

Sanitation Standard for Contaminants and Toxins in Food

Article 1

This Standard is prescribed in accordance with the provision of Article 17 of the Act Governing Food Safety and Sanitation.

Article 2

The contaminants in this standard shall mean the substance not intentionally added to food, which present in food as a result of production or pollution during the manufacturing, processing, preparing, packaging, transportation, storage, or selling, or as a result of environmental contamination. It does not include insect fragments, hairs and other extraneous matters.

The toxins in this standard include the mycotoxins, marine bio-toxins and natural toxins in plant origin.

The scope of this standard does not include the residues of pesticides, veterinary drugs and processing aids; the tolerance of atomic dust and radioactivity contamination, polychlorinated biphenyl and dioxins; and the microorganisms and microbial toxins that are within the sanitation standard for microbiological in foods.

Article 3

The maximum levels of metals in food shall meet the standard on Appendix 1.

Article 4

The maximum levels of mycotoxins in food shall meet the standard on Appendix 2.

Article 5

The maximum levels of other contaminants and toxins in food shall meet the standard on Appendix 3.

Article 6

This standard shall be implemented from 1 January, 2019.

The articles of this standard amended on 17th June 2020 shall apply from 1 January 2021.

The articles of this standard amended on 4 February 2021 shall apply from 1 July 2021.

The articles of this standard amended on 31 May 2022 shall apply from 1 July 2024.

The articles of this standard amended on 28 March 2024 shall apply from 1 July 2024.

Appendix1. Maximum levels (ML) of metals in foods

1	Total Arsenic (As-tot) and Inorganic Arsenic (As-in)		
	Foodstuffs	ML (mg/kg)	
		As-tot	As-in
1.1	Grains		
1.1.1	Rice (husked), for example brown rice, milled rice with embryo		0.35 ⁽¹⁾
1.1.2	Rice (Polished), for example polished rice		0.2 ⁽¹⁾
1.1.3	Rice destined for the production of food for infants and young children ⁽²⁾		0.1 ⁽¹⁾
1.1.4	Other cereal grains	1	
1.2	Seaweed		1.0 ⁽³⁾
1.3	Aquatic animal		
1.3.1	Fish		0.5 ⁽³⁾
1.3.2	Bivalve molluscs (exclude shell), Cephalopod (exclude organ)		0.5 ⁽³⁾
1.3.3	Muscle meat of crustaceans, include muscle meat from appendages		0.5 ⁽³⁾
1.3.4	Other aquatic animal ⁽⁴⁾		0.5 ⁽³⁾
1.4	Edible fats and oils ⁽⁵⁾		
1.4.1	Fats and oils intended for direct human consumption ⁽⁶⁾	0.1	
1.4.2	Fat spreads and blended spreads ⁽⁷⁾	0.1	
1.5	Bottled and packaged drinking water	0.01	
1.6	Beverage (exclude natural and concentrated fruit and vegetable juices)	0.2	
1.7	Salt, food grade ⁽⁸⁾	0.2	
1.8	Ice cubes, food grade ⁽⁹⁾	0.01	
2	Lead		
	Foodstuffs	ML (mg/kg)	
2.1	Grains		
2.1.1	Cereal grains, include rice		0.2
2.2	Vegetables, fruits and plant origin		
2.2.1	Leafy vegetables. The ML also applies to brassica leafy vegetables.		0.3 ⁽³⁾
2.2.2	Brassica vegetables. The ML applies to head cabbages, kohlrabi, cauliflower, broccoli and brussels sprouts (“buttons” only). The ML does not apply to brassica leafy vegetables.		0.1 ⁽³⁾
2.2.3	Root and tuber vegetables. The ML applies to whole commodity after removing tops and		0.1 ⁽³⁾

	adhering soil. Potato must peel. The ML does not apply to celeriac.	
2.2.4	Bulb vegetables. The ML applies to dry onions and garlic, must removal of roots, adhering soil and whatever parchment skin is easily detached.	0.1 ⁽³⁾
2.2.5	Fruiting vegetables. The ML applies to whole commodity after removal of stems. Fresh corn without husk, exclude sweet corn.	0.05 ⁽³⁾
2.2.6	Legume vegetables, including edible pods.	0.1 ⁽³⁾
2.2.7	Pulses, including edible crops harvested solely for dry seeds.	0.2 ⁽³⁾
2.2.8	Peanuts	0.2 ⁽³⁾
2.2.9	Cranberry, Currants, Elderberry and Strawberry	0.2 ⁽³⁾
2.2.10	Other vegetables and fruits, after removal of inedible stones, stems, caps/crown and seeds.	0.1 ⁽³⁾
2.2.11	Table olives	0.4 ⁽¹⁰⁾
2.2.12	Herbs and Spices	0.3 ⁽³⁾
2.2.13	Seaweed	1.0 ⁽³⁾
2.2.14	Mushrooms ⁽¹¹⁾	3 ⁽¹²⁾
2.3	Aquatic animal	
2.3.1	Fish	0.3 ⁽³⁾
2.3.2	Bivalve molluscs (exclude shell)	1.5 ⁽³⁾
2.3.3	Cephalopod (exclude organ)	0.3 ⁽³⁾
2.3.4	Muscle meat of crustaceans, include muscle meat from appendages	0.5 ⁽³⁾
2.3.5	Other aquatic animal ⁽⁴⁾	0.3 ⁽³⁾
2.4	Livestock and Poultry Products	
2.4.1	Meat of cattle, sheep, pigs and poultry	0.1 ⁽³⁾
2.4.2	Edible offal of cattle and sheep	0.2⁽³⁾
2.4.3	Edible offal of pigs	0.15⁽³⁾
2.4.4	Edible offal of poultry	0.1⁽³⁾
2.4.5	Eggs (exclude shell)	0.3
2.5	Edible fats and oils ⁽⁵⁾	
2.5.1	Fats and oils intended for direct human consumption	0.1
2.5.2	Fat spreads and blended spreads ⁽⁷⁾	0.1
2.6	Milk products	
2.6.1	Milk and secondary milk products ⁽¹³⁾ , milk products those removal water shall apply by the concentration factors	0.02 ⁽¹⁰⁾
2.6.2	Butter, Cream and other products which mainly containing milk fat	0.1 ⁽¹⁰⁾

