

Exposure

In this guide

[In this guide](#)

1. [Background and Introduction - *Garcinia cambogia* oral consumption](#)
2. [Data from authoritative bodies - *Garcinia cambogia* oral consumption](#)
3. [Chemical composition - *Garcinia cambogia* oral consumption](#)
4. [ANSES - *Garcinia cambogia* oral consumption](#)
5. [AESAN - *Garcinia cambogia* oral consumption](#)
6. [Australian TGA - *Garcinia cambogia* oral consumption](#)
7. [BfR \(German Federal Institute for Risk Assessment\) - *Garcinia cambogia* oral consumption](#)
8. [EFSA - *Garcinia cambogia* oral consumption](#)
9. [Health Canada - *Garcinia cambogia* oral consumption](#)
10. [NCCIH - *Garcinia cambogia* oral consumption](#)
11. [Data from literature search - *Garcinia cambogia* oral consumption](#)
12. [Human data - *Garcinia cambogia* oral consumption](#)
13. [Hepatotoxic case reports - *Garcinia cambogia* oral consumption](#)
14. [Animal studies - *Garcinia cambogia* oral consumption](#)
15. [Exposure - *Garcinia cambogia* oral consumption](#)
16. [Uncertainties - *Garcinia cambogia* oral consumption](#)
17. [Risk Characterisation - *Garcinia cambogia* oral consumption](#)
18. [Questions to the Committee - *Garcinia cambogia* oral consumption](#)
19. [Abbreviations - *Garcinia cambogia* oral consumption](#)
20. [References - *Garcinia cambogia* oral consumption](#)

This is a discussion paper. It does not reflect the views of the Committee. It should not be cited.

Brief market analysis

182. A brief market analysis was carried out using the search term on Google: "*Garcinia cambogia* buy UK". This information was collated into tables 4

and 5. The FSA's Exposure Assessment Team (EAT) have quality assured this data by reviewing the transcription of the information in the table is correct according to the weblinks.

183. The Holland & Barret website states that "Most studies have been based on 900 mg to 3,000mg of HCA of garcinia cambogia daily. Dosage recommendations on commercially available pills are generally lower, around 300mg – 1,600mg daily." (Holland & Barrett, 2019). At the time of writing, two products (each available in different pack sizes) were available that contained *G. cambogia* in MIDS: *G. cambogia* and green coffee bean capsules (600 mg *G. Cambogia* (fruit) per day (2 capsules)) in 60 or 100 capsule bottles; protein shakes (150 mg *G. cambogia* extract/55g per scoop; instructions state to add 2 scoops per serving and recommends 1-3 servings daily – total of up to 900 mg *G. cambogia* extract/day) in 1 or 2 kg tubs (Holland & Barrett, 2025).

184. Other online retailers such as Amazon, Superdrug, Grape Tree, Natur House and various body building supplement & nutrition websites offer *G. cambogia* capsule products with daily doses of HCA ranging from 80 – 10,000 mg. However, the product description and labelling are inconsistent with some listings simply stating *G. cambogia* extract without describing whether it is HCA nor the standardised HCA content. A powdered product of *G. Cambogia* extract was also available, where half a teaspoon serving gave a dose of 500 mg HCA (60% standardised (Oils and Herbs, 2025). It may be possible that other (non-)UK retailers offer products with higher concentrations of HCA than identified in this discussion paper.

Estimated exposure

185. A comprehensive exposure assessment using consumption data from years 1-11 of the National Diet and Nutrition Survey (NDNS) (Bates *et al.*, 2014; Bates *et al.*, 2016; Roberts *et al.*, 2018; Bates *et al.*, 2020) was not possible, for the following reasons:

- Specific food supplements containing *G. cambogia* are not in the NDNS.
 - Specific food/drink products containing *G. cambogia* are not in the NDNS.
- Whilst consumption estimates for food/drink products containing *G. cambogia* could be based on consumption of "normal" versions of the food in NDNS, it was noted these products are uncommon; this approach may have resulted in a significant overestimation of exposure.

- The use of the rind for culinary purposes was not in scope for the exposure assessment. In this instance, using the identified dose for use as a supplement was considered the most appropriate approach.

