



Application & Regulation of Natural Food Colors in China



Wenjin Zhang, R&D Director

Zhongda

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Outline

- Application of Natural Colors in China
- China Regulations & Standards of Food
- Brief Introduction to Zhongda



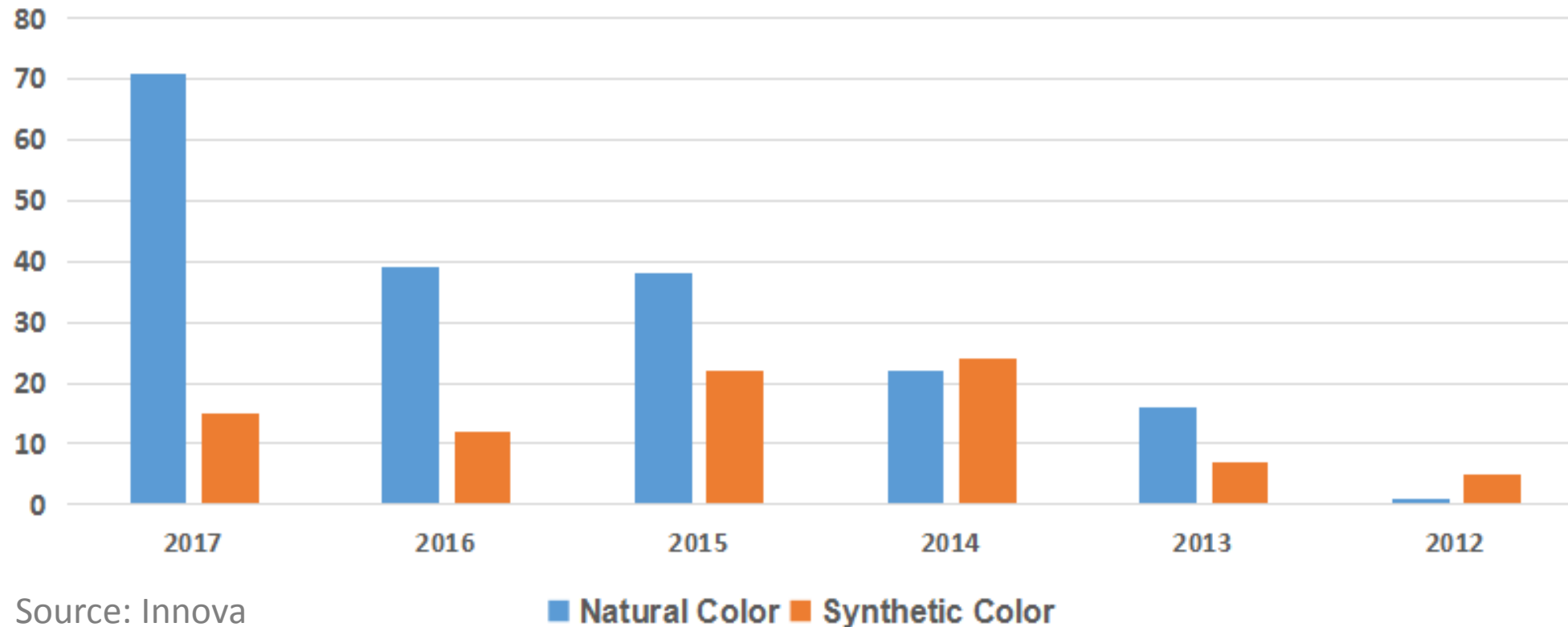


Part I: Application of Natural Colors in China

1.1 Natural Colors Outpacing Synthetic Colors in China

- The total number of new product launches of food & beverage tracked with **Natural Colors** has increased by a CAGR (Compound Annual Growth Rate) of **+134.5%** from 2012 to 2017. However, **24.6%** for **Synthetic Colors**.
- The quantity of new launches tracked with **Synthetic Color fluctuate** compared to the Natural Color in the past six years.

