Schedule 19 Maximum levels of contaminants and natural toxicants

Note 1 This instrument is a standard under the *Food Standards Australia New Zealand Act 1991* (Cth). The standards together make up the *Australia New Zealand Food Standards Code.* See also section 1.1.1—3.

Maximum levels of contaminants and natural toxicants are regulated by subsection 1.1.1—10(6) and Standard 1.4.1. This Standard lists contaminants and natural toxicants for food for subsection 1.4.1—3(1), and sets out the requirements for and method of calculating the level of mercury in fish for subsection 1.4.1—3(2).

Note 2 The provisions of the Code that apply in New Zealand are incorporated in, or adopted under, the *Food Act 2014* (NZ). See also section 1.1.1—3.

S19—1 Name

This Standard is *Australia New Zealand Food Standards Code* – Schedule 19 – Maximum levels of contaminants and natural toxicants.

Note Commencement:
This Standard commences on 1 March 2016, being the date specified as the commencement date in notices in the *Gazette* and the New Zealand Gazette under section 92 of the *Food Standards Australia New Zealand Act 1991* (Cth). See also section 93 of that Act.

S19—2 Definitions

In this Schedule:

arsenic is taken to be a metal.

ergot means the sclerotium or dormant winter form of the fungus *Claviceps purpurea*.

honey includes comb honey.

hydrocyanic acid, total means all hydrocyanic acid including hydrocyanic acid evolved from cyanogenic glycosides and cyanohydrins during or following enzyme hydrolysis or acid hydrolysis.

MU means the unit of measurement for neurotoxic shellfish poisons described in *Recommended procedures for examination of seawater and shellfish*, Irwin N. (ed) fourth edition, American Public Health Association Inc.

ready-to-eat cassava chips means the product made from sweet cassava that is represented as ready for immediate consumption with no further preparation required, and includes crisps, crackers and ‘vege’ crackers.

Note In this Code (see section 1.1.2—3):

honey means the natural sweet substance produced by honey bees from the nectar of blossoms or from secretions of living parts of plants or excretions of plant sucking insects on the living parts of plants, which honey bees collect, transform and combine with specific substances of their own, store and leave in the honey comb to ripen and mature.

S19—3 Calculating levels of contaminants and toxicants

(1) In this Schedule:

(a) a reference to a metal is taken to include a reference to each chemical species of that metal; and

(b) for a food for which only a portion is ordinarily consumed—a reference to the food is taken to be a reference to that portion; and

(c) in the case of seaweed—calculations are to be based on seaweed at 85% hydration; and

(d) subject to subsection S19—7(3), if food other than seaweed is dried, dehydrated or concentrated—calculations are to be based on the food or its ingredients prior to drying, dehydration or concentration.

(2) For paragraph (1)(d), calculations must be based on 1 or more of:

(a) the manufacturer's analysis of the food; or

(b) the actual amount or *average quantity of water in the ingredients of the food; or

(c) generally accepted data.

S19—4 Maximum levels of metal contaminants

Note For mean levels of mercury in fish, crustacea and molluscs, see section S19—7.

For each metal contaminant listed below, the maximum level (in mg/kg) for a particular food is listed in relation to that food:

Maximum levels of metal contaminants

Contaminant	***Food***	***Maximum level***
Arsenic (total)	Cereal grains and milled cereal products (as specified in Schedule 22)	1
	Salt	0.5
Arsenic (inorganic)	Crustacea	2
	Fish	2
	Molluscs	1
	Seaweed	1
Cadmium	Chocolate and cocoa products	0.5
	Kidney of cattle, sheep and pig	2.5
	Leafy vegetables (as specified in Schedule 22)	0.1
	Liver of cattle, sheep and pig	1.25
	Meat of cattle, sheep and pig (excluding offal)	0.05
	Molluscs (excluding dredge/bluff oysters and queen scallops)	2
	Peanuts	0.5
	Rice	0.1
	Root and tuber vegetables (as specified in Schedule 22)	0.1
	Salt	0.5
	Wheat	0.1
Lead	Brassicas	0.3
	Cereals, pulses and legumes	0.2
	Edible offal of cattle, sheep, pig and poultry	0.5
	Fish	0.5
	Fruit	0.1
	Infant formula products	0.02
	Meat of cattle, sheep, pig and poultry (excluding offal)	0.1
	Molluscs	2
	Salt	2
	Vegetables (except brassicas)	0.1