186. Therefore, the exposure estimates provided for the identified products of the market analysis are based on the recommended dose/serving size and the average body weights of adults (aged 19-64 years) and toddlers (aged 1.5-3 years) from the NDNS (78.6 and 14.6 kg, respectively).

187. Most products in the market analysis included warning information that recommended the product was suitable for adults only. However, consumption by other age groups could not be ruled out completely. Therefore, toddlers have been chosen as the age group for worst case exposure estimates.

188. Table 4 provides dosage information for *G. cambogia* only supplements, whilst Table 5 provides dosage information for multi-ingredient *G. cambogia* dietary supplements, as sold in UK online retailers at the time of the assessment.

189. Table 6 and Table 7 provide the exposure estimates for adults (*G. cambogia* only and MIDS products respectively), while Table 8 and Table 9 provide the exposure estimates for toddlers (*G. cambogia* only and MIDS products respectively). There are exposure estimates for both *G. cambogia* and HCA, where possible. In some cases, insufficient information was provided to perform an exposure assessment for one or the other.

Table 4 - Dosage information for *G. cambogia* only supplements, as sold in UK online retailers at the time of the assessment.

Supplement name	Supplement type	Recommended daily serving	<i>G. cambogia</i> concentration per unit (capsule/tablet/ scoop etc) (mg)	<i>G. cambogia</i> concentration in a daily serving (maximum serving size*) (mg)	HCA content % (mg in maximum daily serving*)
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BodyBuilding Warehouse Pure <i>Garcinia cambogia</i>	Capsules	1-2 capsules	500	1000	60% (600)
UK Health House <i>Garcinia Cambogia</i> - High Strength - 1000mg Tablets 60% HCA Max	Tablets	1-2 tablets	1000	2000	60% (1200)
HERBASENSE GARCINIA CAMBOGIA EXTRACT - 60% HCA by HPLC	Powder	3 spoons (1.5g)	1500	4500	60% (2700)
NOW Foods, <i>Garcinia</i> , 120 Tablets		1-3 tablets	1000	3000	50% (1500)
Fitimins <i>Garcinia Cambogia</i> Extract 1000mg Capsule	Capsules	2 capsules	1000	2000	60% (1200)

BioTechUSA HCA - 100 caps	Capsules	3 capsules	1000	3000	60% (1800)
Woods Supplements <i>Garcinia</i> <i>Cambogia</i> 1000mg	Capsules	1 capsule	1000	1000	Not provided
Paradise Herbs, Garcinia Extract, 500 mg, 60 Vegetarian Capsules	Capsules	1-3 capsules	500	1500	50% (750)
Inlife Garcinia 1600 MG Capsules - 120 Capsules	Capsules	2-3 capsules	1600	4800	>60% (>2880)
Himalaya, Organic Garcinia, 60 Caplets	Caplets	2 caplets	600	1200	66% (792)
Swanson <i>Garcinia</i> <i>Cambogia</i> 5:1 Extract, 80mg - 60 caps	Capsules	1 capsule	80	80	Not provided

Sotya Garcinia	Capsules	3 capsules	250	750	60% (450)
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DR WAKDE'S Garcinia Fruit Powder - 100g (3.5oz) Pure, Raw & Dried Powder Ayurvedic Herb Vegan Nothing Added, Nothing Removed Same Day Dispatch	Powder	1-2 teaspoons (5-10g)	5,000 (5g teaspoon)**	10,000**	Not provided
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<i>Garcinia Cambogia</i> 1500mg 120 Vegan Capsules High Strength 20:1 Whole Fruit Powder Premium Quality Supplement by Horbaach	Capsules	1 capsule	1500	1500	Not provided
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Black Swan					
Hydroxycitric					
Acid					
Capsules -					
500mg HCA					
Garcinia					
Cambogia					Percentage
Enhanced					content
Mood Weight Capsules	1-2 capsules	Not provided**	Not provided**	not	provided**
Management					(1000)
Metabolic					
Support					
Natural Food					
Supplement -					
30 Capsules					
1 Month					
Supply					

* Maximum serving assumes the maximum amount recommended on the packaging or website of the supplement. E.g. if recommended to take 1-2 capsules per day, this table assumes 2 capsules would be taken. Another example is if the website suggests a serving of 2 capsules a day, but the packaging suggests 3, then the highest suggestion has been used.

