Food Regulatory Framework & Commodity Food Standards in China

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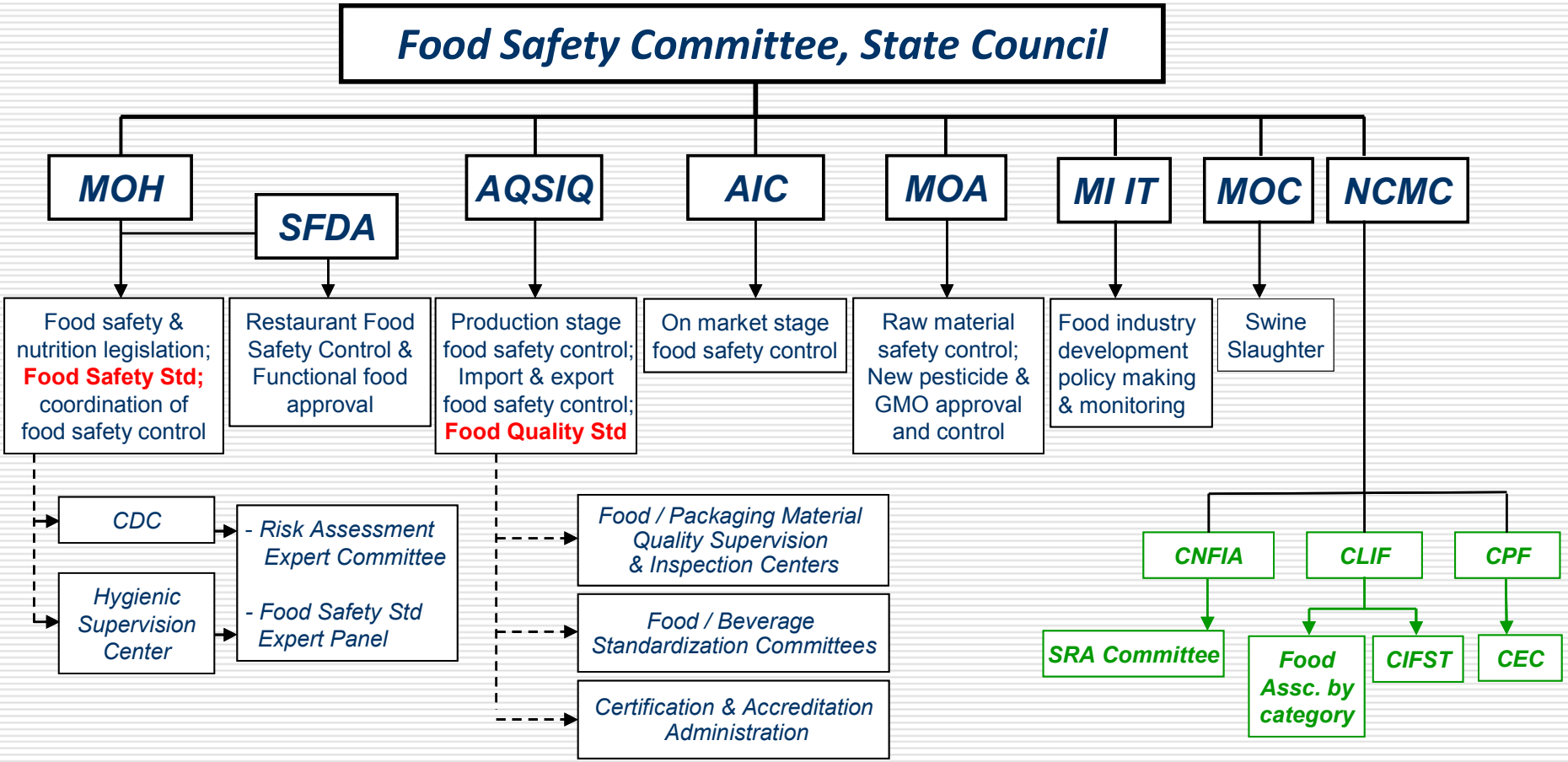
ILSI Focal Point in China 29 Mar 2010 **TOKYO**

Evolution of Food legislation in China

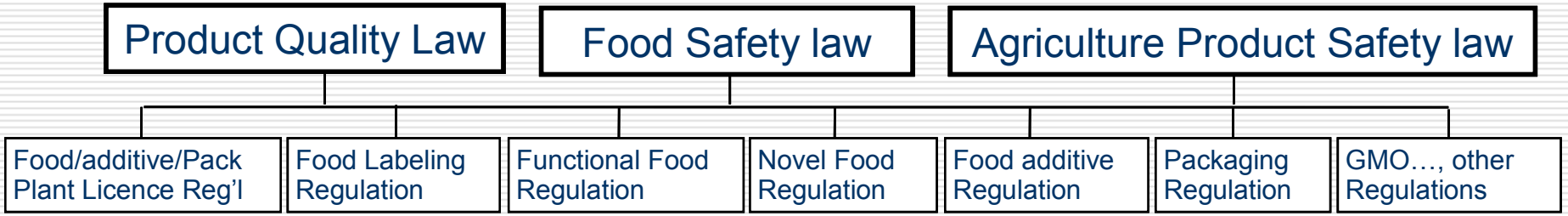
- Food safety control system set up since 1950's
- Food Hygiene Regulation (Provisional ,1964)
- Food Hygiene Law (Provisional) (1982)
- Food Hygiene Law (1995)
- Food Safety Law (Feb 2009)