2.7	Beverage	
2.7.1	Natural fruit and vegetable juices, reconstituted fruit and vegetable juices and nectars, except concentrated fruit and vegetable juices, and juices or nectars from berries and other small fruits	0.03
2.7.2	Natural fruit and vegetable juices, reconstituted fruit and vegetable juices, and nectars from berries and other small fruits, except concentrated fruit and vegetable juices	0.05
2.7.3	Other beverage intended for direct human consumption, except of foodstuffs listed in 2.7.1, 2.7.2 and concentrated fruit and vegetable	0.3
2.8	Bottled and packaged drinking water	0.01
2.9	Canned foods	
2.9.1	Canned vegetables. The ML does not apply to canned brassica vegetables.	0.1
2.9.2	Canned fruits	0.1
2.9.3	Other canned foods, exclude canned beverage which apply to foodstuffs listed in 2.7.	1
2.10	Food for infant and young child ⁽²⁾	
2.10.1	Infant formula ⁽¹⁴⁾ 、 follow-up infant formula ⁽¹⁵⁾ and young child formula ⁽¹⁹⁾	
	-marketed as liquid	0.010 ⁽¹⁰⁾
	-marketed as powder	0.020 ⁽¹⁰⁾
2.10.2	Infant formula for special medical purposes ⁽¹⁶⁾ and foods for special medical purposes intended specifically for young child	
	-marketed as liquid	0.010 ⁽¹⁰⁾
	-marketed as powder	0.020 ⁽¹⁰⁾
2.10.3	Cereal based foods for infant and young child ⁽¹⁷⁾ and baby food ⁽¹⁸⁾	0.050 ⁽¹⁰⁾
2.10.4	Drinks which labelled and sold to infant and young child, except of foodstuffs marketed as liquid listed in 2.10.1 and 2.10.2	0.020 ⁽²⁰⁾
2.11	Salt, food grade ⁽⁸⁾	2
2.12	Ice cubes, food grade ⁽⁹⁾	0.01
2.13	Honey	0.1
2.14	Jams and jellies	1
3	Cadmium	
	Foodstuffs	ML (mg/kg)
3.1	Grains	

3.1.1	Rice	0.4
3.1.2	Wheat grains	0.2
3.1.3	Wheat bran and wheat germ for direct consumption	0.2
3.1.4	Other cereal grains	0.1
3.2	Vegetables, fruits and plant origin	
3.2.1	Leafy vegetables. The ML also applies to brassica leafy vegetables	0.2 ⁽³⁾
3.2.2	Brassica vegetables. The ML applies to head cabbages, kohlrabi, cauliflower, broccoli and brussels sprouts (“buttons” only). The ML does not apply to brassica leafy vegetables.	0.05 ⁽³⁾
3.2.3	Root and tuber vegetables. The ML applies to whole commodity after removing tops and adhering soil. Potato must peel. The ML does not apply to celeriac and parsnips.	0.1 ⁽³⁾
3.2.4	Celeriac and parsnips	0.2 ⁽³⁾
3.2.5	Stalk and stem vegetables. The ML for rhubarb only applies to leaf stems, for globe artichoke only applies to flower head. Celery and asparagus must removal of adhering soil.	0.1 ⁽³⁾
3.2.6	Bulb vegetables. The ML applies to dry onions and garlic, must removal of roots, adhering soil and whatever parchment skin is easily detached.	0.05 ⁽³⁾
3.2.7	Fruiting vegetables. The ML applies to whole commodity after removal of stems. Sweet corn and fresh corn without husk.	0.05 ⁽³⁾
3.2.8	Legume vegetables, including edible pods	0.1 ⁽³⁾
3.2.9	Pulses, including edible crops harvested solely for dry seeds. The ML does not apply to soy bean.	0.1 ⁽³⁾
3.2.10	Tree nuts, oilseeds and soybeans ⁽²¹⁾	
3.2.10.1	Pine nuts	0.3
3.2.10.2	Other tree nuts	0.2
3.2.10.3	Soy beans and peanuts	0.2 ⁽³⁾
3.2.10.4	Rape seeds	0.15
3.2.10.5	Mustard seeds	0.3
3.2.10.6	Linseeds and sunflower seeds	0.5
3.2.10.7	Other oilseeds	0.1
3.2.11	Other vegetables and fruits, after removal of inedible stones, stems, caps/crown and seeds.	0.05 ⁽³⁾
3.2.12	Herbs and spices	0.2 ⁽³⁾