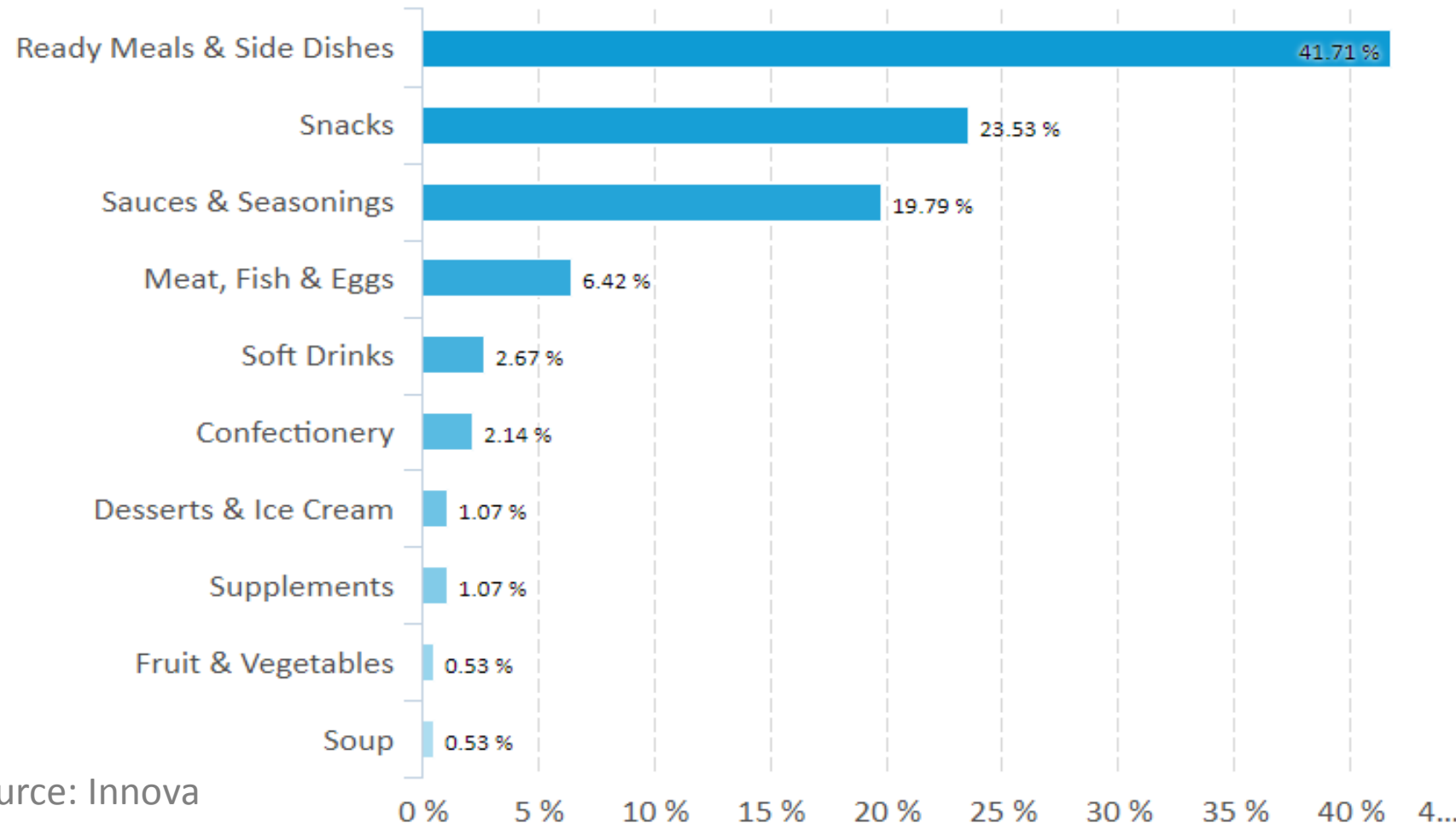
Total Food & Beverage launches tracked with Natural/Synthetic Color in China (2012-2017)



1.2 Application of Natural Colors in China

- Ready meals & Side Dishes and Snacks are the leading categories with Natural Colors in the China for the past six years, followed by Sauces & Seasonings.

Top 10 categories in % of total Food & Beverage tracked with Natural Colors in China (2012-2017)



Source: Innova



Part II: China Regulations & Standard of Food



2.1 China Food Safety Code

No. China Laws & Regulation	
1	China Food Safety Law
2	Implementation Regulations of China Food Safety Law
3	China Product Quality Law
4	China Standardization Law
5	China Agricultural Products Quality and Safety Law
6	China Intellectual Property Law
7	Measures for the Administration of China National Food Safety Standards
8	China Local Standards for Food Safety Management
9	China National Food Safety Accident Emergency Plan
10	China Food safety warning and emergency response system
11	China Catering services food safety supervision and management measures
12	China Food recall management measures
13	China Import and Export Food Safety Management Measures

2.2 China Supervision Division of Food Standard Regulation



China National Administration for Market Regulation



China National Health Commission



General Administration of Customs of China



National Intellectual Property Administration of China

2.3 China Food Regulation & Standard Framework



2.3.1 Manufacturing Practice of Food Additives

General Hygiene Practices

- Standard No.: GB 31647-2018
- Basic requirement and management principles
- Manufacturing process: procurement, processing, packaging, storage and shipment etc.
- Manufacturing location, facilities and people.
- Scope: food additives, including nutrient enhancer, food flavor, mixed food additives

Manufacturing Supervision and Management Regulations

- Guidance to obtain manufacturing licence
- Principle responsibilities of manufacturers
- Supervision methods and legal responsibilities

2.3.2 National Quality Standards of Food Additives

Single Food Additive

- Scope: technologies and flow chart
- Molecular formula, molecular weight
- Terms and definitions
- Sensory item: appearance, flavor
- Physical item: color value, loss on drying, heavy metals
- Microbiological item

