

CONTAMINANTS IN FOOD

(as at 1 September 2020)

Contaminants are undesirable substances that are present in food as a result of the production (e.g, crop husbandry), manufacture, treatment, packing, packaging, transport or holding of such food, or as a result of environmental contamination. As contaminants pose a risk to human health, it is important to ensure that their levels in foods are kept within the maximum limits specified under the Food Regulations.

The following is a summary of the maximum limits for the various contaminants, as stipulated under the Food Regulations. This document is not legally binding, and should be read together with the Food Regulations. A soft copy of the Food Regulations may be downloaded from:

- <http://www.sfa.gov.sg/legislation> [Click on “Sale of Food Act”]

A. Heavy Metals

Contaminant	Food	Maximum Limits	Regulation / Schedule No. (under Food Regulations)
Inorganic Arsenic	Seaweed	2 ppm	Regulation 31
	Polished rice	0.2 ppm	
	Husked rice	0.35 ppm	
	Fish	2ppm	Effective from 1 April 2020 Refer to SFA circular dated 17 Mar 2020, (Maximum Limits for Marine Biotoxins, Inorganic Arsenic, and Methanol in Food)
	Crustaceans	2ppm	
	Molluscs	1ppm	
Mercury	Predatory fish ¹	1 ppm	Regulation 31
	Other fish or fish product	0.5 ppm	
	Any other food	0.05 ppm	
	Edible fungi, fresh or cooked	0.5ppm	Effective from 1 Sept 2020 Refer to SFA circular dated 11 Aug 2020, (Maximum Residue Limits Established for Mercury, Bromate and Mycotoxins in Food)
	Edible fungi, dried	5ppm	

Contaminant	Food	Maximum Limits	Regulation / Schedule No. (under Food Regulations)
Tin	Any food	250 ppm	Regulation 31
Cadmium	Molluscs	1 ppm	Regulation 31
	Dried mushrooms	1 ppm	
	Seaweed	2 ppm	
	Cocoa or cocoa products	0.5 ppm	
	Any other food	0.2 ppm	
Antimony	Any food	1 ppm	Regulation 31
Arsenic (total) and lead	Please refer to the Tenth Schedule for the maximum limits in specified food categories. ²		Regulation 31 Tenth Schedule

¹Please refer to the Fifteenth Schedule for the “Species of Predatory Fish”.

² The arsenic (total) limits for “fish, crustaceans and molluscs” no longer apply. Please refer to inorganic arsenic maximum limits for fish, crustaceans and molluscs.

B. Mycotoxins

Mycotoxin	Food	Maximum Limits	Regulation / Schedule No. (under Food Regulations)
Aflatoxin B1	Any food except food for infants or young children	5 ppb	Regulation 34
	Food for infants or young children	0.1 ppb	
Aflatoxins, total (B1, B2, G1 and G2)	Any food except food for infants or young children	5 ppb	
Aflatoxin M1	Milk	0.5 ppb	
	Infant formula	0.025 ppb <i>[calculated on the reconstituted ready-to-drink product]</i>	
Patulin	Food for infants or young children (except processed cereal-based foods)	10 ppb	Regulation 34
	Fruit juice	50 ppb	
	Food containing fruit juice as ingredient	50 ppb	
Deoxynivalenol	Unprocessed cereal grains (wheat, maize and barley)	2000ppb	Effective from 1 Sept 2020
	Unprocessed cereal grains (oats)	1750ppb	Refer to SFA circular dated 11 Aug 2020,

