 Approach to the dietary exposure assessment.....	5
4.2.1 Food consumption data used and population groups assessed	6
4.2.2 Estimating dietary exposure to steviol glycosides.....	6
4.2.3 Assumptions and limitations of the dietary exposure assessment	8
4.3 Dietary exposure assessment results.....	8
4.3.1 Estimated dietary exposure to steviol glycosides.....	8
4.3.2 Food contributors	9
5 RISK CHARACTERISATION AND CONCLUSION	9
6 REFERENCES	10
APPENDIX 1	12

1. Introduction

George Weston Foods Ltd. applied to Food Standards Australia New Zealand (FSANZ) to amend the Australia New Zealand Food Standards Code (the Code) to permit the use of steviol glycosides as a food additive (intense sweetener) in flour products that are cooked on hot plates, such as crumpets, pikelets and pancakes. Steviol glycosides would be added to crumpets to provide sweetness without the processing challenges associated with adding sugar. In pikelets and pancakes, they may partially replace added sugar and reduce the sugar content of the products without contributing significantly to their available energy. The maximum permitted level (MPL) would be 350 mg/kg.

1.1 Objectives of the assessment

The objectives of this risk and technical assessment were to:

- determine whether the proposed purpose is solely a technological function and that the use of steviol glycosides achieves its technological purpose as a food additive in the quantity and form proposed
- evaluate whether any potential public health and safety concerns may arise from the use of this substance as a food additive by considering
 - any new data related to the safety of steviol glycosides
 - the dietary exposure assessment for steviol glycosides based on the proposed use in flour products cooked on hot plates.

2 Food technology assessment

When steviol glycosides are added to food as an intense sweetener, they are regulated as food additives.

FSANZ has previously completed food technology assessments for other applications relating to the use of steviol glycosides¹ These assessments were consistent in concluding that steviol glycosides, when used as a food additive in the form and quantity proposed, provide the technological purpose of an intense sweetener.

Steviol glycosides are already permitted for use as an intense sweetener in several foods in Australia and New Zealand. The permissions are listed in the table to section S15—5 of the Code. All permissions for steviol glycosides are subject to numerical limits expressed as maximum permitted levels (MPLs).

No change to the type of steviol glycosides or modifications of the specifications for the different types of steviol glycosides are being proposed by this application.

2.1 Technological purpose and function

Steviol glycosides are a group of compounds naturally occurring in the *S. rebaudiana* Bertoni (stevia) plant. The major glycosides present in the extract of the leaves from the stevia plant are stevioside and rebaudioside A. The minor glycosides include rebaudioside M and rebaudioside D and about 40 other steviol glycosides (JECFA 2019).

All steviol glycosides share the same steviol backbone structure but have different sugar moieties attached, as conjugated glycosides. The sugar moieties include but are not limited

¹ Refer to A1222 (FSANZ 2021a), A1207 (FSANZ 2021b) and A1273 (FSANZ 2024).

to glucose, rhamnose, xylose, fructose, galactose and deoxyglucose, which can be attached in various combinations, quantity and orientation (FAO 2017).

The technological purpose of steviol glycosides as a food additive is that of an intense sweetener, which replaces the sweetness normally provided by sugars in food, without contributing significantly to their available energy. The technological purpose (sweetening foods) is well established as a solely technological purpose/function. Steviol glycosides are therefore, appropriately regulated as food additives for the purposes of the Code.

The applicant has requested to permit the use of steviol glycosides as an intense sweetener in flour products that are cooked on a hot plate. The MPL requested is 350 mg/kg. Several intense sweeteners are already permitted in subsection 6.4 Flour products (including noodles and pasta) of Schedule 15.

2.1.1 Application in hot plate products

Adding sugar to flour products cooked on hot plates can cause sticking and result in unacceptable product and processing outcomes. The applicant trialled adding sucrose and sugar alcohols, but the resulting products were found to be unacceptable. The use of steviol glycosides provides an opportunity to add sweetness to this category of flour products while minimising processing and product quality issues.

The applicant demonstrated that the requested addition level of up to 350 mg/kg steviol equivalents provided the required technological function and remained stable over the short shelf life of the target products. The applicant provided a commercial trial summary examining the use of steviol glycosides in crumpets, pikelets and pancakes. The trials examined their use to provide sweetness in crumpets and to partially replace the sugar in pikelets and pancakes. The requested addition level of up to 350 mg/kg steviol equivalents was determined by the applicant through a product development process to achieve the specified purpose across the range of foods. The alternative sweetening options investigated by the applicant produced unacceptable organoleptic or processing outcomes.