**An assumption has been made regarding the value, see Table 1 (Appendix A of TOX/2025/41) for more details.

Table 5 Dosage information for multi-ingredient G. cambogia dietary supplements, as sold in UK online retailers at the time of the assessment.

Supplement name	Supplement type	Recommended daily serving	<i>G. cambogia</i> concentration per unit (capsule/ tablet/ scoop etc) (mg)	<i>G. cambogia</i> concentration in a daily serving (maximum serving size*) (mg)	HCA content % (mg in maximum daily serving*)
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Swiss Bioenergetics <i>Garcinia cambogia</i>	Capsules	3-6 capsules	500	3000	Not provided
Nutralie <i>Garcinia cambogia</i> complex fat burner	Capsules	3 capsules	667	2000	60% (1200)
Holland & Barrett <i>Garcinia Cambogia</i> & Green Coffee Bean 100 Capsules	Capsules	2 capsules	300	600	Not provided
HERBASENSE <i>Garcinia Cambogia</i> Plus Jar - 60% HCA by HPLC + Green Coffee Bean + Green Tea Extracts	Powder	3 spoons (1.5g)	1500	4500	60% (2700)

Sensilab Essentials <i>Garcinia Cambogia</i> 1,800mg High Dose - Vegan, 90 Capsules	Capsules	3 capsules	600	1800	60% (1080)
Sensilab Garcinia Slim	Capsules	2 capsules	209	417	60% (250)
GARCINIA ULTRA BLEND (with Acai & Green Tea) 60 Vegetarian Capsules	Capsules	1-2 capsules	100	200	55% (110)

Garcinia Cambogia - 90 Capsules - 1500mg Daily Dosage - Premium Quality Supplement - UK formulated - Vegetarian & Vegan Suitable - Optimum Strength For Maximum Results - Garcinia Clean For Men & Women	Capsules	3 capsules	500	1500	No provided
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Apple Cider Vinegar with Cayenne Pepper, Turmeric & Ginger Root + <i>Garcinia</i> <i>Cambogia</i> with Calcium, Potassium, Chromium, etc. - UK Formulated Food Supplements Capsules - Both Vegan & Vegetarian Suitable	Capsules	3 capsules	1500**	4500**	15% (675)**
Prowise Healthcare Essentials <i>Garcinia</i> <i>Cambogia</i> High Dose - Vegan, 180 Capsules	Capsules	2 capsules	1000	2000	Not provided
Troo Health Care <i>Garcinia</i> <i>Cambogia</i> Complex Supplement - 90 Capsules UK Manufactured	Capsules	3 capsules	500	1500	Not provided

<i>Garcinia</i> <i>Cambogia</i> 1500mg Daily Dosage -with Added Chromium Picolinate for Rapid Absorption - 30 Day Supply of The Super Strength Whole Fruit - Manufactured in The UK	Capsules	3 capsules	500	1500	Not provided
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*Maximum serving assumes the maximum amount recommended on the packaging or website of the supplement. E.g. if recommended to take 1-2 capsules per day, this table assumes 2 capsules would be taken. Another example is if the website suggests a serving of 2 capsules a day, but the packaging suggests 3, then the highest suggestion has been used.

**An assumption has been made regarding the value, see Table 1 (Appendix A of TOX/2025/41) for more details.

Table 6 - Exposure estimates for adults from *G. cambogia* only supplements, as sold in UK online retailers at the time of the assessment.

Supplement name	<i>G. cambogia</i> concentration in a daily serving (maximum serving size*) (mg)	HCA content % (mg in maximum daily serving*)	Exposure to <i>G. cambogia</i> (maximum daily serving*) (mg/ kg bw/day)	Exposure to HCA (maximum daily serving*) (mg/ kg bw/day)
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BodyBuilding Warehouse Pure <i>Garcinia cambogia</i>	1000	60% (600)	13	7.6
UK Health House <i>Garcinia Cambogia</i> - High Strength - 1000mg Tablets 60% HCA Max	2000	60% (1200)	25	15
HERBASENSE GARCINIA CAMBOGIA EXTRACT - 60% HCA by HPLC	4500	60% (2700)	57	34
NOW Foods, Garcinia, 120 Tablets	3000	50% (1500)	38	19
Fitimins <i>Garcinia</i> <i>Cambogia</i> Extract 1000mg Capsule	2000	60% (1200)	25	15
BioTechUSA HCA - 100 caps	3000	60% (1800)	38	23
Woods Supplements <i>Garcinia Cambogia</i> 1000mg	1000	Not provided	13	Not provided

