

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, sheep, pigs and poultry	0.5 ⁽³⁾
2.4.3	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	0.03

	fruit and vegetable juices and nectars, except concentrated fruit and vegetable juices, and juices or nectars from berries and other small fruits	
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⁾ and follow-up infant formula ⁽¹⁵⁾	
	-marketed as liquid	0.010 ⁽¹⁰⁾
	-marketed as powder	0.050 ⁽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	0.050 ⁽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, 2.10.2 and 2.10.3	0.030 ⁽¹⁰⁾
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	Soy beans and peanuts	0.2 ⁽³⁾
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⁾	
3.7	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		
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	
<p>Note.</p> <p>⁽¹⁾If the total-arsenic concentration is below the ML for inorganic-arsenic, no further inorganic-arsenic testing is required.</p> <p>⁽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).</p>			

- (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, and milk-based drinks and similar products.