# AUSTRALIAN BEVERAGES COUNCIL

**Application A1170 – Rebaudioside MD as a steviol glycoside from *Saccharomyces cerevisiae***

**23 April 2019**

## About the Australian Beverages Council Limited

The Australian Beverage Council [ABCL] has been the leading peak body representing the non-alcoholic beverage industry for more than 70 years, and the only dedicated industry representative of its kind in Australia.

The ABCL represents approximately 90 per cent of the non-alcoholic beverage industry's production volume and our Member companies are some of Australia's largest drinks manufacturers. The ABCL also represents many small and medium-sized companies across the country. Collectively, the ABCL's Members contribute more than $7 billion to the Australian economy and they employ over 50,000 people across the nation. The industry also pays $1.2 billion in taxes per annum and for every one direct employee who works in the beverage manufacturing industry, there are 4.9 jobs required elsewhere in the economy to produce and retail beverages.

The ABCL strives to advance the industry as a whole, as well as successfully representing the range of beverages produced by our Members. These include carbonated soft drinks, energy drinks, sports and electrolyte drinks, frozen drinks, bottled and packaged waters, 100 per cent juice and fruit drinks, cordials, iced teas, ready-to-drink coffees, flavoured milk products and flavoured plant milks.

The unified voice of the ABCL offers Members a presence beyond individual representation to promote fairness in the standards, regulations, and policies concerning non-alcoholic beverages. The ABCL plays a role in educating consumers on making informed choices which encourage balance, moderation and common sense.

The ABCL advocates on issues such as portion sizes, environmental sustainability, nutritional labelling, responsible industry marketing and advertising, and canteen guidelines, among others. Our Members listen to consumers and adapt their products accordingly by making positive changes and standing by a commitment to promote greater choice, appropriate portions and by developing an ever increasing range of low and no kilojoule products.

The ABCL is an important conduit between the non-alcoholic beverage industry and governments, supporting the Australian Government, State and Territory Governments and Local Councils.

The ABCL introduced a dedicated juice division, Juice Australia [JA] (formerly Fruit Juice Australia), in 2009 and a dedicated water division, the Australasian Bottled Water Institute [ABWI], in 2011. Through these divisions, and various committees, our organisation and Members continue to adapt and flourish.

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## Background

The ABCL makes the following submission relating to the assessment of an application by Food Standard Australia New Zealand [FSANZ] which seeks to include a new specification for a steviol glycoside mixture of rebaudiosides M and D [Reb MD] as an intense sweetener, produced by *Saccharomyces cerevisiae* expressing steviol glycoside biosynthesis pathway genes.

The purpose of the assessment carried out by FSANZ was to:

- determine whether the proposed purpose is clearly stated and that Reb MD achieves its technological function in the quantity and form proposed to be used as a food additive;
- evaluate any potential public health and safety issues that may arise from the use of Reb MD produced from *S. cerevisiae* expressing steviol glycoside biosynthesis pathway genes.

## The Australian Beverages Council's Position and Issues for Consideration

The ABCL, advocating on behalf of the non-alcoholic beverages industry in Australia, would like to indicate its strong support for the addition of the proposed novel production method by *S. cerevisiae* expressing steviol glycoside biosynthesis pathway genes. It is important to consider the following points in relation to the current application.

### Current Use of Steviol Glycosides

The specific glycosides of Reb MD have been shown to be safe. Currently, Reb MD has US GRAS status and can be used as an intense sweetener to create low and no-sugar products with a maximum permitted level in a variety of food categories at GMP.

The ABCL supports the inclusion of Reb MD produced through this novel method as steviol glycoside with an INS number of 960 within the category of currently permitted foods as well as foods that will be approved in the future. It is important and relevant to this Application to emphasise the ABCL's application (A1149 – Addition of steviol glycosides in fruit drinks) was recently approved by FSANZ. A1149 specifically seeks to allow steviol glycosides to be used to sweeten fruit drinks. FSANZ has now notified the Australia and New Zealand Minsterial Forum on Food Regulation of this decision.