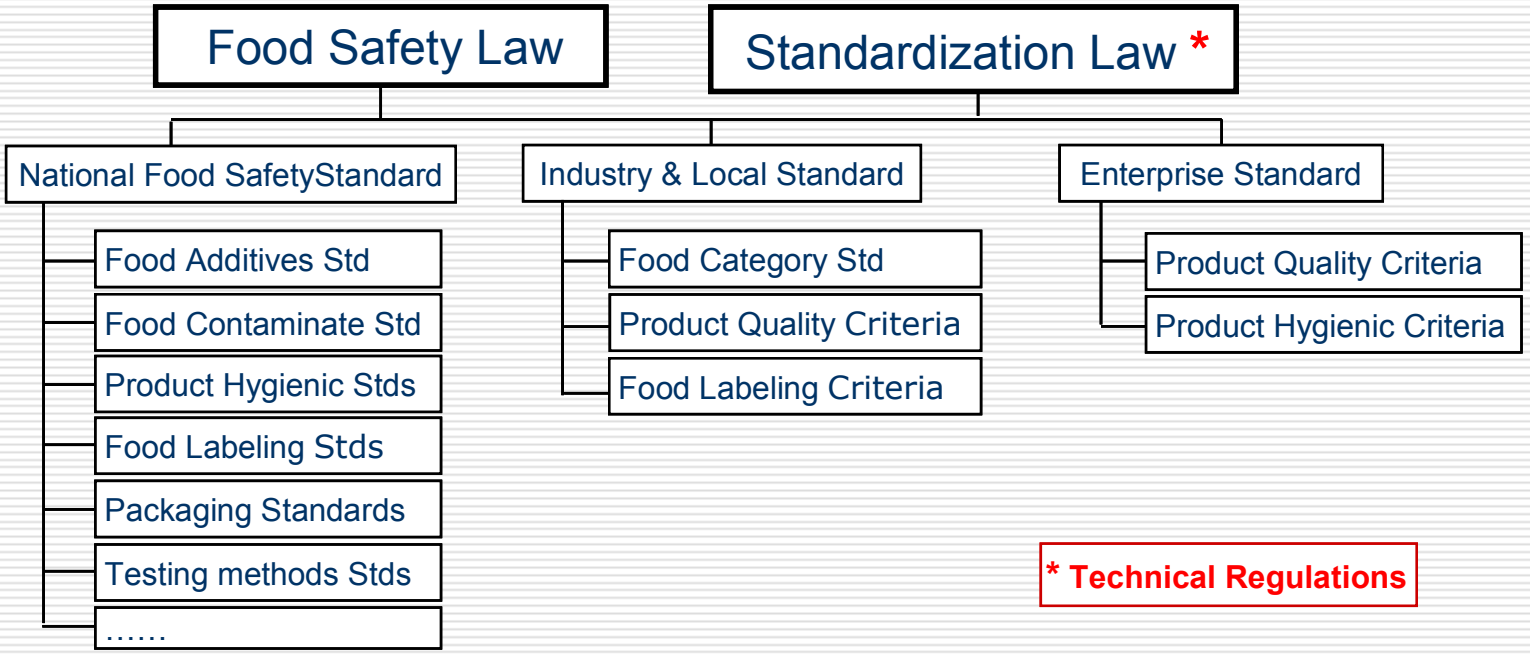
Government Organization



This government structure is based on the new Food Safety Law.