Paradise Herbs, Garcinia Extract, 500 mg, 60 Vegetarian Capsules	1500	50% (750)	19	9.5
Inlife Garcinia 1600 MG Capsules - 120 Capsules	4800	>60% (>2880)	61	37
Himalaya, Organic Garcinia, 60 Caplets	1200	66% (326)	15	10
Swanson <i>Garcinia</i> <i>Cambogia</i> 5:1 Extract, 80mg - 60 caps	80	Not provided	1.0	Not provided
Sotya Garcinia	750	60% (450)	9.5	5.7
DR WAKDE'S Garcinia Fruit Powder - 100g (3.5oz) Pure, Raw & Dried Powder Ayurvedic Herb Vegan Nothing Added, Nothing Removed Same Day Dispatch	10,000**	Not provided	130	Not provided

Garcinia Cambogia			
1500mg 120			
Vegan Capsules			
High Strength 20:1	1500	Not provided	19
Whole Fruit Powder			Not provided
Premium Quality			
Supplement by			
Horbaach			

Black Swan			
Hydroxycitric Acid			
Capsules - 500mg			
HCA Garcinia			
Cambogia			
Enhanced Mood		Percentage	
Weight	Not provided**	content not	
Management		provided**	Not provided 13
Metabolic Support		(1000)	
Natural Food			
Supplement - 30			
Capsules 1 Month			
Supply			

* Maximum serving assumes the maximum amount recommended on the packaging or website of the supplement. E.g. if recommended to take 1-2 capsules per day, this table assumes 2 capsules would be taken. Another example is if the website suggests a serving of 2 capsules a day, but the packaging suggests 3, then the highest suggestion has been used.

**An assumption has been made regarding the value, see Table 1 (Appendix A of TOX/2025/41) for more details.

Table 7 - Exposure estimates for adults from multi-ingredient G. cambogia dietary supplements, as sold in UK online retailers at the time of the assessment.

Supplement name	<i>G. cambogia</i> concentration in a daily serving (maximum serving size*) (mg)	HCA content % (mg in maximum daily serving*)	Exposure to <i>G. cambogia</i> (maximum daily serving*) (mg/ kg bw/day)	Exposure to HCA (maximum daily serving*) (mg/ kg bw/day)
Swiss Bioenergetics <i>Garcinia cambogia</i>	3000	Not provided	38	Not provided
Nutralie <i>Garcinia cambogia</i> complex fat burner	2000	60% (1200)	25	15
Holland & Barrett <i>Garcinia Cambogia</i> & Green Coffee Bean 100 Capsules	600	Not provided	7.6	NA
HERBASENSE <i>Garcinia Cambogia</i> Plus Jar – 60% HCA by HPLC + Green Coffee Bean + Green Tea Extracts	4500	60% (2700)	57	34
Sensilab Essentials <i>Garcinia Cambogia</i> 1,800mg High Dose - Vegan, 90 Capsules	1800	60% (1080)	23	14

Sensilab Garcinia Slim	417	60% (250)	5.3	3.2
GARCINIA ULTRA BLEND (with Acai & Green Tea) 60 Vegetarian Capsules	200	55% (110)	2.5	1.4
<i>Garcinia Cambogia</i> - 90 Capsules - 1500mg Daily Dosage - Premium Quality Supplement - UK formulated - Vegetarian & Vegan Suitable - Optimum Strength For Maximum Results - Garcinia Clean For Men & Women	1500	No provided	19	Not provided
Apple Cider Vinegar with Cayenne Pepper, Turmeric & Ginger Root + <i>Garcinia Cambogia</i> with Calcium, Potassium, Chromium, etc. - UK Formulated Food Supplements Capsules - Both Vegan & Vegetarian Suitable	4500**	15% (675)**	25	8.6