Example:
Gardenia Blue
Standard No.: GB 28311-2012



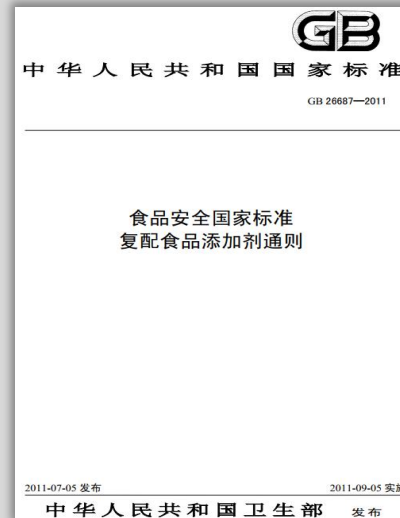
2.3.2 National Quality Standards of Food Additives

Compound Food Additives

- Definition
- Scope: does not include food flavors and gum bases.
- Naming principle
- Requirements
- Labeling

China National Food Safety Standard:

- General Rules of Compound Food Additives
- Standard No.: GB 26687-2011



2.3.2 National Quality Standards of Food Additives

Food Flavors

Standard No.: GB 30616-2014



Food Spices

Standard No.: GB29938-2013



2.3.2 National Quality Standards of Food Additives

Food Enzymes

Standard No.: GB1886.174-2016



Gum base & Ingredients

Standard No.:GB29987-2014

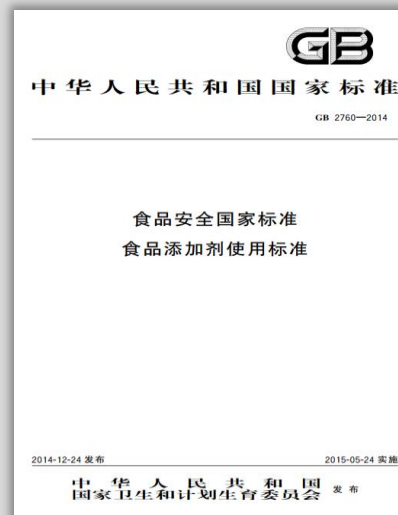


2.3.3 National Application Standards: Food Additives

- Food additive classification, the standard name, the scope of use of each food additive, and the maximum dosage
- Basic requirements, conditions of use, and principles for bringing in
- the International Coding System (INS) and the China Coding System (CNS)
- The food classification system
- List of food additives and processing aids

China National Food Safety Standard:

- National Application Standard of Food Additives
- Standard No.: GB 2760-2014

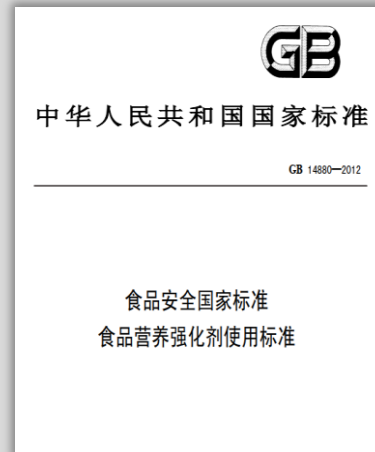


2.3.3 National Application Standards: Nutrients Enhancer

- The main purpose of nutrition enhancement
- Requirements for using nutritional supplements
- List of permitted nutrients enhancer, scope of use, dosage
- National laws, regulations and/or standards

National Food Safety Standard of China:

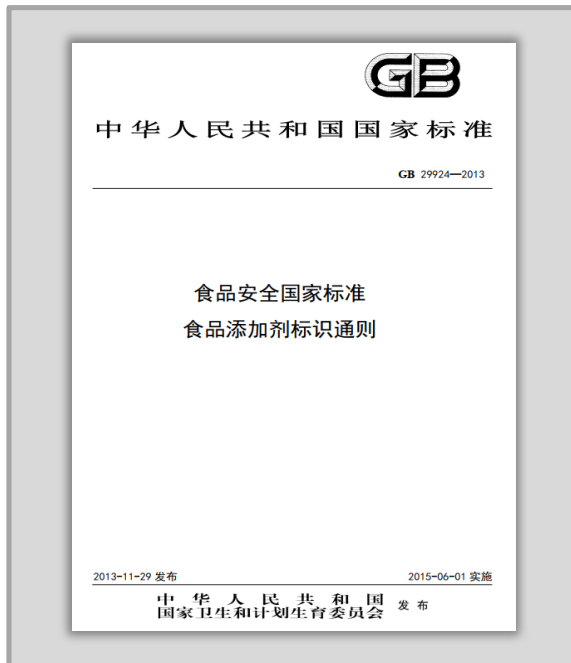
- National Application Standard of Nutrients Enhancer
- Standard No.: GB 14880-2012