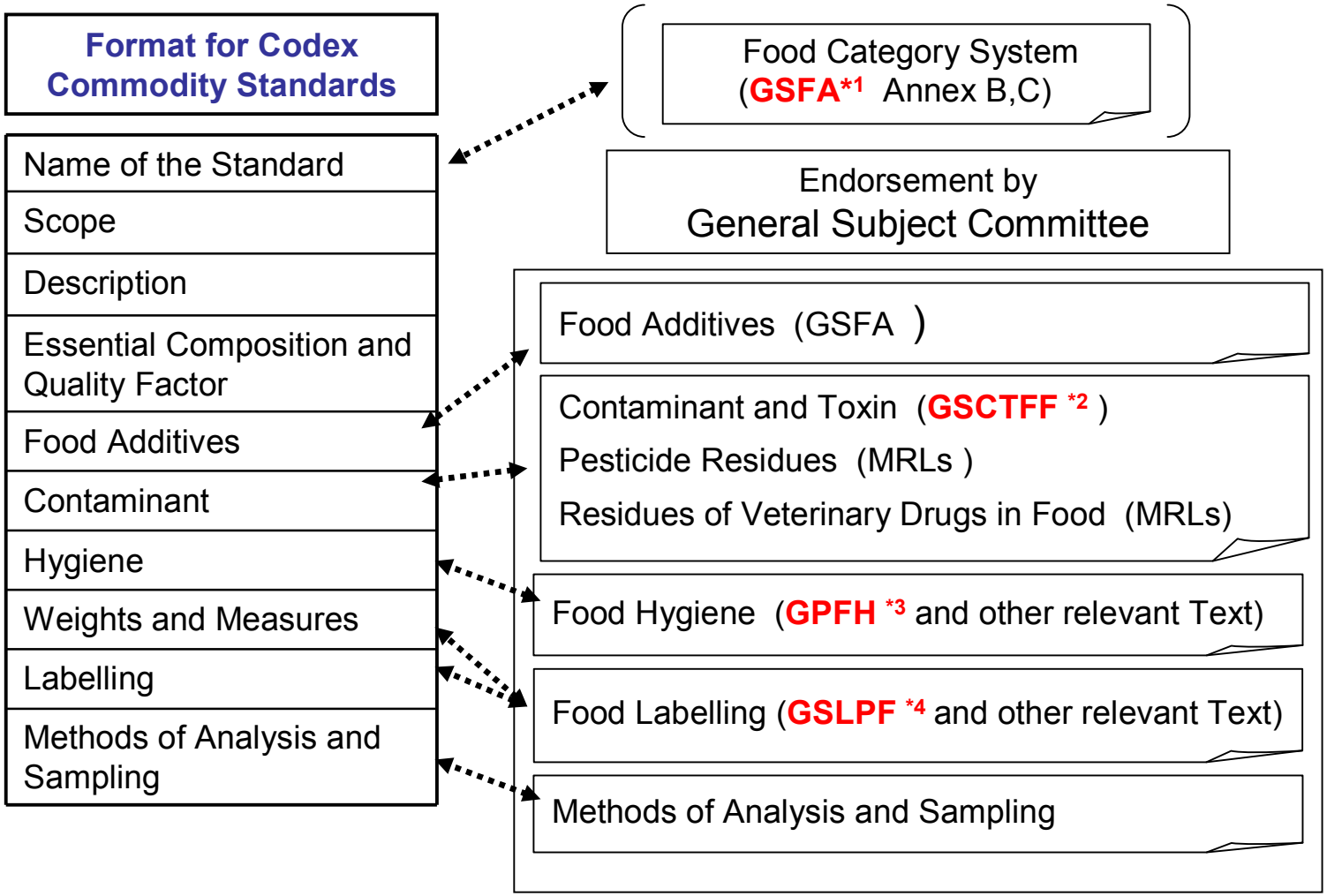
Food Laws, Regulations, Standards