Mycotoxin	Food	Maximum Limits	Regulation / Schedule No. (under Food Regulations)
	Unprocessed cereals (other than wheat, maize, barley and oats)	1250ppb	(Maximum Residue Limits Established for Mercury, Bromate and Mycotoxins in Food)
	Flour, meal, semolina and flakes derived from wheat, maize or barley	1000ppb	
	Bread, pastries, biscuits, cereal snacks and breakfast cereals	500ppb	
	Food for infants and young children	200ppb (on a dry basis)	
	All other foods derived from cereals	750ppb	
Fumonisin B1 & B2	Unprocessed maize grain	4000ppb	Effective from 1 Sept 2020
	Maize flour and maize meal	2000ppb	
	Maize based breakfast cereals and maize-based snacks	800ppb	Refer to SFA circular dated 11 Aug 2020, (Maximum Residue Limits Established for Mercury, Bromate and Mycotoxins in Food)
	Food for infants and young children	200ppb (on a dry basis)	
	Maize intended for direct human consumption and other maize-based foods for direct human consumption	1000ppb	
Ochratoxin A	Unprocessed cereal grain	5ppb	Effective from 1 Sept 2020
	Dried vine fruit (Currants, raisins and sultanas)	10ppb	
	Roasted coffee beans and ground roasted coffee, excluding soluble coffee	5ppb	Refer to SFA circular dated 11 Aug 2020, (Maximum Residue Limits Established for Mercury, Bromate and Mycotoxins in Food)
	Soluble coffee (instant coffee)	10ppb	
	Food for infants and young children	0.5ppb (on a dry basis)	
	Spices, including dried spices	20ppb	
	Wine and fruit wine	2ppb	
	All food derived from cereals except food for infants and young children	3ppb	
Zearalenone	Unprocessed cereal grains other than maize	100ppb	Effective from 1 Sept 2020
	Bread, pastries, biscuits, cereal snacks and breakfast cereals	50ppb	

Mycotoxin	Food	Maximum Limits	Regulation / Schedule No. (under Food Regulations)
	excluding maize-based snacks and maize-based breakfast cereals		(Maximum Residue Limits Established for Mercury, Bromate and Mycotoxins in Food)
	All other foods derived from cereal grains other than maize	75ppb	
	Unprocessed maize	350ppb	
	Refined maize oil	400ppb	
	Maize intended for direct human consumption, maize-based snacks and maize-based breakfast cereals	100ppb	
	Food for infants and young children	20ppb (on a dry basis)	

C. 3-monochloropropane-1,2-diol (3-MCPD) (Regulation 34A)

Food	Maximum Limits
Soy sauce or oyster sauce	20 ppb <i>[calculated on 40% dry matter content]</i>

D. Melamine (Regulation 34B)

Food	Maximum Limits
Powdered infant formula	1 ppm
Liquid infant formula (as consumed)	0.15 ppm
Any other food	2.5 ppm

E. Microbiological Standards for Ready-to-Eat-Food

refer to Regulation 35 for the definition of “ready-to-eat food”

Part 1 of Eleventh Schedule - Enterobacteriaceae and *Escherichia coli*

- 1) The amount of Enterobacteriaceae (including *Escherichia coli* of any strain) detected in any ready-to-eat food, other than the ready-to-eat food mentioned in paragraph 2, must be less than 10,000 colony forming units per gram (for solid food) or millilitre (for liquid food).
- 2) Paragraph 1 does not apply to any ready-to-eat food-
 - a) that is fresh fruit, fresh vegetable or ripened cheese; or
 - b) that contains as an ingredient one or more of the ready-to-eat food mentioned in subparagraph (a)

- 3) The amount of *Escherichia coli* of any strain detected in any ready-to-eat food must be less than 100 colony forming units per gram (for solid food) or millilitre (for liquid food).

Part 2 of Eleventh Schedule – Pathogens

- 1) The amount of pathogen of the type specified in the first column of the following table that is detected in any ready-to-eat food must be less than the number of colony forming units specified for that pathogen in the second column of the table:

Pathogen	Colony forming units per gram (for solid food) or millilitre (for liquid food)
<i>Bacillus cereus</i>	200
<i>Clostridium perfringens</i>	100
<i>Coagulase-positive Staphylococcus aureus</i>	100

- 2) Where any ready-to-eat food is a type of ready-to-eat raw seafood, the amount of *Vibrio parahaemolyticus* detected in the ready-to-eat food must be less less than 100 colony forming units per gram (for solid food) or millilitre (for liquid food).
- 3) Any pathogen not mentioned in paragraph 1 or 2 (whether common, or introduced in any way, to the ready-to-eat food) must not be detected in any ready-to-eat food.