2.4 Labelling

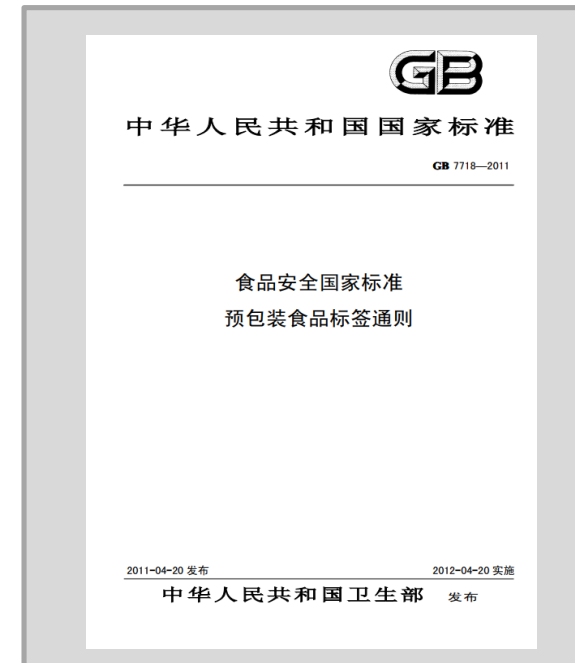
Food Additives

Standard No.: GB29924-2013



Pre-packed Food

Standard No.: GB7718-2011



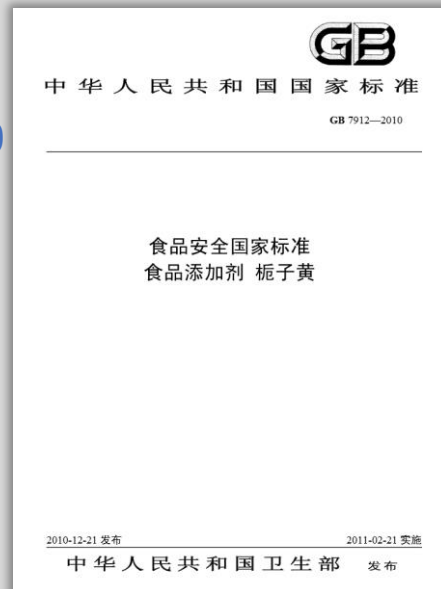
2.5 Testing Method of Food Additives

Food Additives

Example:

Color: Gardenia Yellow

Standard No.: GB 7912-2010

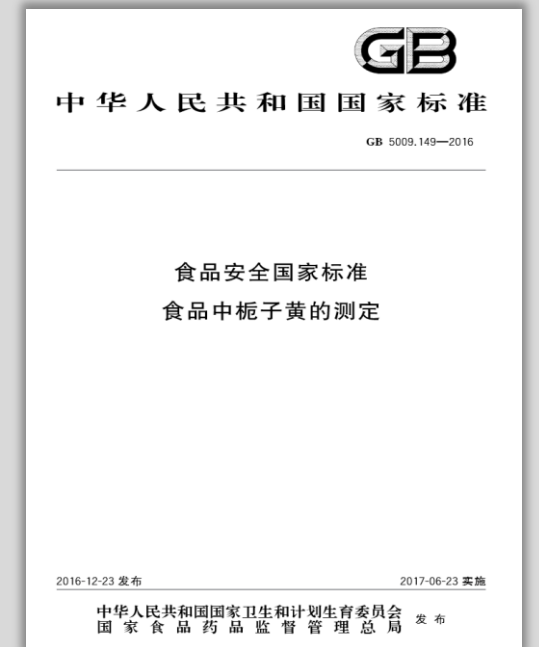


Food Additives in Food

Example:

Color: Gardenia Yellow

Standard No.: GB 5009.149
-2016



2.6 Management of New Food Additives

No. Regulation List	
1	Management methods of new food additives
2	Regulations of petition and approval of new food additives
3	Statement on regulating the License Management of New Food Additives
4	Statement on regulating the License Management of New Food Additives
5	Expert Management of Food safety administrative approval
6	Safety Management of New Food Materials

2.7 China Standardization Law

International Standard

The National Standard

Industrial Standard

Local Standard

Enterprise Standard

Group Standard

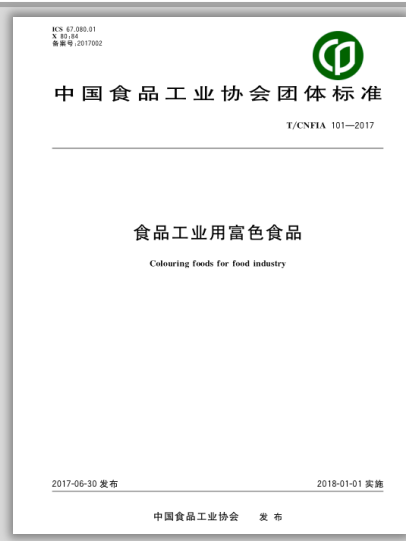
2.8 China Group Standard

Colouring Foods

- Reference: EU (Guidance notes on the classification of food extracts with colouring properties)
- Source: natural, such as fruits, vegetable and algae
- Essential characteristic properties: retain colour, aromatic and nutritive
- Solvent: water, no organic solvents
- Flow chart: physical methods