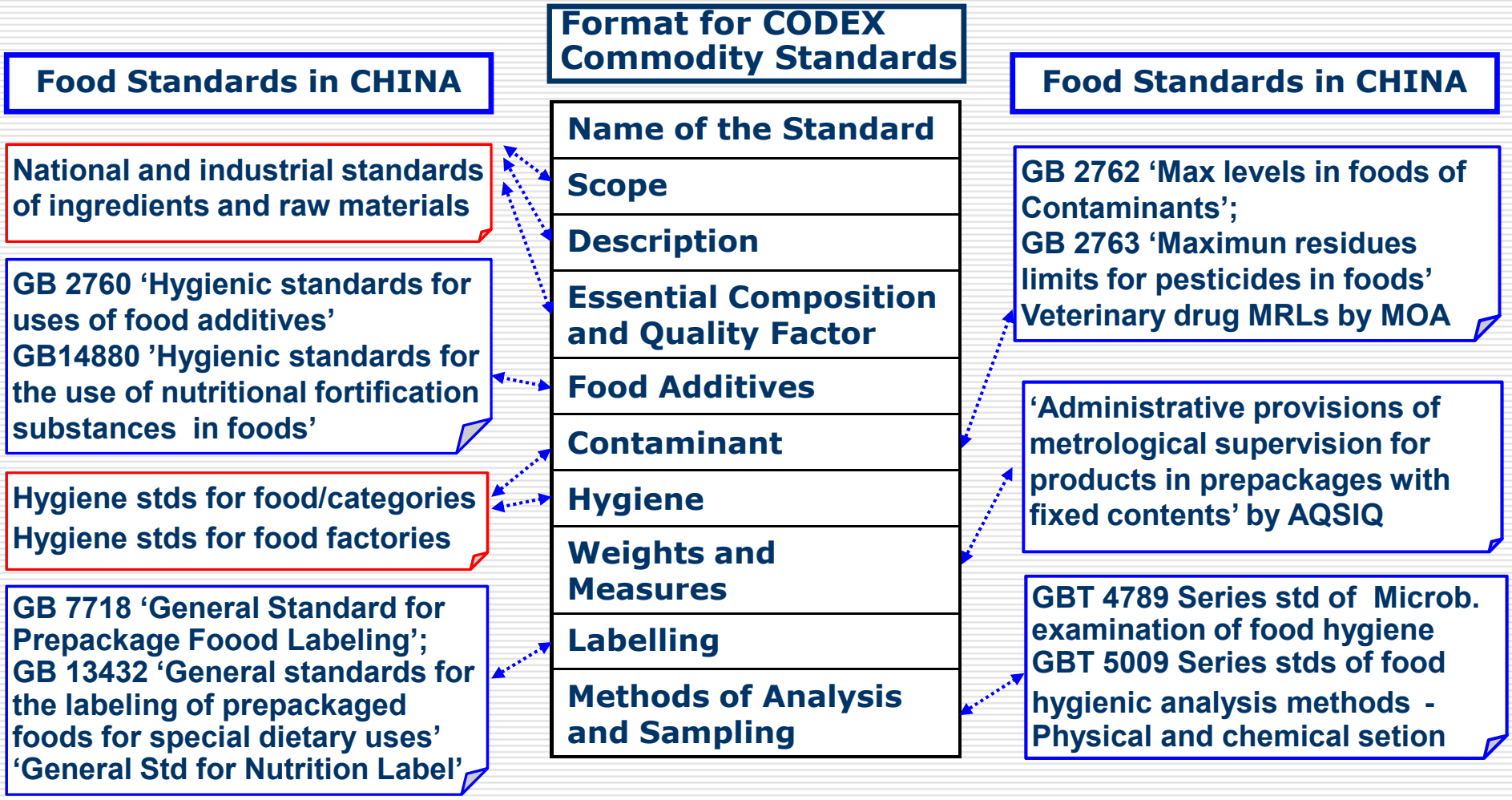
Elaboration of Codex Commodity Standards