Currently Reb MD manufactured through the process detailed in A1170 is permitted in a number of overseas markets. This would allow Australia to become internationally competitive while encouraging an important agenda of product innovation within the non-alcoholic beverages industry.

### Call to Decrease Sugar in Sugar Sweetened Beverages

In recent years, both Australia and New Zealand have actively been working towards addressing the issue of rapidly increasing obesity rates and associated chronic disease. Sugar in the diet has been highlighted as a major contributor to obesity and chronic disease, and it is therefore incumbent on the regulator to consider safe and suitable alternatives to reduce energy intake derived from sugars.

Government's on both sides of the Tasman are proposing initiatives related to food, nutrition and health for the food industry to implement to improve the diet and health of Australians and New Zealanders. Safe developments in sweeteners, such as A1170, should be considered an

important part of assisting manufacturers to support healthier diets in line with the Australian Dietary Guidelines.

Past and current Government initiatives that relate to sugar in the food supply include:

a. Labelling Logic: The Review of Food Labelling Law and Policy (2011) (The Blewett Review) provided recommendations to improve food labelling law and policy. Recommendation 12 was to review the ingredient labelling of added sugars;
b. Five-year review of the Health Star Rating system. Sugar has been raised as an issue to consider;
c. Labelling of sugars on packaged foods and drinks consultation which is ongoing and under consideration by the Forum of Food Regulation;
d. The Healthy Food Partnership looks at ways to improve nutrition status of Australians. The Reformulation Working Group recently released a consultation paper with specific targets for beverages to reduce sugar; and
e. The Australian Senate Select Committee Inquiry into the obesity epidemic in Australia.

Many academics, non-government organisations, consumer advocacy groups and public health professionals are seeking a marked reduction in the sugar content of food and beverages, with sugar-sweetened beverages [SSBs] of particular note.

There is increasing pressure on the non-alcoholic beverage industry to innovate by:

1. Reformulation;
2. Product and portfolio renovation;
3. Introducing new products into the market; and
4. Making applications to FSANZ to permit important innovation to occur.

One of the core challenges for non-alcoholic beverage manufacturers is to innovate as described without compromising on taste.

The ABCL and its Members recognise the contribution of SSBs to sugar intake in Australia.

We have responded to this with the ABCL Sugar Reduction Pledge in which the non-alcoholic beverage industry has committed to a 20 per cent reduction in sugar across the industry's portfolio by 2025. To assist beverage manufacturers to achieve the pledge's goal, we are actively seeking further innovation within the category, such as permitting the use of Reb MD as detailed in A1170.

## Need for Innovation in Low and No Sugar Non-Alcoholic Beverages

ABCL Members require flexibility and opportunity to innovate and develop new variants. Only through this, will manufacturers be able to provide consumers with greater choice of high quality low and no sugar beverages.

Allowing the non-alcoholic beverage industry to use innovative sweeteners as a replacement for sugar, especially new plant based non-nutritive sweeteners, is vitally important as the industry has responded to consumer calls to reduce sugar in the food supply. This is also important to enable beverage manufacturers to work with public health policy authorities to achieve current initiatives and the industry's ambitious sugar reduction pledge.

## Technological Justification of Reb MD

The currently approved methods for the creation of steviol glycosides produces different degrees of various glycosides. Rebaudiosides M and D are minor glycosides and present at much lower levels. The application highlights that the intense sweetener produced through this method is primarily rebaudioside M and D.

Reb MD has been shown to have more favourable sensory characteristics compared to other major glycosides[1]. This would allow non-alcoholic beverage manufacturers access to more favourable taste profiles which provide sweetness without compromising on taste or significantly increasing the amount of energy in the product.

## Support Reb MD Specification

The Reb MD produced by this novel method, *S. cerevisiae* (strain CD15407) expressing steviol glycoside biosynthesis pathway genes, meets the specifications currently approved in Schedule 3 of the FSC and complying to the specifications in the FAO JECFA Monograph 20 for "*steviol glycosides from Stevia rebaudioside Bertoni*"[2], with no less than 95 per cent purity.