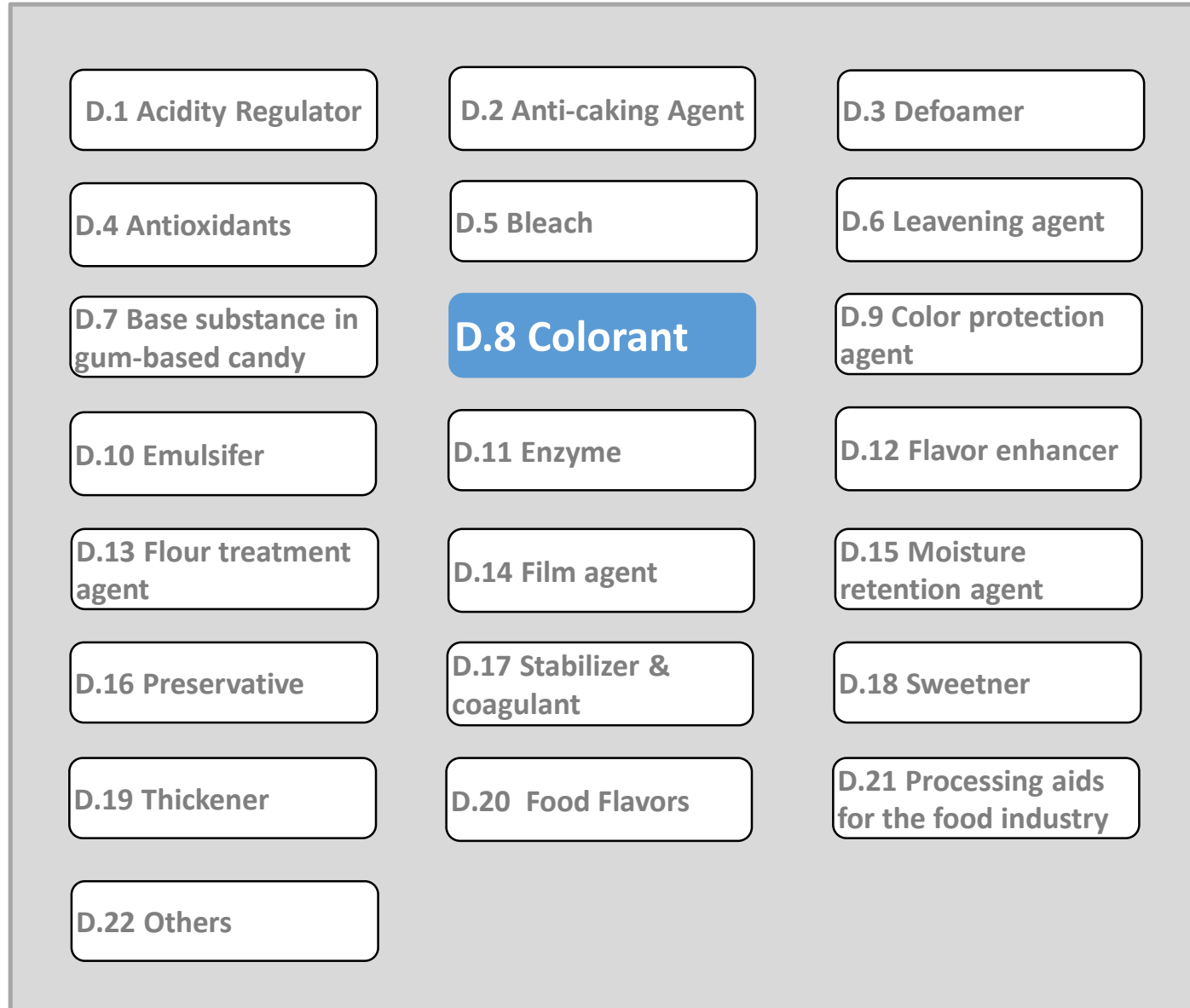
China National Food Industry Association Group Standard:

- Colouring foods for food industry
- Standard No.: T/CNFIA 101-2017



2.9 China Food Additives

- **Category: 22**
- **Total: +2000 food additives**
- **Food Additives are synthetic or natural substances added into foods to improve quality and color, flavor of food and also for preservation, and processing use**



2.10 China Approved Colors

GB2760-2014					GB2760-Revision Comments	
No.	Color	Color Additives	CNS	INS	CNS	INS
1		Riboflavin	08 .148	101 (i)	√	√
2		Carthamins yellow	08 .103	---	√	√
3		Turmeric	08 .102	100ii	08 .102	100(ii)
4		Curcumin	08 .132	100i	08 .132	100 (i)
5		Gardenia yellow	08 .112	---	08 .112	164
6		Coreopsis yellow	08 .113	---	√	√
7		Buddleia yellow	08 .139	---	√	√
8		Hippophae rhamnoides yellow	08 .124	---	√	√
9		Corn yellow	08 .116	---	√	√
10		Orange yellow	08 .143	---	√	√

2.10 China Approved Colors

GB2760-2014					GB2760-Revision Comments	
No.	Color	Color Additives	CNS	INS	CNS	INS
11		Lutein	08 .146	161b	08 .146	161b(i)
12		Natural carotene	08 .147	—	08 .147	160a(ii)
13		Annatto extract	08 .144	160b	√	√
14		Beta-carotene	08 .010	160 (a)	08 .010	160a(i),160a(iii), 160a(iv)
15		β-apo-8'-carotenal	08 .018	160e	√	√
16		Monascus yellow	08 .152	—	√	√
17		Tartrazine, aluminum lake	08 .005	102	√	√
18		Sunset yellow, aluminum lake	08 .006	110	√	√
19		Quinoline yellow	08 .016	104	√	√