Procedural Manual : Section III Elaboration of Codex Standards and Related Text

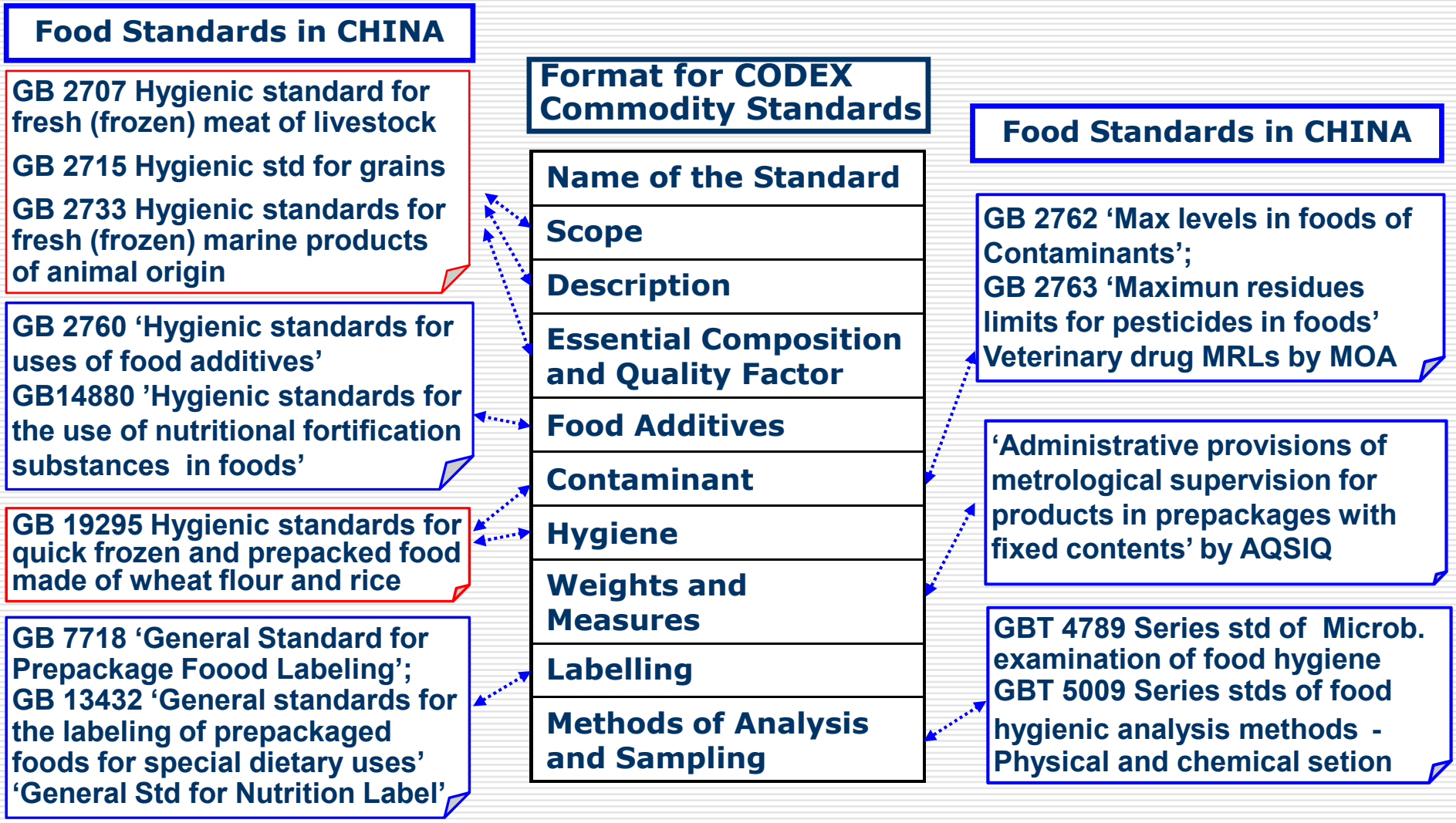


***1 Codex Stan 192-1955 General Standard for Food Additives**
***2 Codex Stan 193-1995 General Standard for Contaminants and Toxins in Foods and Feeds**
***3 CAC/RCP1-1969 General Principles of Food Hygiene**
***4 Codex Stan 1-1985 General Standards for the Labelling of Prepackaged Foods**

Gerneral Situation of Food Stds



Case Study 1: Frozen Foods Stds (1)



Case Study 1: Frozen Foods Stds (2)

Name of Standard	Contaminant and Physical/Chemical Index (≤)										
	Pb mg/kg	Cd mg/kg	Al mg/kg	Me Hg mg/kg	Tot. Hg mg/kg	Inor. As mg/kg	Tot. As mg/kg	Acid value KOH,mg/g	Perox. Val. g/100g	volatile basic N mg/100g	Aflatoxin μg/kg
GB19295 Hygienic std for quick-frozen and pre-packed food made of wheat & rice	0.5	--	--	--	--	--	0.5	3	0.15	15	5
GB 2715 Hygienic standards for grains	0.2	0.2 (rice/bean) 0.1 (wheat/corn /other)	--	--	0.02	0.15 (rice) 0.1(wheat) 0.2(other)	--	--	--	--	20(Corn) 10(Rice) 5(Other)
GB 2733 Hygienic std for fresh(frozen) marine products of animal origin	0.5 (Fish)	0.1 (Fish)	--	1.0 (Carnivore fish) 0.5(other)	--	0.1(fish) 0.5(other)	--	--	--	10--30	--
GB 2707 Hygienic standards for fresh(frozen) meat of livestock	0.2	0.1	--	--	0.05	0.05	--	--	--	15	--
GB16869 Fresh and frozen poultry product	0.2	0.5	--	--	0.05	--	--	--	--	15	--
DB11/615 Hygienic requirement of quick-frozen meat products	0.2	0.1	--	--	0.05	0.05	--	--	--	10	--
NYT1407 Green food-quick-frozen and pre-packed food made of wheat flour or rice	0.2	0.2	25	0.5 (含肉)	0.05 (含肉) 0.02 (无肉)	0.05	--	3(含馅)	0.15(含馅)	15(含肉)	5

Case Study 1: Frozen Foods Stds (3)

Name of Standard	Microbiological Index(≤)							Storage temperature
	Tot. plate count (fresh) cfu/g	Tot. plate count (cooked) cfu/g	Colif.(fresh) MPN/100g	Colif. (cooked) MPN/100g	Mold count (fresh)	Mold count (cooked)	Microbe Pathogen	
GB19295 Hygienic std for quick-frozen and pre-packed food made of wheat & rice	3000000	100000	--	230	-	50	Not detected	-18˚C±2˚C
GB 2715 Hygienic standards for grains	--	--	--	--	--	--	--	--
GB 2733 Hygienic std for fresh(frozen) marine products of animal origin	--	--	--	--	--	--	--	-15˚C to -18˚C
GB 2707 Hygienic standards for fresh(frozen) meat of livestock	--	--	--	--	--	--	--	--
GB16869 Fresh and frozen poultry product	1000000	500000 (Frozen)	10000	5000 (Frozen)	--	--	0/25g (Salmonella) 0/25g (O157:H7)	-18˚C±1˚C
DB11/615 Hygienic requirement of quick-frozen meat products	500000(Total plate count)		5000(Coliform group)		--	--	Not detected	-18˚C±2˚C
NYT1407 Green food-quick-frozen and pre-packed food made of wheat flour or rice	3000000	100000	--	230	--	50	Not detected	-18˚C±2˚C