2.1.2 Stability of steviol glycosides in foods

JECFA concluded at its 68th meeting in 2007 that steviol glycosides are sufficiently thermally and hydrolytically stable for use in foods, including acidic beverages, under normal conditions of processing and storage (JECFA, 2007).

Study results made available to JECFA for the 82nd meeting supported that the stability results can be extended to include steviol glycoside extract preparations containing higher levels of new glycosides added to the definition and appearing in commercial products, mainly rebaudioside D and rebaudioside M (FAO 2017).

A review by González et al (2014) noted that a stevioside-based sweetener was stable at 120°C for an hour.

Gonçalves Nunes et al. (2021) assessed the thermal stability of two *Stevia*-based commercial sweeteners, one of which (designated S2) also contained erythritol. Methods used included thermogravimetry–differential scanning calorimetry (TG-DSC), DSC and evolved gas analysis (EGA), and liquid chromatography coupled to tandem mass spectrometry (LC–MS/MS) analysis. The first product, designated S1, was thermally stable to 230°C and the second, S2, to 190°C. S1 was composed of stevioside and rebaudiosides A, B, C and E, whereas S2 was composed of erythritol and rebaudiosides A and E. After heating S1 to 250 °C, the basic steviol diterpene structure of the steviol glycosides was maintained, with the loss of hexoses, so that the decomposition products were identified as

steviol monosides; i.e., having a basic steviol diterpene structure with only one glycosyl group attached. The authors noted that steviol monosides are likely to be less sweet and less soluble than the parent steviol glycosides.

2.1.3 Identity and purity

Food additives permitted by section 1.3.1 and Schedule 15 must also meet any relevant identity and purity specifications set out in Schedule 3. Section S3—2 of Schedule 3 provides a list of specifications contained in primary sources.

Paragraph 1.1.1—15(1)(a) of the Code requires substances used as food additives to comply with any relevant identity and purity specifications listed in Schedule 3 of the Code.

Subsection S3—2(1)(b) of Schedule 3 incorporates by reference the specifications listed in the Joint FAO/WHO Expert Committee on Food Additives (JECFA) Combined Compendium of Food Additive Specifications (FAO JECFA Monographs 34 (2025)), and the United States Pharmacopeial Convention (2024) Food chemicals codex (14th edition). These include specifications for steviol glycosides.

The application seeks to use the steviol glycosides already permitted in the Code. Relevant identity and purity specifications are already incorporated by reference in Schedule 3 of the Code. Some steviol glycosides can be produced from the leaves of the stevia plant, but can also be produced by other methods, with no plant involved (such as fermentation from sugar to produce the steviol glycosides using genetically modified yeast). Such methods are included in the S3 specifications. No change to the type of stevia or modifications of the specifications for the different types of stevia are being proposed.

2.2 Food technology conclusion

FSANZ concludes that the information provided supports the technological justification for using steviol glycosides as an intense sweetener in flour products that are cooked on hot plates at the proposed maximum permitted level.

The applicant's trials indicate that steviol glycosides can provide the intended sweetening purpose while avoiding the processing challenges associated with adding sugar to crumpets. For pikelets and pancakes, steviol glycosides may be used to partially replace added sugar, although sugar may not be eliminated from these products entirely.

Steviol glycosides are thermally and hydrolytically stable for use in foods, including acidic beverages, under normal conditions of processing and storage.

3 Safety Assessment

3.1 Introduction

FSANZ established an ADI for steviol glycosides, expressed as steviol, of 0-4 mg/kg bw/day in 2008, under Application A540. The ADI was derived by applying a 100-fold safety factor to a No Observed Adverse Effect Level (NOAEL) of 970 mg/kg bw/day (equivalent to 383 mg/kg bw/day steviol) in a two-year study in rats, and has been confirmed in response to multiple subsequent applications including A1037, A1149, A1170, A1176, A1207, A1222, A1268, A1273, and A1318.

3.2 Toxicokinetics and Metabolism

No new information submitted as part of the application or located by literature search alters the conclusions reached in previous FSANZ assessments. Briefly, steviol glycosides are deglycosylated to steviol in the colonic lumen. Steviol is absorbed and conjugated in the liver to steviol glucuronide, which is excreted in the urine.