3.2.13	Seaweed	1.0 ⁽³⁾
3.2.14	Mushrooms ⁽¹¹⁾	2 ⁽¹²⁾
3.3	Aquatic animal	
3.3.1	mackerel (<i>Scomber species</i>), Tuna (<i>Thunnus species</i> , <i>Euthynnus species</i> , <i>Katsuwonus pelamis</i>), Bichique (<i>Sicyopterus lagocephalus</i>)	0.1 ⁽³⁾
3.3.2	Bullet tuna (<i>Auxis species</i>)	0.15 ⁽³⁾
3.3.3	Anchovy (<i>Engraulis species</i>) Swordfish (<i>Xiphias gladius</i>) Sardine (<i>Sardina pilchardus</i>)	0.25 ⁽³⁾
3.3.4	Other fish	0.05 ⁽³⁾
3.3.5	Bivalve molluscs (exclude shell), Cephalopod (exclude organ)	1 ⁽³⁾
3.3.6	Muscle meat of crustaceans, include muscle meat from appendages	0.5 ⁽³⁾
3.3.7	Other aquatic animal ⁽⁴⁾	0.3 ⁽³⁾
3.4	Livestock and poultry Products	
3.4.1	Meat of cattle, sheep, pigs and poultry	0.050 ⁽³⁾
3.4.2	Meat of horse	0.20 ⁽³⁾
3.4.3	Liver of cattle, sheep, pigs, poultry and horse	0.50 ⁽³⁾
3.4.4	Kidney of cattle, sheep, pigs, poultry and horse	1.0 ⁽³⁾
3.5	Bottled and packaged drinking water	0.003
3.6	Food for infant and young child ⁽²⁾	
3.6.1	Infant formula ⁽¹⁴⁾ and follow-up infant formula ⁽¹⁵⁾ - formulae manufactured from cows' milk proteins or protein hydrolysates	
	-marketed as liquid	0.005 ⁽¹⁰⁾
	-marketed as powder	0.010 ⁽¹⁰⁾
3.6.2	Infant formula ⁽¹⁴⁾ and follow-up infant formula ⁽¹⁵⁾ -formulae manufactured form soya protein isolates, alone or in a mixture with cows' milk proteins	
	-marketed as liquid	0.010 ⁽¹⁰⁾
	-marketed as powder	0.020 ⁽¹⁰⁾
3.6.3	Cereal based foods for infant and young child ⁽¹⁷⁾ and baby food ⁽¹⁸⁾	0.040 ⁽¹⁰⁾
3.6.4	Young child formula ⁽¹⁹⁾ -manufactured from plant protein isolates other than soya protein isolates, alone or in a mixture with cow's milk proteins.	
	-marketed as liquid	0.010 ⁽¹⁰⁾
	-marketed as powder	0.020 ⁽¹⁰⁾
3.6.5	Drinks for infants and young children labelled	0.020 ⁽²⁰⁾

	and sold as such, other than marketed as liquids those mentioned in 3.6.1, 3.6.2 and 3.6.4		
3.7	Salt, food grade ⁽⁸⁾		0.2
4	Mercury (Hg) and Methylmercury (MeHg)		
Foodstuffs		ML (mg/kg)	
		Hg	MeHg
4.1	Rice	0.05	
4.2	Seaweed	0.5 ⁽³⁾	
4.3	Edible fats and oils ⁽⁵⁾		
4.3.1	Fats and oils intended for direct human consumption, exclude marine oils	0.05	
4.3.2	Marine oils	0.1	
4.4	Aquatic animal ⁽²²⁾		
4.4.1	Shark, swordfish, tuna and oilfish		2 ⁽³⁾
4.4.2	Grenadier, bonito, seabream, catfish, anglerfish/goosefishes, flounder/ flatfish, mullet, rays, scabbard fish, <i>Parastromateus niger</i> , sturgeon, <i>Scatophagus argus</i> , eel, gold barracuda		1 ⁽³⁾
4.4.3	Other fish		0.5 ⁽³⁾
4.4.4	Bivalve molluscs (exclude shell), Cephalopod (exclude organ)		0.5 ⁽³⁾
4.4.5	Muscle meat of crustaceans, include muscle meat from appendages		0.5 ⁽³⁾
4.4.6	Other aquatic animal ⁽⁴⁾		0.5 ⁽³⁾
4.5	Bottled and packaged drinking water	0.001	
4.6	Salt, food grade ⁽⁸⁾	0.1	
4.7	Ice cubes, food grade ⁽⁹⁾	0.001	
5	Tin		
Foodstuffs		ML (mg/kg)	
5.1	Canned edible fats and oils ⁽⁵⁾	250	
5.2	Canned beverage	150	
5.3	Canned food for infant and young child ⁽²⁾		
5.3.1	Canned infant formulae ⁽¹⁴⁾ and follow-up infant formula ⁽¹⁵⁾ , exclude dried and powdered products	50 ⁽¹⁰⁾	
5.3.2	Canned infant formula for special medical purposes ⁽¹⁶⁾ , exclude dried and powdered products	50 ⁽¹⁰⁾	
5.3.3	Canned cereal based foods for infant and young child ⁽¹⁷⁾ and baby food ⁽¹⁸⁾ , exclude dried and powdered products	50 ⁽¹⁰⁾	

5.4	Other canned foods packed in metallic containers	250
6	Copper	
Foodstuffs		ML (mg/kg)
6.1	Eggs (exclude shell)	5
6.2	Beverage, exclude naturally and concentrated fruit and vegetable juices	5.0
6.3	Salt, food grade ⁽⁸⁾	2
7	Antimony	
Foodstuffs		ML (mg/kg)
7.1	Beverage, packed in PET containers	0.15
7.2	Bottled and packaged drinking water, packed in PET containers	0.01

Note.