Case Study **2**: CO_2 Beverage Stds (1)

Food Standards in CHINA

GB10789 General std of beverage
5.1 Carbonated beverages
5.1.1 juice containing type
5.1.2 fruit flavored type
5.1.3 cola type
……
GB/T10792 Carbonated Beverage

GB 2760 'Hygienic standards for uses of food additives'
GB14880 'Hygienic standards for the use of nutritional fortification substances in foods'

GB 2759.2 Hygiene standard for Carbonated beverage

GB 7718 'General Standard for Prepackage Foood Labeling';
GB 13432 'General standards for the labeling of prepackaged foods for special dietary uses'
'General Std for Nutrition Label'

Format for CODEX Commodity Standards

- Name of the Standard
- Scope
- Description
- Essential Composition and Quality Factor
- Food Additives
- Contaminant
- Hygiene
- Weights and Measures
- Labelling
- Methods of Analysis and Sampling

Food Standards in CHINA

GB 2762 'Max levels in foods of Contaminants';
GB 2763 'Maximun residues limits for pesticides in foods'
Veterinary drug MRLs by MOA

'Administrative provisions of metrological supervision for products in prepackages with fixed contents' by AQSIQ

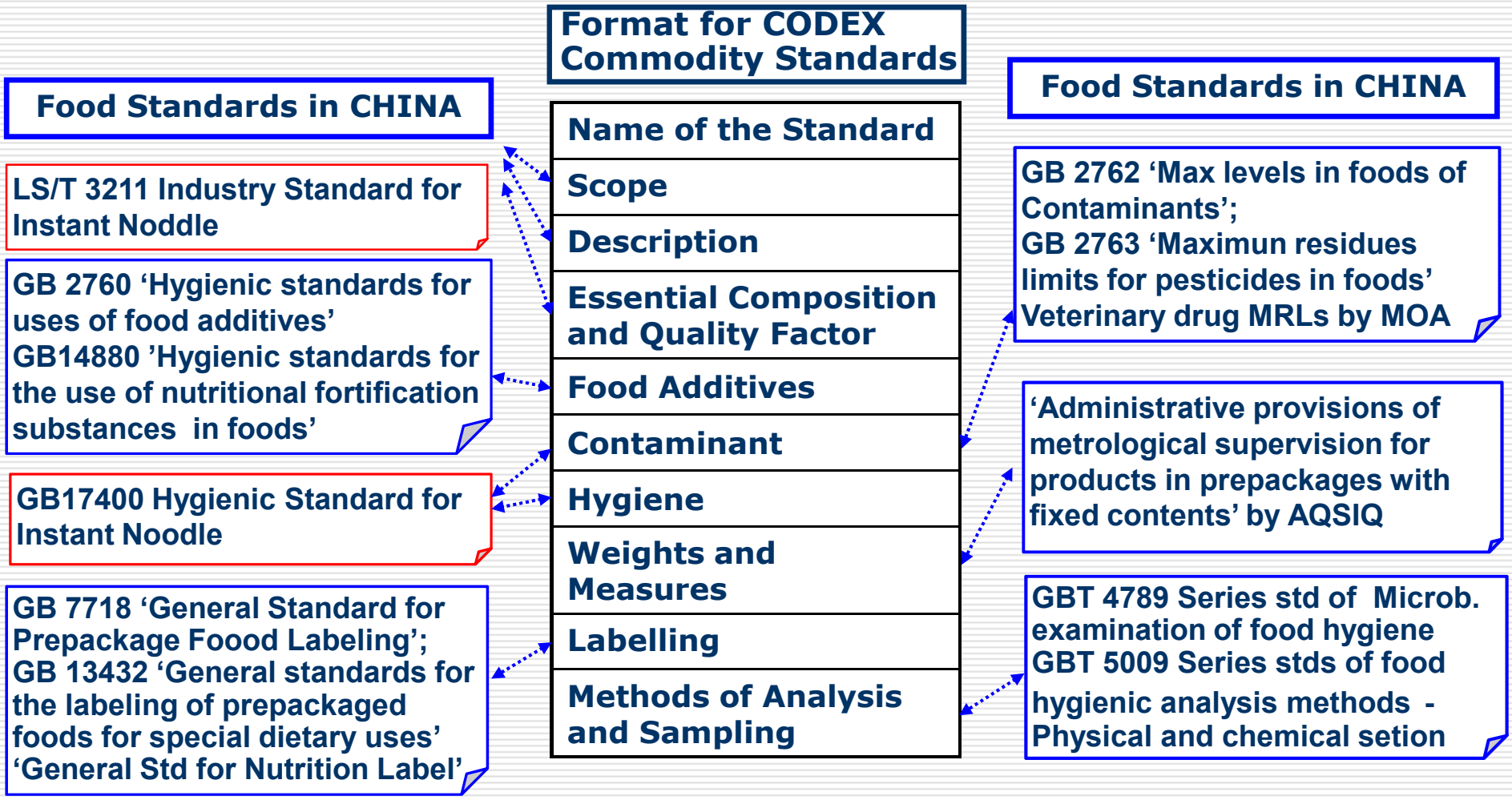
GBT 4789 Series std of Microb. examination of food hygiene
GBT 5009 Series stds of food hygienic analysis methods - Physical and chemical setion