PESTICIDE RESIDUES

Pesticides are substances used to prevent, destroy, or repel pests. The term “pesticide residues” refers to chemical substances found in food, agricultural commodities, or animal feed resulting from the use of pesticides.

Please refer to Regulation 30 and the Ninth Schedule of the Food Regulations for the maximum residue limits (MRLs) for pesticide residues in food. Where the MRLs are not prescribed in the Ninth Schedule, please refer to the MRLs adopted by the Codex Alimentarius Commission.

In order to facilitate trade, SFA has implemented the following MRLs in addition to those specified in the Ninth Schedule and those adopted by the Codex Alimentarius Commission. MRLs marked with an “*” are default MRLs. These MRLs are effective from 1 May 2020. Refer to SFA circular dated 20 Apr 2020, (Maximum Residue Limits Established For Pesticides And Veterinary Drugs Previously Not Allowed In Food). The MRLs can be downloaded from the SFA website at this weblink:

[https://www.sfa.gov.sg/docs/default-source/legislation/sale-of-food-act/annex-a-of-circular-dated-20-apr-2020-\(pesticide-mrls\).xlsx](https://www.sfa.gov.sg/docs/default-source/legislation/sale-of-food-act/annex-a-of-circular-dated-20-apr-2020-(pesticide-mrls).xlsx)

MARINE BIOTOXINS

Contaminant	Commodity	Maximum limit	Notes		Regulation
Paralytic Shellfish Poison (PSP)	Bivalve molluscs	0.80 mg saxitoxin equivalent /kg flesh	Toxins covered in PSP	TEF	Effective from 1 April 2020 Refer to SFA circular dated 17 Mar 2020, (Maximum Limits for Marine Biotoxins, Inorganic Arsenic, and Methanol in Food)
			STX	1	
			NEOSTX	2.0	
			dcSTX	0.5	
			GTX1	1	
			GTX2	0.4	
			GTX3	0.6	
			GTX4	0.7	
			GTX5	0.1	
			GTX6	0.05	
			dcGTX2	0.2	
			dcGTX3	0.4	
			C1	0.01	
			C2	0.1	
C3	0.01				
C4	0.1				
Diarrhetic Shellfish Poisons (DSP)	Bivalve molluscs	0.16 mg okadaic acid equivalent /kg flesh	Toxins covered in DSP	TEF	Effective from 1 April 2020 Refer to SFA circular dated 17 Mar 2020, (Maximum Limits for Marine Biotoxins, Inorganic Arsenic, and Methanol in Food)
			OA	1	
			DTX-1	1	
			DTX-2	0.5	
Amnesic Shellfish Poisons (ASP)	Bivalve molluscs	20 mg domoic acid /kg flesh	-		Effective from 1 April 2020 Refer to SFA circular dated 17 Mar 2020, (Maximum Limits for Marine Biotoxins, Inorganic Arsenic, and

				Methanol in Food)	
Brevetoxins (PbTXs)	Bivalve molluscs	0.80 mg brevetoxin-2 equivalent /kg	-	Effective from 1 April 2020 Refer to SFA circular dated 17 Mar 2020, (Maximum Limits for Marine Biotoxins, Inorganic Arsenic, and Methanol in Food)	
Azaspiracids (AZA)	Bivalve molluscs	0.160 mg azaspiracid-1 equivalent /kg	Toxins covered in AZA	TEF	Effective from 1 April 2020 Refer to SFA circular dated 17 Mar 2020, (Maximum Limits for Marine Biotoxins, Inorganic Arsenic, and Methanol in Food)
			AZA-1	1	
			AZA-2	0.7	
			AZA-3	0.5	

VETERINARY DRUG RESIDUES

These MRLs for veterinary drug residues are effective from 1 May 2020. Refer to SFA circular dated 20 Apr 2020, (Maximum Residue Limits Established For Pesticides And Veterinary Drugs Previously Not Allowed In Food).