Prowise Healthcare Essentials <i>Garcinia</i> <i>Cambogia</i> High Dose 2000 - Vegan, 180 Capsules		Not provided	25	Not provided
Troo Health Care <i>Garcinia Cambogia</i> Complex Supplement - 90 Capsules UK Manufactured	1500	Not provided	19	Not provided
<i>Garcinia Cambogia</i> 1500mg Daily Dosage -with Added Chromium Picolinate for Rapid Absorption - 30 Day Supply of The Super Strength Whole Fruit - Manufactured in The UK	1500	Not provided	19	Not provided

* Maximum serving assumes the maximum amount recommended on the packaging or website of the supplement. E.g. if recommended to take 1-2 capsules per day, this table assumes 2 capsules would be taken. Another example is if the website suggests a serving of 2 capsules a day, but the packaging suggests 3, then the highest suggestion has been used.

**An assumption has been made regarding the value, see Table 1 (Appendix A of TOX/2025/41) for more details.

Table 8 - Exposure estimates for toddlers from *G. cambogia* only supplements, as sold in UK online retailers at the time of the assessment.

Supplement name	<i>G. cambogia</i> concentration in a daily serving (maximum serving size*) (mg)	HCA content % (mg in maximum daily serving*)	Exposure to <i>G. cambogia</i> (maximum daily serving*) (mg/ kg bw/day)	Exposure to HCA (maximum daily serving*) (mg/ kg bw/day)
BodyBuilding Warehouse Pure <i>Garcinia cambogia</i>	1000	60% (600)	68	41
UK Health House <i>Garcinia Cambogia</i> - High Strength - 1000mg Tablets 60% HCA Max	2000	60% (1200)	140	82
HERBASENSE GARCINIA CAMBOGIA EXTRACT - 60% HCA by HPLC	4500	60% (2700)	310	180
NOW Foods, Garcinia, 120 Tablets	3000	50% (1500)	210	100
Fitimins <i>Garcinia Cambogia</i> Extract 1000mg Capsule	2000	60% (1200)	140	82
BioTechUSA HCA - 100 caps	3000	60% (1800)	210	120

Woods Supplements <i>Garcinia Cambogia</i> 1000mg	1000	Not provided	68	Not provided
Paradise Herbs, Garcinia Extract, 500 mg, 60 Vegetarian Capsules	1500	50% (750)	100	51
Inlife Garcinia 1600 MG Capsules - 120 Capsules	4800	>60% (>2880)	330	200
Himalaya, Organic Garcinia, 60 Caplets	1200	66% (326)	82	54
Swanson <i>Garcinia</i> <i>Cambogia</i> 5:1 Extract, 80mg - 60 caps	80	Not provided	5.5	Not provided
Sotya Garcinia	750	60% (450)	51	31
DR WAKDE'S Garcinia Fruit Powder - 100g (3.5oz) Pure, Raw & Dried Powder Ayurvedic Herb Vegan Nothing Added, Nothing Removed Same Day Dispatch	10,000**	Not provided	680	Not provided

Garcinia Cambogia			
1500mg 120			
Vegan Capsules			
High Strength 20:1	1500	Not provided	100
Whole Fruit Powder			Not provided
Premium Quality			
Supplement by			
Horbaach			

Black Swan			
Hydroxycitric Acid			
Capsules - 500mg			
HCA Garcinia			
Cambogia			
Enhanced Mood		Percentage	
Weight	Not provided**	content not	
Management		provided**	Not provided 68
Metabolic Support		(1000)	
Natural Food			
Supplement - 30			
Capsules 1 Month			
Supply			

* Maximum serving assumes the maximum amount recommended on the packaging or website of the supplement. E.g. if recommended to take 1-2 capsules per day, this table assumes 2 capsules would be taken. Another example is if the website suggests a serving of 2 capsules a day, but the packaging suggests 3, then the highest suggestion has been used.

**An assumption has been made regarding the value, see Table 1 (Appendix A of TOX/2025/41) for more details.

Table 9 - Exposure estimates for toddlers from multi-ingredient G. cambogia dietary supplements, as sold in UK online retailers at the time of the assessment.