2.10 China Approved Colors

GB2760-2014					GB2760-Revision Comments	
No.	Color	Color Additives	CNS	INS	CNS	INS
20		Red yeast rice	08 .119	---	√	√
21		Monascus red	08 .120	---	√	√
22		Tomato red	08 .150	---	√	√
23		Paprika oleoresin	08 .106	---	√	√
24		Paprika orange	08 .107	---	√	√
25		Beet red	08 .101	162	√	√
26		Red Kermel red	08 .111	---	√	√
27		Purple sweet potato colour	08 .154	---	√	√
28		Radish red	08 .117	---	√	√
29		Basella rubra red	08 .121	---	√	√
30		Hibiscus Color	08 .125	---	√	√

2.10 China Approved Colors

GB2760-2014					GB2760-Revision Comments	
No.	Color	Color Additives	CNS	INS	CNS	INS
31		Black currant red	08 .122	---	08 .122	163(iii)
32		Grape skin extract	08 .135	163ii	08 .135	163 (ii)
33		Mulberry red	08 .129	---	√	√
34		Mynica red	08 .149	---	√	√
35		Cowberry red	08 .105	---	√	√
36		Black bean red	08 .114	---	√	√
37		Natural amaranthus red	08 .130	---	√	√
38		Peanut skin red	08 .134	---	√	√
39		Gromwell red	08 .140	---	√	√
40		Kaoliang red	08 .115	---	√	√
41		Lycopene	08 .017	160d(i)	08 .017	160d(i), 160d(iii)

2.10 China Approved Colors

GB2760-2014					GB2760-Revision Comments	
No.	Color	Color Additives	CNS	INS	CNS	INS
42		Carmines	08 .145	120	√	√
43		Lac red	08 .104	---	√	√
44		Ponceau 4R,aluminum lake	08 .002	124	√	√
45		Allura red, aluminum lake	08 .012	129	√	√
46		Erythrosine, Aluminum lake	04 .021	127	08 .003	127
47		Uguisukagura red	08 .136	---	√	√
48		Carmoisine(azorubine)	08 .013	122	√	√
49		New red, aluminum lake	08 .004	---	√	√
50		Amaranth, aluminum lake	08 .001	123	√	√
51		Iron oxide red	08 .015	172ii	08 .015	172(ii)

2.10 China Approved Colors

GB2760-2014					GB2760-Revision Comments	
No.	Color	Color Additives	CNS	INS	CNS	INS
52		Spirulina blue	08 .137	---	√	√
53		Gardenia blue	08 .123	---	08 .123	165
54		Indigotine, Aluminum lake	08 .008	132	√	√
55		Brilliant blue, aluminum lake	08 .007	133	√	√
56		Copper chlorophy	08 .153	141i	08 .153	141(i)
57		Chlorophyllin copper complex	08 .009	141ii	08 .009,08 .155	141(ii)
58		Cacao shell color	08 .118	---	√	√
59		Rose laevigata michx brown	08 .131	---	√	√
60		Jujube pigment	08 .133	---	√	√
61		Acorn shell brown	08 .126	---	√	√

2.10 China Approved Colors

GB2760-2014					GB2760-Revision Comments	
No.	Color	Color Additives	CNS	INS	CNS	INS
62		Caramel Colour class III - ammonia process	08 .110	150c	√	√
63		Caramel colour class II - caustic sulfi	08 .151	150b	√	√
64		Caramel colour class I -plain	08 .108	150a	√	√
65		Caramel colour class IV - ammonia sulphite process	08 .109	150d	√	√
66		Vegetable carbon	08 .138	153	√	√
67		Iron oxide black	08 .014	172i	08 .014	172(i)
68		Titanium dioxide	08 .011	171	√	√
69		Capsaicin oleoresin	00.012	160c	00.012	160c(i)

Part III: Brief Introduction to Zhongda



3.1 Zhongda

- We can provide any color you need
- Strategic vertical integration to origin farms
- The leader in applications for National Product Standard and Sanitary Standard of Natural Colors in China.
- Individual Application to JECFA (Joint FAO/WHO Expert Committee on Food Additives) for Gardenia Yellow

3.2 Certification



FSSC22000



ISO22000



ISO9001



Kosher



Halal



BRC (In process)