⁽¹⁾If the total-arsenic concentration is below the ML for inorganic-arsenic, no further inorganic-arsenic testing is required.

⁽²⁾The term “infant” means a person not more than 12 months of age. The term “young child” means a person from the age of more than 12 months up to the age of three years (36 months).

⁽³⁾Wet weight basis.

⁽⁴⁾ Other aquatic animals, for example, the sea urchin and the sea cucumber.

⁽⁵⁾Edible fats and oils are derived from vegetable, animal or marine origin. The raw materials shall comply with the provisions of the agricultural authorities include the good agriculture and animal husbandry; legitimate slaughtering, fishing and harvesting; meet the “Act Governing Food Safety and Sanitation”, clean and fit for human consumption.

⁽⁶⁾ For marine-origin oil, may decide to screening when applying the ML for As-in in marine-origin oil by analysing total arsenic (As-tot) in marine origin oil. If the As-tot concentration is below the 0.1 mg/kg for As-in, no further testing is required. If the As-tot concentration is above the 0.1 mg/kg for As-in, follow-up testing shall be conducted to determine if the As-in concentration is above the 0.1 mg/kg.

⁽⁷⁾The ML does not apply to fat spreads derived exclusively from milk and/or milk products, for example, the butter.

⁽⁸⁾The food grade salt means obtained from the sea, from underground rock salt deposits or from natural brine; it is used as an ingredient of food, both for direct sale to the consumer and for food manufacture; the content of NaCl more than 97 % on a dry matter basis; or salt which to drawn from seawater 200 meters below sea level or deeper, the content of NaCl more than 95 % on a dry matter basis. It also applies to salt used as a carrier of food additives and / or nutrients. The by-products from chemical industries shall not be used.

⁽⁹⁾The water material shall comply with the Quality Standard of Drinking

Water; intended for direct human consumption.

(10) The ML refers to the product as sold.

(11) The ML applies to the carpophores, but exclude mycelium.

(12) Dry weight basis.

(13) Milk means raw milk, heat-treated milk, sterilized milk, milk for the manufacture of milk-based products, which is intended for consumption. Secondary milk products means those milk products undergone simple processing for removal or part removal of certain ingredients such as water, milk fat, including milk powders, evaporated milk, skimmed milk.

(14) "Infant formula" means a breast-milk substitute specially manufactured to satisfy, by itself, the nutritional requirements of infant from birth to six months of age up to the introduction of appropriate complementary feeding.

(15) "Follow-up infant formula" means a food intended for use as formula of the weaning diet for the infant from six months to twelve months of age. Not suitable alone for infant under six months consumption.

(16) "Infant formula for special medical purposes" means a substitute for human milk or infant formula, by itself, the special nutritional requirements of infant with specific disorder, disease or medical condition during the first months of life up to the introduction of appropriate complementary feeding.

(17) "Cereal based foods for infant and young child" means processed cereal based food intended to fulfil the particular requirements of infant in good health while they are being weaned, and of young child in good health as a supplement to their diet and/or for their progressive adaptation to ordinary food, including cereals which are or have to be reconstituted with milk or other liquids, and pastas, rusks and biscuits.

(18) "Baby food" means food intended to fulfil the particular requirements of infant in good health while they are being weaned, and of young child in good health as a supplement to their diet and/or for their progressive adaptation to ordinary food, exclude cereal based foods for infant and young child. **For example, the fruit puree, meat puree.**

(19) **Young child formula are milk-based drinks and similar protein-based products specially designed to supplement the nutrition of young children.**

(20) **The ML refers to the products ready to use (marketed as such or after reconstitution as instructed by the manufacturer).**

(21) **The ML do not apply to material for crushing and oil refining, provided that the remaining pressed material are not placed on the market as food. In case the remaining pressed material are placed one the market as food, the ML apply.**

(22) **If the mercury concentration is below or equal the ML for methylmercury, no further methylmercury testing is required.**