3.3 Toxicity Data

No new studies were submitted in the application, or located by literature search, that would indicate a need to revise the existing ADI for steviol glycosides (expressed as steviol).

3.4 Assessments by other Regulatory Agencies

The application included recent assessments by other regulatory agencies. These include:

- The Food Standards Agency (FSA) and Food Standards Scotland (FSS) Safety Assessment: Outcome of assessment of the use of steviol glycosides produced by fermentation (Rebaudioside M) using *Saccharomyces cerevisiae* (April 2024).
- EFSA Panel on Food Additives and Flavourings Scientific opinion on the extension of the authorisation of use of the food additive steviol glycosides (E 960a-d) and the modification of the acceptable daily intake (ADI) for steviol. (November 2024)

These assessments did not identify any new information that would indicate a need to alter the ADI previously identified by FSANZ.

4 Dietary Exposure Assessment

4.1 Purpose of dietary exposure assessment

The purpose of this dietary exposure assessment was to estimate exposure to steviol glycosides based on the proposed use as a food additive (intense sweetener) in flour products that are cooked on hot plates.

4.2 Approach to the dietary exposure assessment

FSANZ together with the Ministry for Primary Industries in New Zealand previously completed a review of all the intense sweeteners permitted for use in the Code, including a steviol glycoside risk assessment (FSANZ 2023). This report has been referred to as the intense sweetener review hereinafter. As the current assessment is also for use of steviol glycosides as an intense sweetener, the same dietary exposure assessment methodology used for the intense sweetener review was used for this assessment. Therefore, information on the methodology used is provided in brief only in this report where required. Full details of the intense sweetener review are available on the [FSANZ website](#).

Information on the steviol glycoside concentration data and food consumption data used in this dietary exposure assessment are outlined below. The dietary exposure assessment for steviol glycosides was undertaken using FSANZ's dietary modelling computer program Harvest and compared to the ADI of 0 – 4 mg/kg bw/day (steviol equivalents).

A summary of the general FSANZ approach to conducting dietary exposure assessments is on the [FSANZ website](#). A detailed discussion of the FSANZ methodology and approach to conducting dietary exposure assessments is set out in [Principles and Practices of Dietary](#)

4.2.1 Food consumption data used and population groups assessed

The food consumption data used for the dietary exposure assessments were:

- 2002 New Zealand National Children's Nutrition Survey (2002 NZ CNS), a one day 24-hour recall of 3,275 New Zealand school children aged 5 – 14 years, with a second 24-hour recall undertaken for 15% of respondents (Ministry of Health 2003)
- 2008-09 New Zealand Adult Nutrition Survey (2008 NZ ANS), a one day 24-hour recall of 4,721 New Zealanders aged 15 years and above, with a second 24-hour recall undertaken for 25% of respondents (University of Otago and Ministry of Health 2011a,b)
- 2011-12 Australian National Nutrition and Physical Activity Survey (2011-12 NNPAS), a one 24-hour food recall of 12,153 Australians aged 2 years and above, with a second 24-hour recall undertaken for 64% of respondents (Australian Bureau of Statistics (ABS) 2015).

The design of these nutrition surveys and the key attributes, including survey limitations, are set out on the [FSANZ website](#).

Two days of consumption data were averaged (to better estimate longer term food consumption and dietary exposures) for Australia using the 2011-12 NNPAS, while consumption amounts and dietary exposure estimates for New Zealand were based on a single day of nutrition survey data. Food contributors to dietary exposures for both Australia and New Zealand were also based on a single day of nutrition survey data.

At the time of this assessment, the 2023 NNPAS raw data (ABS 2025) that allows extraction of consumption for specific foods were available to FSANZ, however had not been processed and incorporated into Harvest. Therefore, these data could not be used in this assessment.

The hazard assessment did not identify any population sub-groups with specific safety considerations in relation to dietary exposure to steviol glycosides. In addition, the food classes in which steviol glycosides are currently permitted and requested to be permitted are consumed by all of the Australian and New Zealand populations. Therefore, the dietary exposure assessments were conducted for the general Australian and New Zealand populations based on the dietary survey data available.