GB/T12143.4 Assay method of CO2 in Carbonated beverages

Case Study **2**: CO_2 Beverage Stds (2)

Name of the Standard	Carbonated Beverage (Sparkling beverage)	Hygiene Standard of Carbonated Beverage
Scope	Classification; tech requirements; Assay method; Test rules; Labeling; packaging & transport	Limited level; Food additives; Process Hygiene requirment; Packaging; labeling; Storage & transport; test
Description	Beverage charged with external CO2, excluding CO2 generated from fermentation .	Beverage charged with external CO2, excluding CO2 generated from fermentation .
Essential Composition and Quality Factor	• CO2 content ≥ 1.5 • Juice type: juice content ≥ 2.5%	• Should present the color and taste of main ingredients; without strange taste, bad smell and foreign object. • Pb ≤0.3mg/L, As ≤0.3mg/L, Cu ≤5mg/L
Food Additives	• GB2760 and GB14880	• GB2760 for Range and level requirment • Also meet relative quality standard and regul'n
Contaminant		• GB 2762
Hygiene		• Microbe: Tbc ≤100 cfu/100ml, Coliform group ≤ 6 MPN/100ml, Mold count ≤10 cfu/100ml, Yeast ≤10 cfu/100ml, Pathogen (salmonella, Shigella, Staphylococcus aureus): Absent. • GB12695 Beverage factory GMP Practice
Weight/Measure		
Labelling	• GB7718 and GB13432. • Juice type should declare juice content.	
Methods of Analysis	• CO2 content test: 1) Reductor method; 2) Distilling titration	• Pb: To be tested as GB/T 5009.12 • Total As: To be tested as GB/T 5009.11 • Cu: To be tested as GB/T 5009.13 • Micorbe: To be tested as GB/T 4789.21

Case Study **3**: Instant Noodle Stds (1)



Case Study **3**: Instant Noodle Stds (2)

	Hygienic Standard for Instant Noodle		
Std Code	GB17400-2003		
Scope	Fried and non-fried instant noodle.		
Ingredients	Should meet the requirement of relevant standards and regulation.		
Sensory requir'nt	* sould present its specific color; not burned or raw; could have shade of colour on both side. * Have normal smell; No moldy, rancid or other bad smell * Good in shape and pattern; Not foreign object or burned residue. * No broken, stuck after recovery with water; * No half-cooked and teeth-sticking texture.		
Technical Criteria	≤	Fried	Non-fried
	water（g/100g)	8	12
	Acid (Count as fat), KOH/mg/g	1.8	
	Peroxide value (count as fat), g/100g	0.25	
	Carbonly value (count as fat) (meq/kg)	20	
	Pb, mg/kg	0.5	
	Total As, mg/kg	0.5	

	Industry Standard for Instant Noddle		
Std Code	LS/T 3211-1995		
Scope	Fried noodle, hot air dried noodle		
Ingredients	* Wheat flour should meet its national std * Fry oil should meet Hygiene std of edible oil frying process * Salt should meet its national standard		
Sensory requir'nt	* sould present its specific color; not burned or raw; could have shade of colour on both side. * No moldy, rancid or other strande smell and tast. * Good in shape and pattern; Not visible impurity. * No broken, stuck after recovery with water; * No half-cooked and teeth-sticking texture.		
Technical Criteria	≤	Fried	Non-fried
	water, %	8	12
	Acid (Count as fat) KOH/mg/g	1.8	
	Peroxide value (count as fat), meq/100g	20	
	Fat, %	24	
	IoD Value	≥1.0	
	NaCl, %	2.5	
	Recovery time	4min	6min
	Weight variance	≤ 3% of declared weight	

Case Study **3**: Instant Noodle Stds (3)

	Hygienic Standard for Instant Noodle		
Microbe	≤	Fried	Non-fried
	Tbc, cfu/g	1 000	50 000
	Coliform group, MPN/100g	30	150
	Pathogen	Absent	
Food additive	Meet relevant quality standards and regualtion. Applying range and level meet GB2760 'Hygien standard of food additive use'.		
Packaging	Packaging vessel and material shpould meet relevany hygiene std and regulation		
Labeling	Labeling should meet relevant regulation, and it is required to declare 'Fried' or 'Non-fried'		
Test method	Sensory requirement Technical criteria		