Appendix2. Maximum levels (ML) of mycotoxins in foods

1	Aflatoxins total (B ₁ +B ₂ +G ₁ +G ₂)	
	Foodstuffs	ML (µg/kg)
1.1	Grains	
1.1.1	Rice, maize and wheat, raw material ⁽¹⁾	10
1.1.2	Processed cereal-based products	4
1.2	Edible fats and oils ⁽²⁾	10
1.3	Tree nuts, oilseeds ⁽³⁾ and soybeans	
1.3.1	Peanuts, oilseeds and soybeans, raw material ⁽¹⁾ and removal of shell/husk. Exclude the material for refined vegetable oil production	15
1.3.2	Almonds, pistachios, apricot kernels, hazelnuts and brazil nuts, raw material ⁽¹⁾ and removal of shell/husk	15
1.3.3	Other tree nuts, raw material ⁽¹⁾ and removal of shell/husk	10
1.3.4	Peanuts, oilseeds, soybeans and its processed product intended for direct human consumption, removal of shell/husk	4
1.3.5	Almonds, pistachios, apricot kernels, hazelnuts, brazil nuts and its processed product intended for direct human consumption, removal of shell/husk	10
1.3.6	Other tree nuts and its processed product intended for direct human consumption, removal of shell/husk	4
1.4	Dried fruit	
1.4.1	Dried fruit raw material ⁽¹⁾ , exclude of dried figs	10
1.4.2	Dried figs and its processed product intended for direct human consumption	10
1.4.3	Other dried fruit and its processed product intended for direct human consumption	4
1.5	Following species of spices, unless otherwise provided, refers to the product as sold: <ul style="list-style-type: none"> -<i>Capsicum</i> spp. and its processed products, dried fruits thereof, including chillies, chilli powder, cayenne and paprika. -<i>Piper</i> spp. and its processed products, fruits thereof, including white and black pepper. - -<i>Myristica fragrans</i> (nutmeg) -<i>Zingiber officinale</i> (ginger) -<i>Curcuma longa</i> (turmeric) -Mixtures of spices containing one or more of 	10

	the abovementioned spices	
1.6	Other foods	10
2	Aflatoxin M₁	
Foodstuffs		ML (µg/kg)
2.1	Milks ⁽⁴⁾	0.5
2.2	Food for infant and young child ⁽⁵⁾	
2.2.1	Infant formulae ⁽⁶⁾ and follow-up infant formula ⁽⁷⁾	0.025 ⁽⁸⁾
2.2.2	Infant formula for special medical purposes ⁽⁹⁾	0.025 ⁽⁸⁾
3	Aflatoxin B₁	
Foodstuffs		ML (µg/kg)
3.1	Grains	
3.1.1	Rice and maize, raw material ⁽¹⁾	5
3.1.2	Processed cereal-based products, exclude food for infant and young child	2
3.2	Tree nuts, oilseeds ⁽³⁾ and soybeans	
3.2.1	Peanuts, oilseeds and soybeans, raw material ⁽¹⁾ and removal of shell/husk. Exclude the material for refined vegetable oil production	8
3.2.2	Hazelnuts and brazil nuts, raw material ⁽¹⁾ and removal of shell/husk	8
3.2.3	Almonds, pistachios and apricot kernels, raw material ⁽¹⁾ and removal of shell/husk	12
3.2.4	Other tree nuts, raw material ⁽¹⁾ and removal of shell/husk	5
3.2.5	Peanuts, oilseeds, soybeans and their processed product, intended for direct human consumption, removal of shell/husk	2
3.2.6	Hazelnuts, brazil nuts and their processed product, intended for direct human consumption, removal of shell/husk	5
3.2.7	Almonds, pistachios, apricot kernels and their processed product, intended for direct human consumption, removal of shell/husk	8
3.2.8	Other tree nuts and their processed product, intended for direct human consumption, removal of shell/husk	2
3.3	Dried fruit	
3.3.1	Dried fruit raw material ⁽¹⁾ , exclude of dried figs	5
3.3.2	Dried figs and its processed product intended for direct human consumption	6
3.3.3	Other dried fruit and its processed product intended for direct human consumption	2

3.4	Following species of spices, unless otherwise provided, refers to the product as sold: - <i>Capsicum</i> spp. and its processed products, dried fruits thereof, including chillies, chilli powder, cayenne and paprika. - <i>Piper</i> spp. and its processed products, fruits thereof, including white and black pepper. - <i>Myristica fragrans</i> (nutmeg) - <i>Zingiber officinale</i> (ginger) - <i>Curcuma longa</i> (turmeric) -Mixtures of spices containing one or more of the abovementioned spices	5
3.5	Food for infant and young child ⁽⁵⁾	
3.5.1	Cereal based foods for infant and young child ⁽¹¹⁾ and baby food ⁽¹⁰⁾	0.10 ⁽¹²⁾
3.5.2	Infant formula for special medical purposes ⁽⁹⁾	0.10 ⁽⁸⁾
4	Ochratoxin A	
	Foodstuffs	ML (µg/kg)
4.1	Grains	
4.1.1	Rice, maize, wheat, and other cereal grains, raw material ⁽¹⁾	5
4.1.2	Cereal grains and processed cereal-based products intended for direct human consumption	3
4.2	Peanuts and processed peanuts-based products intended for direct human consumption	3
4.3	Dried vine fruits (currants, raisins and sultanas)	10
4.4	Following species of spices, unless otherwise provided, refers to the product as sold:	
4.4.1	- <i>Piper</i> spp., including white and black pepper - <i>Myristica fragrans</i> (nutmeg) - <i>Zingiber officinale</i> (ginger) - <i>Curcuma longa</i> (turmeric)	15
4.4.2	- <i>Capsicum</i> spp., including chillies, chilli powder, cayenne and paprika	20
4.4.3	Mixtures of spices containing one or more of the abovementioned spices	15
4.5	Grape juice, concentrated grape juice as reconstituted and grape nectar, intended for direct human consumption	2
4.6	Coffee	
4.6.1	Roasted coffee beans and roasted coffee powder	5
4.6.2	Soluble coffee (instant coffee)	10