4.2.2 Estimating dietary exposure to steviol glycosides

Steviol glycosides dietary exposures were calculated for each individual consumer in the national nutrition surveys using their individual food consumption records. The Harvest program multiplied the specified concentrations of steviol glycosides for an individual food by the amount of the food that an individual consumed to estimate the exposure to steviol glycosides from each food. Once this had been completed for all the foods specified to contain steviol glycosides, the total amount of steviol glycosides consumed from all foods was summed for each individual. Where results are expressed on a body weight basis, each individual's body weight was used. Mean and 90th percentile (P90) dietary exposures were then derived from the individuals' ranked exposures. Estimated dietary exposures for the population on a body weight basis were compared to the ADI for risk characterisation purposes.

Steviol glycoside concentration data used

The estimated dietary exposures to steviol glycoside presented in the intense sweetener review were used as the baselines for this assessment. The food class codes in Schedule 15 of the Code and concentrations of steviol glycosides that were assigned to those relevant codes were provided in the intense sweetener review. The concentration data used for flour products that are cooked on hot plates was the proposed maximum permitted level (350 mg/kg) suggested by the applicant.

Scenarios assessed in the dietary exposure assessment

The dietary exposure assessment to steviol glycoside was conducted for three scenarios under two situations. The scenarios assessed were the same three scenarios considered for the intense sweetener review (*Baseline*, *Refined* and *Refined Market Uptake*) and two situations were *Current Permission* and *Combined Exposure*.

- *Baseline* – all classes for which there were no analytical data were given the MPL in the Code. For food classes for which there were analytical data, the mean concentration was applied to all foods within each class.
- *Refined* – all classes for which there were no analytical data were given the concentration of zero for steviol glycosides. For food classes for which there were analytical data, the mean concentration was applied to all foods within each class.
- *Refined Market Uptake* – the same concentrations were applied as in the *Refined* scenario, with a 30% market uptake adjustment applied to each concentration as a way of assuming that 30% of products within each class contain steviol glycosides.

Each scenario has been explained in detail in the intense sweetener review. The estimated dietary exposures to steviol glycoside presented in the intense sweetener review were considered as the *Current Permission* situation for this assessment.

For the *Combined Exposure* situation, dietary exposures to steviol glycoside from flour products that are cooked on hot plates were estimated using the proposed maximum permitted level for the *Baseline* and *Refined* scenarios and the proposed maximum permitted level with a 30% market uptake adjustment applied for the *Refined Market Uptake* scenario. Estimated dietary exposures to steviol glycoside from flour products that are cooked on hot plates were then added to estimated dietary exposures from the intense sweetener review (i.e. *Current Permission* situation) and mean and P90 estimates derived.

Use of steviol glycosides in foods for special medical purposes (FSMP) was assessed and permitted under Application A1273 (FSANZ, 2024), following the intense sweetener review in 2023. FSMP products captured in national nutrition surveys were already included in the dietary exposure assessment conducted as part of the intense sweetener review, therefore, the dietary exposure estimates conducted for Application A1273 were not considered separately in this assessment.

A brand loyalty assessment was not undertaken for this risk assessment. Brand loyalty assessments are used to assess if someone who may be expected to always consume a specific brand of a food, which could be at a high consumption amount, or brands with a certain ingredient, that has the highest concentration within that food class would have dietary exposures of concern in relation to public health and safety. A brand loyalty assessment was undertaken for steviol glycosides as part of Application A1149, extension of use in fruit drinks, given that these types of beverages can be frequently consumed and that beverages are commonly selected by brand, based on the MPLs (FSANZ 2019). That

assessment did not identify any issues, and as concentrations obtained via the analytical survey were less than the MPLs for the currently permitted food classes, a brand loyalty assessment was deemed to not be necessary for this risk assessment.

4.2.3 Assumptions and limitations of the dietary exposure assessment

The aim of the dietary exposure assessment was to make the most realistic estimation of dietary exposures to steviol glycosides as possible. However, where significant uncertainties in the data existed, conservative assumptions were generally used to ensure that the estimated dietary exposure was not an underestimate of exposure. The assumptions and limitations considered for the intense sweetener review also apply to this assessment. Therefore, the details are not provided in this report.

In addition to foods considered for the intense sweetener review, only commercially available flour products that are cooked on hot plates (crumpets, pikelets, crepes, and waffles) or those prepared from commercial dry mixes or batters were considered in this assessment. Where these foods were part of a mixed food or recipe containing additional ingredients (e.g. sweet pancakes with chocolate chips and pancakes with oats), the steviol glycoside concentration was applied only to the requested and permitted food components (e.g. pancakes and chocolate chips in these examples).