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
Thiamphenicol	Cattle	Muscle	50
		Kidney	50
		Liver	50
		Milk	50
	Sheep	Muscle	50
		Kidney	50
		Liver	50
		Milk	50
	Pig	Muscle	50
		Kidney	50
		Liver	50
	Poultry	Muscle	50
Kidney		50	
Liver		50	
Florfenicol	Cattle	Muscle	200
		Kidney	300
		Liver	3000
	Sheep, Goat	Muscle	200
		Kidney	300
		Liver	3000
	Pig	Muscle	300
		Kidney	500
		Liver	2000
	Poultry	Muscle	100
		Kidney	750
		Liver	2500
Clenbuterol	Cattle	Muscle	0.2
		Kidney	0.6
		Liver	0.6
		Milk	0.05
Ractopamine	Cattle	Muscle	10
		Kidney	90
		Liver	40
	Pig	Muscle	10
		Kidney	90
		Liver	40
Zilpaterol	Cattle	Muscle	10
		Kidney	10
		Liver	10
Bacitracin	Cattle	Muscle	500
		Kidney	500
		Liver	500
		Milk	500
	Pig	Muscle	500
		Kidney	500
		Liver	500
	Chicken, Turkey, Quail and pheasants	Muscle	500
		Kidney	500
Liver		500	
Eggs		500	
Novobiocin	Cattle	Muscle	1000
		Milk	100

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
	Chicken, Turkey, Duck	Muscle	1000
Virginiamycin	Cattle	Muscle	100
		Kidney	200
	Sheep	Liver	200
		Milk	100
Pig	Muscle	100	
	Kidney	300	
Chicken	Liver	Liver	200
		Eggs	100
	Muscle	Muscle	50
		Kidney	200
Tylosin	Cattle	Liver	200
		Milk	100
	Pig	Muscle	100
Kidney		100	
Chicken	Liver	Liver	100
		Eggs	300
	Muscle	Muscle	100
		Kidney	100
Erythromycin	Cattle	Liver	100
		Milk	40
	Chicken, Turkey	Muscle	100
Kidney		100	
Liver		100	
Oleandomycin	Chicken	Eggs	50 (Chicken)
		Muscle	150
Tiamulin	Pig	Muscle	100
		Kidney	100
	Chicken	Liver	500
		Muscle	100
Josamycin	Pig	Kidney	100
		Liver	1000
	Chicken	Eggs	1000
		Muscle	40
Tilmicosin	Pig	Kidney	40
		Liver	40
	Cattle	Muscle	40
Kidney		100	
Liver		300	
Tilmicosin	Cattle	Milk	1000
		Muscle	50
	Pig	Kidney	300
		Liver	1000

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
	Sheep	Muscle	100
		Kidney	300
		Liver	1000
		Milk	50
	Pig	Muscle	100
		Kidney	1000
		Liver	1500
	Chicken	Muscle	150
		Kidney	600
		Liver	2400
	Turkey	Muscle	100
		Kidney	1200
Liver		1400	
Spiramycin	Cattle	Muscle	200
		Kidney	300
		Liver	600
		Milk	200
	Pig	Muscle	200
		Kidney Liver	300 600
Chicken	Muscle	200	
	Kidney	800	
	Liver	600	
Lincomycin	Cattle	Milk	150
		Muscle	200
	Pig	Kidney	1500
		Liver	500
		Muscle	200
	Chicken	Kidney	500
Liver		500	
Eggs		50	
Penicillin G	Cattle	Muscle	50
		Kidney	50
		Liver	50
		Milk	4
	Pig	Muscle	50
		Kidney	50
		Liver	50
	Chicken	Muscle	50
		Kidney	50
Liver		50	
Ampicillin	Cattle	Muscle	50
		Kidney	50
		Liver	50
		Milk	4
	Sheep	Muscle	50
		Kidney	50
		Liver	50
		Milk	4
	Pig	Muscle	50
		Kidney	50
		Liver	50
		Liver	50