4.7	Food for infant and young child ⁽⁵⁾	
4.7.1	Cereal based foods for infant and young child ⁽¹¹⁾ and baby food ⁽¹⁰⁾	0.50 ⁽¹²⁾
4.7.2	Infant formula for special medical purposes ⁽⁹⁾	0.50 ⁽⁸⁾
5	Patulin	
Foodstuffs		ML (µg/kg)
5.1	Solid apple products, including apple compote, apple puree intended for direct consumption	25
5.2	Beverage	
5.2.1	Apple juices, concentrated apple juices as reconstituted and apple nectars	50
5.2.2	Fermented drinks derived from apples or containing apple juice	50
5.3	Food for infant and young child ⁽⁵⁾	
5.3.1	Apple juice and solid apple products, including apple compote and apple puree, for infant and young child and labelled and sold as such	10.0 ⁽⁸⁾
5.3.2	Baby foods ⁽¹⁰⁾	10.0 ⁽⁸⁾
6	Citrinin	
Foodstuffs		ML (µg/kg)
6.1	Red yeast rice	5000
6.2	Complex food and food supplements containing red yeast material	2000
6.3	Monascus color, the color value is converted to 50	200
7	Fumonisin (B₁+B₂)	
Foodstuffs		ML (µg/kg)
7.1	Grains	
7.1.1	Unprocessed maize ⁽¹⁴⁾	4000
7.1.2	Maize flour and maize meal	2000
7.1.3	Maize-based breakfast cereals and maize-based snacks	800
7.1.4	Maize and other maize-based foods, direct human consumption	1000
7.2	Food for infant and young child ⁽⁵⁾	
7.2.1	Processed maize-based foods for infant and young child ⁽¹¹⁾ and baby foods ⁽¹⁰⁾	200 ⁽¹²⁾
8	Deoxynivalenol (DON)	
Foodstuffs		ML (µg/kg)
8.1	Grains	
8.1.1	Unprocessed durum wheat, oats and maize ⁽¹⁴⁾	1750
8.1.2	Other unprocessed cereals ⁽¹³⁾⁽¹⁴⁾	1250

8.1.3	Flour, meal, semolina and flakes derived from wheat, maize or barley	1000
8.1.4	Pasta (dry, water content approximately 12 %)	750
8.1.5	Cereals, cereal flour, bran and germ for direct human consumption ⁽¹³⁾	750
8.1.6	Bread, biscuits, pastries, breakfast cereals and cereal snacks ⁽¹³⁾	500
8.2	Cereal based foods for infant and young child ⁽¹¹⁾ and baby food ⁽¹⁰⁾	200 ⁽¹²⁾
9	Zearalenone	
	Foodstuffs	ML (µg/kg)
9.1	Grains	
9.1.1	Unprocessed maize ⁽¹⁴⁾	350
9.1.2	Unprocessed cereals other than maize ⁽¹³⁾ ⁽¹⁴⁾	100
9.1.3	Cereals, cereal flour, bran and germ for direct human consumption ⁽¹³⁾	75
9.1.4	Maize, maize-based snacks and maize-based breakfast cereals, direct human consumption	100
9.1.5	Bread, biscuits, pastries, cereal snacks and breakfast cereals, exclude maize- snacks and maize-based breakfast cereals ⁽¹³⁾	50
9.2	Refined maize oil	400
9.3	Cereal based foods for infant and young child ⁽¹¹⁾ and baby food ⁽¹⁰⁾ ⁽¹³⁾	20 ⁽¹²⁾

Note.

(1) "Raw materials" means raw materials which have not been further sorted or processed/treatment. The processes or treatment means shelling (not applicable for rice), blanching followed by color sorting, and sorting by specific gravity and color (damage) to removal of raw materials which contaminated with mycotoxins, and reduce levels of aflatoxins.

(2) Edible fats and oils are derived from vegetable, animal or marine origin. The raw materials shall comply with the provisions of the agricultural authorities include the good agriculture and animal husbandry; legitimate slaughtering, fishing and harvesting; meet the "Act Governing Food Safety and Sanitation", clean and fit for human consumption.

(3) Oilseeds include rapeseeds, sunflower seeds, linseeds and various kinds' melon seeds for extraction of oils, for example, pumpkin seed.

(4) Milk is the normal mammary secretion of milking animals obtained from one or more milkings without either addition to it or extraction from it, intended for consumption as liquid milk or for further processing. Dehydrated milk (such as evaporated milk, milk powder) according to the concentration factor applicable limits.