In addition to the specific assumptions made and limitations identified in relation to this dietary exposure assessment, there are a number of limitations associated with the nutrition surveys from which the food consumption data used for the assessment are based. A discussion of these limitations is included in the [Principles and Practices of Dietary Exposure Assessment for Food Regulatory Purposes](#) (FSANZ 2024).

4.3 Dietary exposure assessment results

4.3.1 Estimated dietary exposure to steviol glycosides

All estimates of dietary exposure to steviol glycosides are expressed as steviol equivalents. The estimated dietary exposures to steviol glycosides were calculated for 'consumers' of steviol glycosides only, that is only the respondents in the survey population that have been exposed to steviol glycosides as a result of consuming a food in which it is permitted to be used or requested permission to be used or has an assigned concentration. For this assessment, almost all survey respondents were consumers of steviol glycosides (see Appendix 1, Table A1.1) given the broad range of commonly consumed foods in which they are permitted to be used and requested to be used. In Table A1.1 the proportion of consumers is reported as the weighted² proportion of consumers to respondents for all surveys.

The estimates of dietary exposure were reported on a per kilogram body weight basis derived using each individual's body weight and expressed as a percentage of the ADI (see Table A1.1).

Exposure results for the *Current Permission* situation were not discussed here because they were the same as in the intense sweetener review (See the exposure results in Table A1.1).

For the *Combined Exposure* situation;

The *Baseline* scenario mean and 90th percentile estimated dietary exposures for Australian

² Survey sample weighting factors are used to adjust the results of surveys to better reflect the results that would have been obtained if a truly representative sample from the population had been able to be obtained, and to make population-based estimations of results.

and New Zealand consumers ranged between 0.5 – 0.9 mg/kg bw/day (10 – 20% of the ADI) and 0.8 – 1.7 mg/kg bw/day (20 – 45% of the ADI), respectively.

The *Refined* scenario mean and 90th percentile estimated dietary exposures for Australian and New Zealand consumers ranged between 0.4 – 0.7 mg/kg bw/day (10 – 20% of the ADI) and 0.7 – 1.5 mg/kg bw/day (20 – 40% of the ADI), respectively.

The *Refined-Market Uptake* scenario mean and 90th percentile estimated dietary exposures for Australian and New Zealand consumers ranged between 0.1 – 0.2 mg/kg bw/day (3 – 5% of the ADI) and 0.2 – 0.5 mg/kg bw/day (5 – 10% of the ADI), respectively.

Detailed results of the estimates of dietary exposure to steviol glycosides for all scenarios and population groups assessed can be found at Appendix 1 Table A1.1.

4.3.2 Food contributors

The major food contributors to the estimated dietary exposures based on day one of each survey were calculated for each scenario under two situations and for each population group assessed.

The foods that were major contributors to the total estimate of steviol glycoside dietary exposure (providing ≥5%) were calculated from consumers exposure from all foods included in the scenarios and situations.

There was no difference in the percent contributions for each of the food groups to total dietary exposure between the *Refined* and *Refined – Market Uptake* scenarios, so only the results for the *Baseline* and *Refined* scenarios are reported here.

All major food contributors identified in the intense sweetener review (*Current Permission* situation) were the major contributors for the *Combined Exposure* situation as well with a slightly lower contribution (≤1%) for a small number of food classifications due to the addition of an additional food group to the *Combined Exposure* situation. Crumpets, pikelets and pancakes were a major contributor for the *Refined* scenario for New Zealand children aged 5 – 14 years (5%) only. The contribution of this food group was 4% for the New Zealand children aged 5 – 14 years for the *Baseline* scenario. For the New Zealand population aged 15 years and above, and Australian population aged 2 years and above, crumpets, pikelets and pancakes contributed 2% to the total steviol glycoside exposures for the *Baseline* and *Refined* scenarios.

Results of the food contributors related to the *Current Permission* situation have been provided in the intense sweetener review and limitations of interpreting those results have also been discussed in detail. Therefore, details results are not provided in this report.

5 Risk characterisation and conclusion

The food technology assessment concluded the use of steviol glycosides as a food additive in flour products that are cooked on hot plates is consistent with its technological function as an intense sweetener.