ISO14001



ISO50001



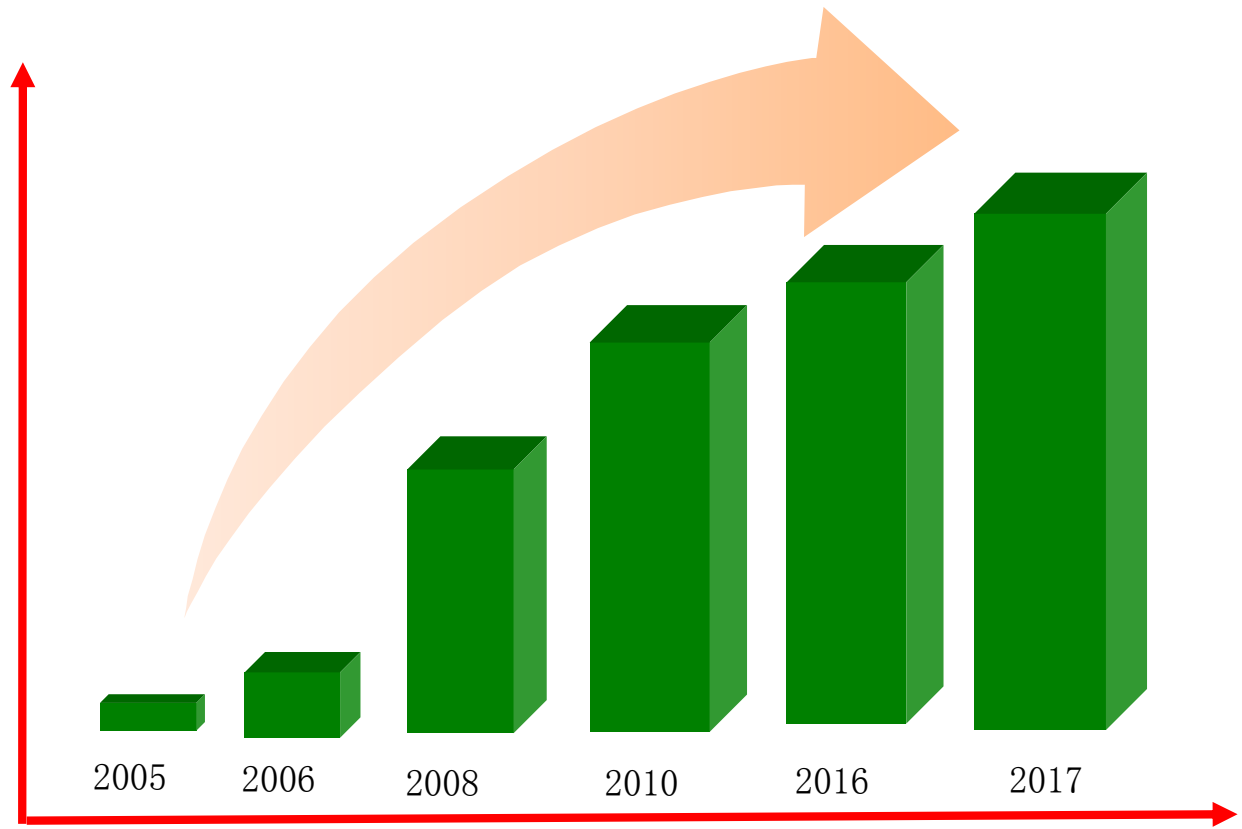
OHSAS 18000



FAMI-QS (In process)

3.3 Our Contribution to China National Standards

The Leading Applicant of China National Product Standard and Sanitary Standard of Natural Colors



3.3 Our Contribution to China National Standards

List of Quality Standards Applied by Zhongda

No.	Color Name	China Standard No.
1	Mixed Colors	GB 26687-2011
2	Gardenia Blue	GB 28311-2012
3	Grapde Skin Red	GB 28313-2012
4	Capsaicin Oleoresin	GB 28314-2012
5	Gromwell red	GB 28315-2012
6	Tomato Red	GB 28316-2012
7	Cacao Shell Color	GB 1886.30-2015
8	Kaoliang Red	GB 1886.32-2015
9	Paprika Oleoresin	GB 1886.34-2015
10	Turmeric	GB 1886.60-2015

No.	Color Name	China Standard No.
11	Carthamus Yellow	GB 1886.61-2015
12	Monascus Yellow	GB 1886.66-2015
13	Curcumin	GB 1886.76-2015
14	Hibiscus Red	GB 28312-2012
15	Gardenia Yellow	GB 7912-2010
16	Radish Red	GB 25536-2010
17	Monascus Red	GB 1886.181-2016
18	Purple Sweet Potato Color	GB 1886.244-2016
19	Carmine	In the process of revision
20	Annatto Extract	In the process of revision