- (5) The term “infant” means a person not more than 12 months of age. The term “young child” means a person from the age of more than 12 months up to the age of three years (36 months).
- (6) “Infant formula” means a breast-milk substitute specially manufactured to satisfy, by itself, the nutritional requirements of infant from birth to six months of age up to the introduction of appropriate complementary feeding.
- (7) “Follow-up infant formula” means a food intended for use as formula of the weaning diet for the infant from six months to twelve months of age. Not suitable alone for infant under six months consumption.
- (8) The ML refers to the products ready to use (marketed as such or after reconstitution as instructed by the manufacturer).
- (9) “Infant formula for special medical purposes” means a substitute for human milk or infant formula, by itself, the special nutritional requirements of infant with specific disorder, disease or medical condition during the first months of life up to the introduction of appropriate complementary feeding.
- (10) “Baby food” means food intended to fulfil the particular requirements of infant in good health while they are being weaned, and of young child in good health as a supplement to their diet and/or for their progressive adaptation to ordinary food, exclude cereal based foods for infant and young child, and milk-based drinks and similar products.
- (11) “Cereal based foods for infant and young child” means processed cereal based food intended to fulfil the particular requirements of infant in good health while they are being weaned, and of young child in good health as a supplement to their diet and/or for their progressive adaptation to ordinary food, including cereals which are or have to be reconstituted with milk or other liquids, and pastas, rusks and biscuits.
- (12) Dry weight basis.
- (13) Rice and rice products are not applicable.
- (14) “Unprocessed” means the raw material have been cleaning, sorting and drying procedures, but not have any physical or thermal treatment.

Appendix3. Maximum levels (ML) of other contaminants and toxins

1	3-Monochloropropane-1,2-diol (3-MCPD)	
	Foodstuffs	ML (mg/kg)
1.1	Soy sauce and soy sauce-based condiments ⁽¹⁾	0.3
2	Benzo(a)pyrene, BaP	
	Foodstuffs	ML (µg/kg)
2.1	Fats and oils (exclude cocoa butter) intended for direct human consumption or use as an ingredient in food	2.0
2.2	Vegetables, fruits and plant origin	
2.2.1	Cocoa beans and derived products, based on the cocoa butter content	5.0
2.2.2	Banana chips	2.0
2.2.3	Dried herbs	10.0
2.2.4	Dried spices with the excepte of cardamon and smoked <i>Capsicum spp.</i>	10.0
2.3	Meat and meat products	
2.3.1	Smoked meat and smoked meat products	2.0
2.3.2	Grilling/barbecuing meat and meat products sold to the final consumer	5.0
2.4	Aquatic animal	
2.4.1	Smoked or grilling/barbecuing ⁽²⁾ sprats and canned smoked sprats (<i>Sprattus sprattus</i>) ⁽³⁾ ; Smoked or grilling/barbecuing ⁽²⁾ Baltic herring \leq 14 cm length and canned smoked or grilling/barbecuing ⁽²⁾ Baltic herring \leq 14 cm length (<i>Clupea harengus membras</i>) ⁽³⁾	5.0
2.4.2	Smoked or grilling/barbecuing ⁽²⁾ bivalve molluscs ⁽⁴⁾ (exclude shell)	6.0
2.4.3	Muscle meat of smoked or grilling/barbecuing ⁽²⁾ fish and smoked or grilling/barbecuing ⁽²⁾ fishery products, exclude fishery products listed in points 2.4.1 and 2.4.2 ⁽³⁾ , exclude Katsuobushi (dried bonito). The ML for smoked or grilling/barbecuing ⁽²⁾ crustaceans applies to muscle meat from appendages and abdomen. In case of smoked or grilling/barbecuing ⁽²⁾ crabs and crab-like crustaceans (<i>Brachyura</i> and <i>Anomura</i>) it applies to muscle meat from appendages.	2.0

2.4.4	Bivalve molluscs (fresh, chilled or frozen, exclude shell) ⁽⁴⁾	5.0
2.5	Food for infant and young child ⁽⁵⁾	
2.5.1	Infant formula ⁽⁶⁾ and follow-up infant formula ⁽⁷⁾	1.0 ⁽⁸⁾
2.5.2	Infant formula for special medical purposes ⁽⁹⁾	1.0 ⁽⁸⁾
2.5.3	Cereal based foods for infant and young child ⁽¹⁰⁾ and baby food ⁽¹¹⁾	1.0 ⁽⁸⁾
2.6	Food supplements	
2.6.1	Food supplements containing propolis and royal jellies	10.0 ⁽⁸⁾
2.6.2	Food supplements containing spirulina or their preparations	10.0 ⁽⁸⁾
3	Plant toxins	
3.1	Hydrocyanic acid	
	Foodstuffs	ML (mg/kg)
3.1.1	Cassava flour, Ready-to-eat cassava chips	10 ⁽¹²⁾
3.1.2	Gari	2 ⁽¹³⁾
3.2	Gossypol	
	Foodstuffs	ML (mg/kg)
3.2.1	Edible cotton seed oil	Not detected ⁽¹⁴⁾
3.3	Glycoalkaloids, total (sum of alpha-solanine and alpha-chaconine)	
	Foodstuffs	ML (mg/kg)
3.3.1	Potato tubers (fresh weight)	200
3.4	Erucic acid	
	Foodstuffs	ML (g/kg)
3.4.1	Edible fats and oils	50
3.4.2	Low-erucic acid rapeseed oil (as % of total fatty acids).	20
3.4.3	Foods containing added edible vegetable oils and fats, excepte of foodstuffs listed in 3.4.4, based on the total oil content of that food	50
3.4.4	Infant formulae ⁽⁶⁾ and follow-up infant formula ⁽⁷⁾ , based on the total oil content of that food.	10
4	Marine biotoxins	
4.1	Paralytic shellfish poisons (PSP)	
	Foodstuffs	ML (mg/kg)
4.1.1	The edible parts of live bivalve mollusk (saxitoxin equivalent)	0.8
4.2	Diarrhetic shellfish poisons (DSP)	
	Foodstuffs	ML (mg/kg)
4.2.1	The edible parts of live bivalve mollusk (okadaic equivalent)	0.16