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
	Poultry	Muscle Kidney Liver	50 50 50
Oxacillin	Cattle	Muscle	300
		Kidney	300
		Liver	300
		Milk	30
Sheep	Cattle	Muscle	300
		Kidney	300
		Liver	300
		Milk	30
Pig	Cattle	Muscle	300
		Kidney	300
		Liver	300
Poultry	Cattle	Muscle	300
		Kidney	300
		Liver	300
Nafcillin	Cattle	Muscle	300
		Kidney	300
		Liver	300
		Milk	30
Sheep	Cattle	Muscle	300
		Kidney	300
		Liver	300
		Milk	30
Pig	Cattle	Muscle	300
		Kidney	300
		Liver	300
Poultry	Cattle	Muscle	300
		Kidney	300
		Liver	300
Cloxacillin	Cattle	Muscle	300
		Kidney	300
		Liver	300
		Milk	30
Sheep	Cattle	Muscle	300
		Kidney	300
		Liver	300
		Milk	30
Pig	Cattle	Muscle	300
		Kidney	300
		Liver	300
Poultry	Cattle	Muscle	300
		Kidney	300
		Liver	300
Dicloxacillin	Cattle	Muscle	300
		Kidney	300
		Liver	300
		Milk	30

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
	Sheep	Muscle	300
		Kidney	300
		Liver	300
		Milk	30
	Pig	Muscle	300
		Kidney	300
		Liver	300
	Poultry	Muscle	300
		Kidney	300
Liver		300	
Amoxicillin	Cattle	Muscle	50
		Kidney	50
		Liver	50
		Milk	4
	Sheep	Muscle	50
		Kidney	50
		Liver	50
		Milk	4
	Pig	Muscle	50
Kidney		50	
Liver		50	
Cefoperazone	Cattle	Milk	50
Cefazolin	Cattle	Kidney	50
		Liver	50
		Milk	50
	Sheep	Milk	50
Cefalexin	Cattle	Muscle	200
		Kidney	1000
		Liver	200
		Milk	100
Ceftiofur	Cattle	Muscle	1000
		Kidney	6000
		Liver	2000
		Milk	100
	Pig	Muscle	1000
		Kidney Liver	6000 2000
Trenbolone	Cattle	Muscle	2
		Liver	10
Zeranol (Zer)	Cattle	Muscle	2
		Kidney	20
		Liver	10
		Milk	2
	Pig	Muscle	2
		Kidney	2
		Liver	2
	Chicken	Muscle	2
		Kidney	2
Liver		2	
Eggs		2	

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
Norfloxacin	Pig	Muscle Kidney Liver	20 20 20
	Chicken	Muscle Kidney Liver	20 20 20
SUM of Ciprofloxacin / Enrofloxacin	Cattle	Muscle Kidney Liver Milk	100 200 300 100
	Sheep	Muscle Kidney Liver Milk	100 200 300 100
	Pig	Muscle Kidney Liver	100 300 200
	Poultry	Muscle Kidney Liver	100 300 200
Danofloxacin	Cattle	Muscle Kidney Liver Milk	200 400 400 30
	Pig	Muscle Kidney Liver	100 200 50
	Chicken	Muscle Kidney Liver	200 400 400
Sarafloxacin	Chicken, Turkey	Muscle Kidney Liver	10 80 80
Difloxacin	Cattle	Muscle Kidney Liver	400 800 1400
	Sheep	Muscle Kidney Liver	400 800 1400
	Pig	Muscle Kidney Liver	400 800 800
	Poultry	Muscle Kidney Liver	300 600 1900
Marbofloxacin	Cattle	Muscle Kidney Liver Milk	150 150 150 75
	Pig	Muscle Kidney Liver	150 150 150