Supplement name	<i>G. cambogia</i> concentration in a daily serving (maximum serving size*) (mg)	HCA content % (mg in maximum daily serving*)	Exposure to <i>G. cambogia</i> (maximum daily serving*) (mg/ kg bw/day)	Exposure to HCA (maximum daily serving*) (mg/ kg bw/day)
Swiss Bioenergetics <i>Garcinia cambogia</i>	3000	Not provided	210	Not provided
Nutralie <i>Garcinia cambogia</i> complex fat burner	2000	60% (1200)	140	82
Holland & Barrett <i>Garcinia Cambogia</i> & Green Coffee Bean 100 Capsules	600	Not provided	41	Not provided
HERBASENSE <i>Garcinia Cambogia</i> Plus Jar – 60% HCA by HPLC + Green Coffee Bean + Green Tea Extracts	4500	60% (2700)	310	180
Sensilab Essentials <i>Garcinia Cambogia</i> 1,800mg High Dose - Vegan, 90 Capsules	1800	60% (1080)	120	74

Sensilab Garcinia Slim	417	60% (250)	29	17
GARCINIA ULTRA BLEND (with Acai & Green Tea) 60 Vegetarian Capsules	200	55% (110)	14	7.5
<i>Garcinia Cambogia</i> - 90 Capsules - 1500mg Daily Dosage - Premium Quality Supplement - UK formulated - Vegetarian & Vegan Suitable - Optimum Strength For Maximum Results - Garcinia Clean For Men & Women	1500	No provided	100	Not provided
Apple Cider Vinegar with Cayenne Pepper, Turmeric & Ginger Root + <i>Garcinia Cambogia</i> with Calcium, Potassium, Chromium, etc. - UK Formulated Food Supplements Capsules - Both Vegan & Vegetarian Suitable	4500**	15% (675)**	310	46

Prowise Healthcare Essentials <i>Garcinia</i> <i>Cambogia</i> High Dose 2000 - Vegan, 180 Capsules		Not provided	140	Not provided
Troo Health Care <i>Garcinia Cambogia</i> Complex Supplement - 90 Capsules UK Manufactured	1500	Not provided	100	Not provided
<i>Garcinia Cambogia</i> 1500mg Daily Dosage -with Added Chromium Picolinate for Rapid Absorption - 30 Day Supply of The Super Strength Whole Fruit - Manufactured in The UK	1500	Not provided	100	Not provided

* Maximum serving assumes the maximum amount recommended on the packaging or website of the supplement. E.g. if recommended to take 1-2 capsules per day, this table assumes 2 capsules would be taken. Another example is if the website suggests a serving of 2 capsules a day, but the packaging suggests 3, then the highest suggestion has been used.

**An assumption has been made regarding the value, see Table 1 (Appendix A of TOX/2025/41) for more details.

Uncertainties in the exposure assessment

190. It should be highlighted that the UK market analysis of *G. cambogia* dietary supplements was performed in brief and as such, may not include all products that are available online. Thus, products with higher dosage

recommendations and resulting in higher estimated exposures may exist on the UK market.

191. Some assumptions have been made where dosage recommendations are varied. In cases where the dosage is given as a range (e.g. 1-3 capsules per day), the highest possible amount has been assumed to be consumed (e.g. 3 capsules per day). Also, where there is a discrepancy between the packaging image and website instructions, the highest dosage has been assumed e.g. if the website suggests a serving of 2 capsules a day, but the packaging suggests 3, then the value of 3 has been used.

192. Some assumptions have been made where *G. cambogia* or HCA content has not been explicitly stated. E.g. for pure *G. cambogia* it is assumed that 5g-10g of the powder is equal to 5000-10,000 mg of *G. cambogia* (1g = 1000mg). I.e. it is assumed that no other ingredient(s) are present.

193. As stated in paragraph 187, most supplements in the market analysis, provided warnings on the website/ packaging recommending that that the product is only suitable for adults. However, exposures for other age groups could not be completely excluded. Toddlers have been selected as the age group for worst case exposure estimates, which are expressed on a per kg bodyweight basis. This is expected to be a conservative assessment and likely to be protective of other age groups under the age of 18 due to the average bodyweight of toddlers being lower than older children.

194. Infants have not been included in the assessment as it is assumed that supplements intended for weight loss and provided as small capsules or powders that could cause a choking hazard would not be used for infants.