4.3	Amnesic shellfish poisons (ASP)		
Foodstuffs		ML (mg/kg)	
4.3.1	The edible parts of live bivalve mollusk (domoic acid)	20	
4.4	Azaspiracid (AZP)		
Foodstuffs		ML (mg/kg)	
4.4.1	The edible parts of live bivalve mollusk	0.16	
4.5	Neurotoxic shellfish poisons (NSP)- Brevetoxin (BTX) *		
Foodstuffs		ML (MU/kg)	
4.5.1	The edible parts of live bivalve mollusk	200 ⁽¹⁴⁾	
5	Pheophorbide		
Foodstuffs		ML (mg/100g)	
		Existing pheophorbide	Total pheophorbide
5.1	Green algae ⁽¹⁶⁾	60	80
5.2	Blue algae ⁽¹⁶⁾	50	100
6	Volatile basic nitrogen (VBN)		
Foodstuffs		ML (mg/100 g)	
6.1	Unprocessed fishery products, frozen or chilled		
6.1.1	Species belonging to the <i>Pleuronectidae</i> family, excepte of halibut: <i>Hippoglossus</i> spp.).	30	
6.1.2	<i>Salmo salar</i> , species belonging to the <i>Merlucciidae</i> family, species belonging to the <i>Gadidae</i> family.	35	
6.1.3	<i>Elasmobranchii</i> (<i>Selachimorpha</i> , <i>Batoidea</i>)	50	
6.1.4	Other unlisted fish	25	
6.2	Ready-to-eat raw seafood	15	
7	Histamine		
Foodstuffs		ML (mg/kg)	
7.1	Fishery products from fish species associated with a high amount of histidine ⁽¹⁷⁾	200 ⁽¹⁸⁾	
7.2	Fishery products which have undergone enzyme maturation treatment in brine, manufactured from fish species associated with a high amount of histidine ⁽¹⁷⁾ , for example, the fermented fish sauces and pastes.	400 ⁽¹⁸⁾	
8	Glycidyl fatty acid esters, expressed as glycidol		
Foodstuffs		ML (μg/kg)	
8.1	Food for infant and young child ⁽⁵⁾		
8.1.1	Infant formula ⁽⁶⁾ , follow-up infant formula ⁽⁷⁾ and food for special medical purposes intended for infants ⁽⁹⁾ and young children.		

	-marketed as powder	50
	-marketed as liquid	6.0
8.2	Edible oils and fats	
8.2.1	Vegetable oils and fats, fish oils and oils from other marine organisms placed on the market for the final consumer or for use as an ingredient in food ⁽¹⁹⁾	1000
8.2.2	Vegetable oils and fats, fish oils and oils from other marine organisms destined for the production of cereal based foods for infant and young child ⁽¹⁰⁾ and baby food ⁽¹¹⁾	500

Note.

(1) Such as soy sauce paste, oyster soy sauce etc.

(2) For grilling/barbecuing fish and fishery products, the ML shall apply to the packaged products made in the food manufacturing industry.

(3) Where fish are intended to be eaten whole, the ML shall apply to the whole fish.

(4) In case of *Pecten maximus*, the ML applies to the adductor muscle and gonad only.

(5) The term “infant” means a person not more than 12 months of age. The term “young child” means a person from the age of more than 12 months up to the age of three years (36 months).

(6) “Infant formula” means a breast-milk substitute specially manufactured to satisfy, by itself, the nutritional requirements of infant from birth to six months of age up to the introduction of appropriate complementary feeding.

(7) “Follow-up infant formula” means a food intended for use as formula of the weaning diet for the infant from six months to twelve months of age. Not suitable alone for infant under six months consumption.

(8) The ML refers to the product as sold.

(9) “Infant formula for special medical purposes” means a substitute for human milk or infant formula, by itself, the special nutritional requirements of infant with specific disorder, disease or medical condition during the first months of life up to the introduction of appropriate complementary feeding.

(10) “Cereal based foods for infant and young child” means processed cereal based food intended to fulfil the particular requirements of infant in good health while they are being weaned, and of young child in good health as a supplement to their diet and/or for their progressive adaptation to ordinary food, including cereals which are or have to be reconstituted with milk or other liquids, and pastas, rusks and biscuits.

(11) “Baby food” means food intended to fulfil the particular requirements of infant in good health while they are being weaned, and of young child in good health as a supplement to their diet and/or for their progressive adaptation to ordinary food, exclude cereal based foods for infant and young

child, and milk-based drinks and similar products.

(12) The ML is expressed as total hydrocyanic acid.

(13) The ML is expressed as free hydrocyanic acid.

(14) The detection limit of analysis method is 0.05 ppm for free form gossypol and 1 ppm of total gossypol.

(15) Mouse units or equivalent.

(16) The ML is applied to green algae and blue algae which moisture content is less than 7%. Fresh products, red algae and brown algae are not applied.

(17) Particularly fish species of the families: *Scombridae*, *Clupeidae*, *Engraulidae*, *Coryfenidae*, *Pomatomidae* and *Scombresocidae* families.

(18) Products placed on the market during their shelf-life.

(19) Exception of virgin oils.