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
Doxycycline	Cattle	Muscle	100
		Kidney	600
		Liver	300
Pig	Pig	Muscle	100
		Kidney	600
		Liver	300
Poultry	Poultry	Muscle	100
		Kidney	600
		Liver	300
SUM of (Chlortetracycline & 4-Epichlortetracycline)	Cattle	Muscle	200
		Kidney	1200
		Liver	600
		Milk	100
Sheep	Sheep	Muscle	200
		Kidney	1200
		Liver	600
		Milk	100
Pig	Pig	Muscle	200
		Kidney	1200
		Liver	600
		Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	400
Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Muscle	200
		Kidney	1200
		Liver	600
		Eggs	400
SUM of (Oxytetracycline & 4-EpiOxytetracycline)	Cattle	Muscle	200
		Kidney	1200
		Liver	600
		Milk	100
Sheep	Sheep	Muscle	200
		Kidney	1200
		Liver	600
		Milk	100
Pig	Pig	Muscle	200
		Kidney	1200
		Liver	600
		Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	400
Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Muscle	200
		Kidney	1200
		Liver	600
		Eggs	400
SUM of (Tetracycline & 4-EpiTetracycline)	Cattle	Muscle	200
		Kidney	1200
Sheep	Sheep	Liver	600
		Milk	100
Sheep	Sheep	Muscle	200
		Kidney	1200
Sheep	Sheep	Liver	600
		Milk	100

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
	Pig	Muscle Kidney Liver	200 1200 600
	Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Muscle Kidney Liver Eggs	200 1200 600 400
Sum of Sulfonamides Sulfaguanidine (SG) Sulfathiazole (STH) Sulfadiazine (SDZ) Sulfapyridine (SP) Sulfamethiazole (SMI) Sulfamerazine (SMR) Sulfadimidine (SDD) Sulfamethoxypyridazine (SMP) Sulfamonomethoxine (SMM) Sulfachloropyridazine (SCP) Sulfadoxine (SDI) Sulfisoxazole (SFX) Sulfamethoxazole (SMZ) Sulfaquinoxaline (SQX) Sulfadimethoxine (SDM) Sulfanilamide (SNA) Sulfamoxole (SMX)	Cattle	Muscle Kidney Liver Milk	100 100 100 100
	Sheep	Muscle Kidney Liver Milk	100 100 100 100
	Pig	Muscle Kidney Liver	100 100 100
	Poultry	Muscle Kidney Liver	100 100 100
Oxolinic Acid	Cattle	Muscle Kidney Liver	100 150 150
	Sheep	Muscle Kidney Liver	100 150 150
	Pig	Muscle Kidney Liver	100 150 150

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
	Poultry	Muscle Kidney Liver	100 150 150
Flumequine	Cattle	Muscle	500
		Kidney	3000
		Liver	500
		Milk	50
	Sheep	Muscle	500
		Kidney	3000
Liver		500	
Milk		50	
Pig	Muscle	500	
	Kidney	3000	
	Liver	500	
Chicken	Muscle	500	
	Kidney	3000	
	Liver	500	
Fish	Muscle	500	
Nicarbazin	Chicken	Muscle	200
		Kidney	200
		Liver	200
Narasin	Cattle	Muscle	15
		Kidney	15
		Liver	50
	Pig	Muscle	15
		Kidney	15
		Liver	50
Chicken	Muscle	15	
	Kidney	15	
	Liver	50	
Salinomycin	Cattle	Muscle	20
		Kidney	500
		Liver	400
	Pig	Muscle	100
		Kidney	100
		Liver	200
Chicken	Muscle	100	
	Kidney	500	
	Liver	500	
	eggs	20	
Monensin	Cattle	Muscle	10
		Kidney	10
		Liver	100
		Milk	2
	Sheep / Goat	Muscle	10
		Kidney	10
		Liver	20
	Chicken, Turkey, Quail	Muscle	10
		Kidney	10
Liver		10	