Therefore the ABCL supports the addition of this method to Schedule 3 with the same specification as currently approved for steviol glcosides.

[1] http://www.foodstandards.gov.au/code/applications/Documents/A1170_SD1.pdf

[2] http://www.fao.org/3/a-i8147e.pdf

## Support Use of *Saccharomyces cerevisiae* Production Organism

*Saccharomyces cerevisiae* is a yeast that has a long history of safe-use in the production of fermented foods and beverages and food ingredients. It is generally considered non-pathogenic to humans.

The ABCL supports the use of *Saccharomyces cerevisiae* in the creation of Reb MD.

## Support Microbial Fermentation Production of Reb MD

The novel method used in the production of the Reb MD discussed in the application is microbial fermention. The genes introduced into the *S. cerevisiae* host encode a range of fungal, plant and cyanobacterial proteins. The genes have been shown to have a long history of safe use, not be pathogenic, toxigenic or allergenic and/or are not associated with adverse effects in humans.

FSANZ assessment of this process for Reb MD, produced from *S. cerevisiae* expressing steviol glycoside biosynthesis pathway genes, does not pose a risk to public health and safety.

The ABCL fully supports the use of this novel method of production for Reb MD.

## Support Labelling

The ABCL supports FSANZ's decision to "*continue requiring the number 960 or name 'steviol glycosides' to be used in the statement of ingredients for all steviol glycosides*"[3]. This will allow the same labelling requirements as currently stands according to Standard 1.2.4 and for INS 960 to be used as stated in Schedule 8 without having to disclose the specifics regarding the processing method.

The ABCL notes FSANZ's assessment that "*due to the degree of purification of the final food, it is highly unlikely that novel protein or DNA will be present*"[4] and the best scientific evidence available shows it is "*highly unlikely that the production strain, CD15407 of S. cerevisiae is present in the final Reb MD*"[5]. The assessment also mentions that "*the requirement to label Reb MD as 'genetically modified' would apply in accordance with section 1.5.2—4 of Standard 1.5.2.*"

[3] http://www.foodstandards.gov.au/code/applications/Documents/A1170%20CFS.pdf

[4] http://www.foodstandards.gov.au/code/applications/Documents/A1170_SD1.pdf

[5] http://www.foodstandards.gov.au/code/applications/Documents/A1170%20CFS.pdf

Section 1.5.2 - 4 states that labelling with ‘genetically modified’ is not required if the ingredient or food “*has been highly refined where the effect of the refining process is to remove novel DNA or novel protein*”. Based on the ABCL reading of this assessment Reb MD would then not be required to be labelled as ‘genetically modified’ as any novel DNA present would be subject to purification and, therefore, removed.

## Support ADI for Steviol Glycosides

Reb MD produced from this novel process is chemically the same as rebaudiosides M and D extracted traditionally from Stevia and would follow the same metabolic pathway in humans as previously assessments in other steviol glycosides applications. Recent opinions support the current ADI of 0 to 4 mg/kg body weight for steviol glycosides.

The ABCL supports the continued use of the current ADI.

## Conclusion

The ABCL, acting on behalf of the non-alcoholic refreshment beverages industry in Australia, **strongly supports** the proposed approach by FSANZ to Application A1170 Rebaudioside MD as a steviol glycoside from *Saccharomyces cerevisiae*, specifically:

1. Amending Schedule 3 to allow for the production of Reb MD using a microbial fermentation method with a genetic modificed yeast;
2. Allowing the same specification, usage and ADI as currently permitted for Reb MD;
3. Allowing the same labelling requirements as other steviol glycosides in the use of INS 960;
4. Not requiring Reb MD produced by this method to be labelled 'genetically modified'.

The ABCL would like to thank FSANZ for the opportunity to make a submission on Application A1170 Rebaudioside MD as a steviol glycoside from *Saccharomyces cerevisiae*.

### For further information:

To discuss this submission or any aspect contained therein, please contact:

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