Contaminant	*Food*	*Maximum level*
Mercury	Fish, crustacea and molluscs	See S19—7
	Salt	0.1
Tin	All canned foods	250

S19—5 Maximum levels of non-metal contaminants

For each non-metal contaminant listed below, the maximum level (in mg/kg unless specified otherwise) for a particular food is listed in relation to that food:

Maximum levels of non-metal contaminants

Contaminant	*Food*	*Maximum level*
Acrylonitrile	All food	0.02
Aflatoxin	Peanuts	0.015
	Tree nuts (as specified in Schedule 22)	0.015
Amnesic shellfish poisons (Domoic acid equivalent)	Bivalve molluscs	20
3-chloro-1,2-propanediol	Soy sauce and oyster sauce	0.2 calculated on a 40% dry matter content
Diarrhetic shellfish poisons (Okadaic acid equivalent)	Bivalve molluscs	0.2
1,3-dichloro-2-propanol	Soy sauce and oyster sauce	0.005 calculated on a 40% dry matter content
Ergot	Cereal grains	500
Methanol	Red wine, white wine and fortified wine	3 g methanol / L of ethanol
	Whisky, rum, gin and vodka	0.4 g methanol / L of ethanol
	Other spirits, fruit wine, vegetable wine and mead	8 g methanol / L of ethanol
Neurotoxic shellfish poisons	Bivalve molluscs	200 MU/kg
Paralytic shellfish poisons (Saxitoxin equivalent)	Bivalve molluscs	0.8
Phomopsins	Lupin seeds and the products of lupin seeds	0.005
Polychlorinated biphenyls, total	Mammalian fat	0.2
	Poultry fat	0.2
	Milk and milk products	0.2
	Eggs	0.2
	Fish	0.5
Vinyl chloride	All food except packaged water	0.01

S19—6 Maximum levels of natural toxicants

(1) For each natural toxicant listed below, the maximum level (in mg/kg) for a particular food is listed in relation to that food:

Maximum levels of natural toxicants

Natural toxicant	*Food*	*Maximum level*
Agaric acid	Food containing mushrooms	100
	Alcoholic beverages	100
Aloin	Alcoholic beverages	50
Berberine	Alcoholic beverages	10
Coumarin	Alcoholic beverages	10
Hypericine	Alcoholic beverages	2
Lupin alkaloids	Lupin flour, lupin kernel flour, lupin kernel meal and lupin hulls	200
Pulegone	Confectionery	350
	Beverages	250
Quassine	Alcoholic beverages	50
Quinine	Mixed alcoholic drinks not elsewhere classified	300
	Tonic drinks, bitter drinks and quinine drinks	100
	Wine based drinks and reduced alcohol wines	300
Safrole	Food containing mace and nutmeg	15
	Meat products	10
	Alcoholic beverages	5
Santonin	Alcoholic beverages	1
Sparteine	Alcoholic beverages	5
Thujones (alpha and beta)	Sage stuffing	250
	Bitters	35
	Sage flavoured foods	25
	Alcoholic beverages	10

(2) For each natural toxicant listed below, the maximum level (in mg/kg) for a particular food is listed in relation to that food:

Maximum levels of natural toxicants

Natural toxicant	*Food*	*Maximum level*
Erucic acid	Edible oils	20 000
Histamine	Fish and fish products	200
Hydrocyanic acid, total	Confectionery	25
	Stone fruit juices	5
	Marzipan	50
	Ready-to-eat cassava chips	10
	Alcoholic beverages	1 mg per 1% alcohol content
Tutin	Honey	0.7

Note The New Zealand *Food (Tutin in Honey) Standard 2010* also regulates beekeepers, packers and exporters of honey in New Zealand. It provides options for demonstrating compliance with the maximum level for tutin in honey set by section 1.4.1—3.