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
Lasalocid	Chicken, Turkey, Quail, Pheasants	Muscle	400
		Kidney	600
		Liver	1200
		Eggs	150
Diclazuril	Sheep	Muscle	500
		Kidney	2000
		Liver	3000
Diclazuril	Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Muscle	500
		Kidney	2000
		Liver	3000
Maduramycin	Chicken	Muscle	240
		Liver	720
Robenidine	Chicken	Muscle	100
		Kidney	100
		Liver	100
Clopidol	Cattle	Muscle	200
		Kidney	3000
		Liver	2000
		Milk	20
	Pig	Muscle	200
		Kidney Liver	200 200
Chicken	Muscle	5000	
	Kidney	20 000	
	Liver	20 000	
	Eggs	200	
Abamectin	Cattle	Kidney	50
		Liver	100
	Sheep	Muscle Kidney Liver	20 20 25
Doramectin	Cattle	Muscle	10
		Kidney	30
		Liver	100
		Milk	15
	Pig	Muscle	5
		Kidney Liver	30 100
Emamectin Benzoate	Cattle	Kidney	10
		Liver	10
	Pig	Kidney Liver	10 10
Eprinomectin	Cattle	Muscle	100
		Kidney	300
		Liver	2000
		Milk	20

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)	
Ivermectin	Cattle	Muscle	30	
		Kidney	100	
		Liver	800	
Milk		10		
	Sheep	Liver	15	
	Pig	Liver	15	
Moxidectin	Cattle & Deer	Muscle	20	
		Kidney	50	
		Liver	100	
		Milk	40	
	Sheep	Muscle	50	
		Kidney	50	
Liver		100		
Milk		40		
SUM of (Dihydrostreptomycin and Stretomycin)	Cattle	Muscle	600	
		Kidney	1000	
		Liver	600	
		Milk	200	
	Sheep	Muscle	600	
		Kidney	1000	
		Liver	600	
		Milk	200	
	Pig	Muscle	600	
		Kidney	1000	
		Liver	600	
	Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Muscle	600	
Kidney		1000		
Liver		600		
Gentamicin	Cattle	Muscle	100	
		Kidney	5000	
		Liver	2000	
		Milk	200	
	Pig	Muscle	100	
		Kidney	5000	
Liver		2000		
Kanamycin	Cattle	Muscle	100	
		Kidney	2500	
		Milk	150	
	Sheep	Muscle	100	
		Kidney	2500	
		Milk	150	
	Pig	Muscle	100	
		Kidney	2500	
	Poultry	Muscle	100	
		Kidney	2500	
	Neomycin	Cattle	Muscle	500
			Kidney	10 000
Liver			500	
Milk			1500	

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
	Sheep	Muscle	500
		Kidney	10 000
		Liver	500
	Pig	Muscle	500
		Kidney	10 000
		Liver	500
	Chicken, Turkey, Duck	Muscle	500
		Kidney	10 000
		Liver	500
Eggs		500 (Chicken)	
Paromomycin	Cattle	Muscle	500
		Kidney	1500
		Liver	1500
	Sheep	Muscle	500
		Kidney	1500
		Liver	1500
	Pig	Muscle	500
		Kidney	1500
Liver		1500	
Poultry	Muscle	500	
	Kidney	1500	
	Liver	1500	
Trimethoprim	Cattle	Muscle	50
		Kidney	50
		Liver	50
		Milk	50
	Sheep	Muscle	50
		Kidney	50
		Liver	50
		Milk	50
Pig	Muscle	50	
	Kidney	50	
	Liver	50	
Poultry	Muscle	50	
	Kidney	50	
	Liver	50	
SUM of Albendazole and Albendazole Sulfone and Albendazole Sulfoxide	Cattle	Muscle	100
		Kidney	5000
		Liver	5000
		Milk	100
	Sheep	Muscle	100
		Kidney	5000
SUM of Thiabendazole and Hydroxythiabendazole	Cattle	Liver	5000
		Milk	100
		Muscle	100
		Kidney	100
	Sheep	Liver	100
		Kidney	100