FSANZ has previously assessed an extensive toxicological database on steviol glycosides and established an ADI of 0-4 mg/kg bw, expressed as steviol equivalents, in 2008. Recent reviews on the toxicity of steviol glycosides submitted by the applicant, as well as a literature search conducted by FSANZ, did not identify any new information that would indicate a need to amend the ADI.

For the *Combined Exposure* situation, across all three scenarios, the estimated dietary exposures to steviol glycosides were below the ADI (<50%) for mean and 90th percentile dietary exposures for all the population groups assessed.

For the *Combined Exposure* situation, dietary exposure for the *Baseline* scenario at the mean and 90th percentile ranged between 10 – 20% and 20 – 45% of the ADI, respectively, across the population groups assessed. For the *Refined* scenario, dietary exposures at the mean and 90th percentile were between 10 – 20% and 15 – 40% of the ADI, respectively across the population groups assessed. For the *Refined-Market Uptake* scenario, dietary exposures at the mean and 90th percentile were between 3 – 5% and 5 – 10% of the ADI, respectively, across the population groups assessed.

Flour products that are cooked on hot plates were a major contributor to total steviol glycoside exposures for the *Refined* scenario for New Zealand children aged 5 – 14 years (5%) only.

Based on the available evidence, there are no public health and safety concerns identified from the use of steviol glycosides in flour products that are cooked on hot plates in the Australian and New Zealand food supply at the proposed maximum permitted level suggested by the applicant (350 mg/kg, expressed as steviol equivalents).

6 References

Australian Bureau of Statistics (2015) National Nutrition and Physical Activity Survey, 2011-12, Basic CURF.

http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/4324.0.55.002Main%20Feature_s652011-12?opendocument&tabname=Summary&prodno=4324.0.55.002&issue=2011-12&num=&view

ABS (2025) National Nutrition and Physical Activity Survey, 2023 Australian Bureau of Statistics Commonwealth of Australia, Canberra. Available online at:

<https://www.abs.gov.au/statistics/health/food-and-nutrition/national-nutrition-and-physical-activity-survey/latest-release>

FAO (2017) Steviol glycosides. In: 84th JECFA - Chemical and Technical Assessment (CTA) [84th meeting held June 2017]. Rome, Italy: Food and Agriculture Organization of the United Nations (FAO) / Geneva, Switz.: Joint FAO/WHO Expert Committee on Food Additives Meeting (JECFA).

FAO and WHO (2021) Compendium of Food Additive Specifications. Joint FAO/WHO Expert Committee on Food Additives (JECFA), 91st Meeting – Virtual meeting, 1–12 February 2021. FAO JECFA Monographs No. 26. Rome. <https://openknowledge.fao.org/items/4531ccdf-4945-4a54-92cf-47017f4d2380>

FSANZ (2021a) A1222 - Steviol glycosides from *Yarrowia lipolytica*. Food Standards Australia New Zealand. Available at:

<https://www.foodstandards.gov.au/code/applications/Pages/A1222---Steviol-glycosides-from-Yarrowia-lipolytica.aspx>

FSANZ (2021b) A1207 – Rebaudioside M as a Steviol Glycoside from *Saccharomyces cerevisiae*. Food Standards Australia New Zealand. Available at: [A1207 - Rebaudioside M as a Steviol Glycoside from *Saccharomyces cerevisiae* \(foodstandards.gov.au\)](https://www.foodstandards.gov.au/code/applications/Pages/A1207---Rebaudioside-M-as-a-Steviol-Glycoside-from-Saccharomyces-cerevisiae.aspx)

FSANZ (2023) Intense Sweeteners Review: steviol glycosides risk assessment. Food

Standards Australia New Zealand, Canberra

[https://www.foodstandards.gov.au/sites/default/files/consumer/additives/SiteAssets/Pages/Steviol-glycosides-\(960\)-\(intense-sweetener\)%20\(stevia\)/SteviolGlycosideRiskAssessment_April2023.pdf](https://www.foodstandards.gov.au/sites/default/files/consumer/additives/SiteAssets/Pages/Steviol-glycosides-(960)-(intense-sweetener)%20(stevia)/SteviolGlycosideRiskAssessment_April2023.pdf)

FSANZ (2024) Principles and practices of dietary exposure assessment for food regulatory purposes. Food Standards Australia New Zealand, Canberra.