S19—7 Mean and maximum levels of mercury in fish, crustacea and molluscs

(1) For subsection 1.4.1—3(2), the following table applies:

For:	*if:*	*the mean level of mercury in sample units must be no greater than:*	*the maximum level of mercury in any sample unit must be no greater than:*
gemfish, billfish (including marlin), southern bluefin tuna, barramundi, ling, orange roughy, rays and all species of shark;	(a) both of the following are satisfied: (i) 10 or more sample units are available; (ii) the concentration of mercury in any sample unit is greater than 1.0 mg/kg:	1.0 mg/kg	1.5 mg/kg
	(b) 5 sample units are available:	1.0 mg/kg	(no level set)
	(c) there are insufficient samples to analyse in accordance with subsection S19—7(2):		1.0 mg/kg
other fish, fish products, crustacea and molluscs;	(a) both of the following are satisfied: (i) 10 or more sample units are available; (ii) the concentration of mercury in any sample unit is greater than 1.0 mg/kg:	0.5 mg/kg	1.5 mg/kg
	(b) 5 sample units are available:	0.5 mg/kg	(no level set)
	(c) there are insufficient samples to analyse in accordance with subsection S19—7(2):		1.0 mg/kg

(2) For the table in subsection (1), calculations must be done on the basis of the following number of sample units:

(a) for fish other than crustacea or molluscs:
- (i) for a *lot of not more than 5 tonnes—10;
- (ii) for a lot of more than 5 but not more than 10 tonnes—15;
- (iii) for a lot of more than 10 but not more than 30 tonnes—20;
- (iv) for a lot of more than 30 but not more than 100 tonnes—25;
- (v) for a lot of more than 100 but not more than 200 tonnes—30;
- (vi) for a lot of more than 200 tonnes—40;

(b) for crustacea and molluscs:
- (i) for a lot of not more than 1 tonne—10;
- (ii) for a lot of more than 1 but not more than 5 tonnes—15;
- (iii) for a lot of more than 5 but not more than 30 tonnes—20;
- (iv) for a lot of more than 30 but not more than 100 tonnes—25;
- (v) for a lot of more than 100 tonnes—30;

(c) if the number of sampling units specified in paragraph (a) or (b) is not available—5.

(3) In this section, the mercury content of dried or partially dried fish must be calculated on an 80% moisture basis.

*Definition of **sample unit***

(4) In this section:

sample unit means a sample:

(a) that has been randomly selected from the *lot being analysed; and

(b) that has been taken from the edible portion of a fish, mollusc or crustacean, whether packaged or otherwise; and

(c) that is sufficient for the purposes of analysis.

(5) Each sample unit must be taken from a separate fish, mollusc, crustacean or package of fish product.

Amendment History

The Amendment History provides information about each amendment to the Schedule. The information includes commencement or cessation information for relevant amendments.

These amendments are made under section 92 of the *Food Standards Australia New Zealand Act 1991* unless otherwise indicated. Amendments do not have a specific date for cessation unless indicated as such.

About this compilation

This is compilation No. 3 of Schedule 19 as in force on **3 June 2021** (up to Amendment No. 200). It includes any commenced amendment affecting the compilation to that date.

Prepared by Food Standards Australia New Zealand on **3 June 2021**.

Uncommenced amendments or provisions ceasing to have effect

To assist stakeholders, the effect of any uncommenced amendments or provisions which will cease to have effect, may be reflected in the Schedule as shaded boxed text with the relevant commencement or cessation date. These amendments will be reflected in a compilation registered on the Federal Register of Legislation including or omitting those amendments and provided in the Amendment History once the date is passed.

The following abbreviations may be used in the table below:

ad = added or inserted
am = amended
exp = expired or ceased to have effect
rep = repealed
rs = repealed and substituted

Schedule 19 was published in the Food Standards Gazette No. FSC96 on 10 April 2015 as part of Amendment 154 (F2015L00454 — 1 April 2015) and has since been amended as follows:

Section affected	A'ment No.	FRL registration Gazette	Commencement (Cessation)	How affected	Description of amendment
S19—2	157	F2015L01374 1 Sept 2015 FSC99 3 Sept 2015	1 March 2016	ad	Definition of 'honey' and related Note previously included in the Code as part of P1029.
table to S19—6(2)	157	F2015L01374 1 Sept 2015 FSC99 3 Sept 2015	1 March 2016	ad	Entry for tutin and related Note previously included in the Code as part of P1029.
S19—7(2)	168	F2017L00414 11 April 2017 FSC110 13 April 2017	13 April 2017	am	Correction of typographical error.
S19—7(2)(c)	200	F2021L00684 2 June 2021 FSC141 3 June 2021	3 June 2021	am	Correction of typographical error.