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
	Pig	Muscle Kidney Liver	100 100 100
Mebendazole	Sheep	Muscle Kidney Liver	60 60 400
Flubendazole	Pig	Muscle Kidney Liver	10 300 10
	Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Muscle Kidney Liver Eggs	200 300 500 400
SUM of Oxfendazole and Fenbendazole	Cattle	Muscle Kidney Liver Milk	100 100 500 100
	Sheep / Goat	Muscle Kidney Liver Milk	100 100 500 100 (Sheep)
	Pig	Muscle Kidney Liver	100 100 500
Levamisole	Cattle	Muscle Kidney Liver	10 10 100
	Sheep	Muscle Kidney Liver	10 10 100
	Pig	Muscle Kidney Liver	10 10 100
	Chickens, Turkeys, Ducks, Geese, Guinea-fowls or Pigeons	Muscle Kidney Liver	10 10 100
Triclabendazole	Cattle	Muscle Kidney Liver	250 400 850
	Sheep	Muscle Kidney Liver	200 200 300
Oxybendazole	Pig	Muscle Kidney Liver	100 100 200
5-Hydroflunixin	Cattle	Milk	50

Veterinary Drugs	Animal Species	Tissue (ie. Muscle, kidney, liver, eggs, or milk)	MRL (ppb)
Diclofenac	Cattle	Muscle Kidney Liver Milk	5 10 5 0.1
	Pig	Muscle Kidney Liver	5 10 5
Flunixin	Cattle	Muscle Kidney Liver	20 100 300
	Pig	Muscle Kidney Liver	50 30 200
Meloxicam	Cattle/Goat	Muscle Kidney Liver Milk	20 65 65 15
	Pig	Muscle Kidney Liver	20 65 65
Dexamethasone	Cattle	Muscle Kidney Liver Milk	1 1 2 0.3
	Pig	Muscle Kidney Liver	1 1 2
6-Alpha-Methylprednisolone	Cattle	Muscle Kidney Liver	10 10 10
Prednisolone	Cattle	Muscle Kidney Liver Milk	4 10 10 6

LIMITS FOR OTHER CONTAMINANTS

Contaminant	Commodity	Maximum limit	Regulation
Histamine	Fish	100 ppm	Effective from 1 April 2020 Refer to SFA circular dated 17 Mar 2020, (Maximum Limits for Marine Biotoxins, Inorganic Arsenic, and Methanol in Food)

Contaminant	Commodity	Maximum limit	Regulation
Methanol	Red wine, white wine and fortified wine	3g methanol/ L of ethanol	Effective from 1 April 2020
	Whisky, rum, gin and vodka	0.4g methanol/ L of ethanol	Refer to SFA circular dated 17 Mar 2020, (Maximum Limits for Marine Biotoxins, Inorganic Arsenic, and Methanol in Food)
	Other spirits, fruit wine, vegetable wine and mead	8g methanol/ L of ethanol	
Bromate	Natural mineral water and Packaged drinking water	10 ppb	Effective from 1 Sept 2020 Refer to SFA circular dated 11 Aug 2020, (Maximum Residue Limits Established for Mercury, Bromate and Mycotoxins in Food)

REFERENCES

Food Regulations:

<https://www.sfa.gov.sg/legislation> [select "Sale of Food Act", then select "Food Regulations"]

Codex Alimentarius Commission Pesticide Residues in Food Online Database:

<http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/pesticides/en/>

REVISION HISTORY

1. 1 Apr 2020
 - a. Added maximum limits for inorganic arsenic in fish, crustaceans and molluscs.
 - b. Added table on MARINE BIOTOXINS.
 - c. Added table on LIMITS FOR OTHER CONTAMINANTS.
2. 1 May 2020
 - a. Added table on veterinary drug residues
 - b. Added additional MRLs for pesticide residues
3. 1 September 2020
 - a. Added maximum limit for mercury in edible fungi.
 - b. Added maximum limits for mycotoxins; deoxynivalenol, fumonisins B1&B2, ochratoxin A, zearalenone.
 - c. Added maximum limit for bromate in natural mineral water and packaged drinking water.