<https://www.foodstandards.gov.au/publications/Principles-and-Practices-of-Dietary>

FSANZ (2024) A1273 – Steviol glycosides as a food additive in Food for special medical purposes. Food Standards Australia New Zealand. Available at: [A1273 - Steviol glycosides as a food additive in Food for special medical purposes | Food Standards Australia New Zealand](#)

González C, Tapia M, Pérez E, Pallet D, Dornier M (2014). Main properties of steviol glycosides and their potential in the food industry: a review. *Fruits* **69**: 127–141

Gonçalves Nunes WD, Mannocho Russo H, da Silva Bolzani V, Caires FJ (2021) Thermal characterization and compounds identification of commercial *Stevia rebaudiana* Bertoni sweeteners and thermal degradation products at high temperatures by TG–DSC, IR and LC–MS/MS. *Journal of Thermal Analysis and Calorimetry* 146:1149–1155

<https://doi.org/10.1007/s10973-020-10104-3>

JECFA (2007) Evaluation of Certain Food Additives and Contaminants. Sixty-eighth Report of the Joint FAO/WHO Expert Committee on Food Additives (JECFA), June 19-28, 2007, Geneva, Switz. (WHO Technical Report Series, no 947: World Health Organization

JECFA (2019) Steviol glycosides. In: Joint FAO/WHO Expert Committee on Food Additives 87th Meeting: Summary and Conclusions, June 4-13, 2019, Geneva, Switz. (JECFA/87/SC). Rome, Italy: Food and Agriculture Organization of the United Nations (FAO) / Geneva, Switz.: World Health Organization (WHO), pp. 5, 9, 12-13. Available at:

<http://www.fao.org/3/ca5270en/ca5270en.pdf>

Ministry of Health (2003) NZ Food NZ Children: Key results of the 2002 National Children's Nutrition Survey. Ministry of Health, Wellington <https://www.health.govt.nz/publications/nz-food-nz-children>

University of Otago and Ministry of Health (2011a) Methodology report for the 2008/09 New Zealand Adult Nutrition Survey. Ministry of Health, Wellington

<https://www.health.govt.nz/monitoring-statistics/surveys/past-surveys/nutrition>

University of Otago and Ministry of Health (2011b) A focus on nutrition: Key findings of the 2008/09 New Zealand Adult Nutrition Survey. Ministry of Health, Wellington

<https://www.health.govt.nz/publications/a-focus-on-nutrition-key-findings-from-the-200809-nz-adult-nutrition-survey>

Appendix 1

Table A1.1 Estimated mean and 90th percentile dietary exposure to steviol glycosides, expressed as steviol equivalents, for Australia and New Zealand^β

					<i>Baseline scenario</i>				<i>Refined scenario</i>				<i>Refined – Market Uptake scenario^η</i>			
					Mean		P90		Mean		P90		Mean		P90	
Country	Age group	Survey Respondents	Consumer ratio (%)	Situation	mg/kg bw/day	% of ADI	mg/kg bw/day	% of ADI	mg/kg bw/day	% of ADI	mg/kg bw/day	% of ADI	mg/kg bw/day	% of ADI	mg/kg bw/day	% of ADI
Australia	2+ years [□]	7735	99-100	<i>Current Permission</i>	0.5	10	0.9	20	0.4	10	0.7	20	0.1	3	0.2	6
				<i>Combined Exposure</i>	0.5	10	0.9	20	0.4	10	0.8	20	0.1	3	0.2	6
New Zealand	5-14 years ^ψ	3275	99-100	<i>Current Permission</i>	0.9	20	1.7	40	0.7	15	1.4	35	0.2	5	0.4	10
				<i>Combined Exposure</i>	0.9	20	1.7	45	0.7	20	1.5	40	0.2	5	0.5	10
	15+ years [*]	4721	99-100	<i>Current Permission</i>	0.5	10	0.8	20	0.4	10	0.7	15	0.1	3	0.2	5
				<i>Combined Exposure</i>	0.5	10	0.8	20	0.4	10	0.7	20	0.1	3	0.2	5

P90 – 90th percentile.

^β Individual respondents' exposures are divided by their own body weight before deriving mean and P90 dietary exposures for the population group.

^η Refined – Market Uptake dietary exposure scenario was derived assuming 30% market uptake.

[□] Derived using the Australian 2011-12 NNPAS (2-day average exposure).

^ψ Derived using the 2002 NZ CNS (Day 1 only).

^{*} Derived using the 2008 NZ ANS (Day 1 only).

Shading indicates that the Combined Exposure is higher than the respective exposure at the Current Permission situation.