Industry Standard for Instant Noddle		
≤	Fried	Non-fried
Tbc, count/g	1000	
Coliform group, count/100g	30	
Pathogen	Absent	
Food additives should meet national and industrial standards.		
Should meet 'Hygiene standard of food pakaging material'		
Should meet GB7718 'General labeling requirement for prepackaged food'		
Test method for each item		

Case Study **4**: Use of Food Additive (1)

GB 2760 Standard for Food Additives Use

- **Similar to CODEX Food Additives Standard**
- **Allowable food additives, applicable foods categories and maximum level**
  - Table A.1 In alphabetic order of food additives
  - Table A.2 In alphabetic order of food categories
  - Table A.3 Additives allowed to be used in level required by process of any foods.
  - Table A.4 Food categories excluded form Table A.3
- **List of food flavors**
  - Table B.1 Natural flavor
  - Table B.2 Natural flavor equivalent
  - Table B.3 Synthetic flavor
- **Food proceesing aid**
  - Table C.1 Processing aid
  - Table C.2 Enzyme for food processing and its source
- **Table D.1 Ingredients for gum base**

Case Study **4**: Use of Food Additive (2)

Example:

Table A.1: Application scope and dose levels of food additives

Glycine

Number of CNS: 12.007 **Number of INS:** 640
Function: Flavor enhancer

Number of food category	Food name/category	Maximum level g/kg	Note
12.0	Condiment	1.0	
14.03.02	Plant protein containing drinks	1.0	

Ammonium phosphatide

Number of CNS: 10.033 **Number of INS:** 442
Function: Emulsifier

Number of food category	Food name/category	Maximum level g/kg	Note
05.01.02	Chocolate and product, cocoa product other than 05.01.01	10.0	

Carnauba Wax

Number of CNS: 14.008 **Number of INS:** 903
Function: Coating agent, anti-caking agent

Number of food category	Food name/category	Maximum level g/kg	Note
05.0	Cocoa product, chocolate and product (including chocolate imitation and chocolate substitutes), and candy	0.6	

Case Study **4**: Use of Food Additive (3)

Example:

表 A.3 （续）

序号	添加剂中文名称	添加剂英文名称	CNS 号	INS 号	功能
12	单、双、三甘油脂(油酸、亚油酸、柠檬酸、亚麻酸、棕榈酸、山嵛酸、硬脂酸、月桂酸)	mono-(di-、tri-)glyce rides of fatty acids	10.006	471	乳化剂
13	改性大豆磷脂	modified soybean phospho-lipid	10.019	—	乳化剂
14	柑橘黄	orange yellow	08.143	—	着色剂
15	甘油	glycerine	15.014	422	水分保持剂
16	高粱红	sorghum red	08.115		着色剂
17	谷氨酸钠	monosodium glutamate	12.001	621	增味剂
18	瓜尔胶	guar gum	20.025	412	增稠剂
19	果胶	pectins	20.006	440	增稠剂
20	海藻酸钾	potassium alginate	20.005	402	增稠剂
21	海藻酸钠	sodium alginate	20.004	401	增稠剂
22	槐豆胶(又名刺槐豆胶)	carob bean gum	20.023	410	增稠剂
23	黄原胶(又名汉生胶)	xanthan gum	20.009	415	增稠剂

Case Study 4: Use of Food Additive (4)

Example:

表 B.1　允许使用的食品用天然香料名单

编码	香料中文名称	香料英文名称(斜体为学名)	FEMA[1]编号
N001	丁香叶油	clove leaf oil(*Eugenia* spp.)	2325
N002	丁香花蕾酊(提取物)	clove bud tincture(extract)(*Eugenia* spp.)	2322
N003	丁香花蕾油	clove bud oil(*Eugenia* spp.)	2323
N004	罗勒油	basil oil(*Ocimum basilicum* L.)	2119
N005	八角茴香油	anise star oil(*Illicum verum* Hook.F.)	2096
N006	九里香浸膏	common jasmin orange concrete(*Murraya paniculate*)	—
N007	广藿香油	patchouly oil(*Pogostemon cablin*)	2838
N008	万寿菊油	tagetes oil(*Tagetes* spp.)	3040
N009	大茴香脑	*trans*-anethole anise camphor	2086
N010	小豆蔻油	cardamom oil(cardamom seed oil)	2241
N011	小豆蔻酊	cardamom tincture(*Elletaria cardamomum*)	2240
N012	小茴香酊	fennel, tincture(*Foeniculum vulgare* Mill.)	—
N013	山苍籽油	*Litsea cubeba* berry oil	3846
N014	山楂酊	Hawthorn fruit tincture	—

Thank You