3.3 Our Contribution to China National Standards

List of Application Standards Applied by Zhongda

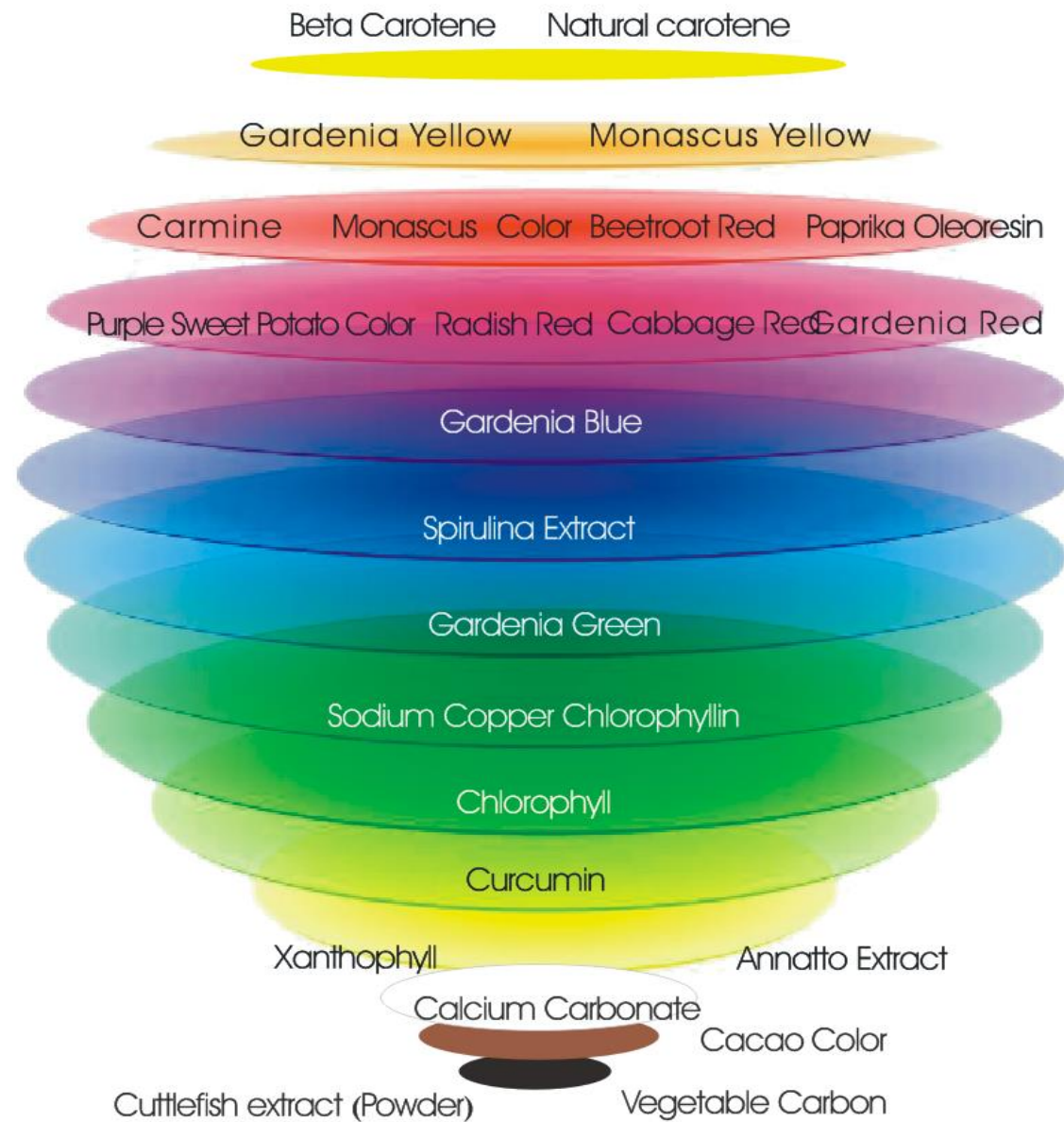
No.	Color Name	Application Scope
1	Gardenia Yellow	Instant rice noodles, frozen rice noodles, dried noodles, baked goods, beverages, alcoholic, frozen surimi products, condiments, fried foods, pickled vegetables, margarines, frozen rice noodles, food product fillings, Solid beverages, biscuits, cooked meat products, milk and dairy products, fats, oils and emulsified fat products, meat and meat products, nuts and seeds, fruits, vegetables, aquatic products and products, eggs and egg products
2	Gardenia Blue	Instant rice noodles, dried noodles, frozen rice noodles, frozen surimi products, cured meat products, western ham, dried meat products, other meat and meat products (meat balls), condiments, fried foods, puffed Food, Pickled Vegetables, Fruit and Vegetable Juices, Protein Beverages, Solid Beverages, Baked Goods, Wheat Flour Products, Frozen Rice Noodles, Food Products Fillings, Baked Goods, Seasonings
3	Turmeric	Frozen rice noodles, dried noodles, baked goods, fried foods, puffed foods, margarines and similar products, cocoa products, chocolate and chocolate products, wheat flour products, food product fillings, frozen surimi products, frozen meatballs
4	Paprika Oleoresin	Convenient rice noodles, frozen rice noodles, dried noodles, cured meat products, seasonings, fried foods, puffed foods, preserved vegetables, margarines and similar products, pickled vegetables, wheat flour products, frozen rice noodles Products, food product stuffing, baked goods, seasonings, pickled edible fungi and algae, edible fungi and algae canned food
5	Monascus Red	Instant rice noodles, frozen surimi products, frozen rice noodles, dried noodles, cured meat products, condiments, fried foods, baked goods, preserved vegetables, frozen rice noodles, food stuffings, baked goods, Fruit and vegetable juices, protein drinks, solid beverages

3.3 Our Contribution to China National Standards

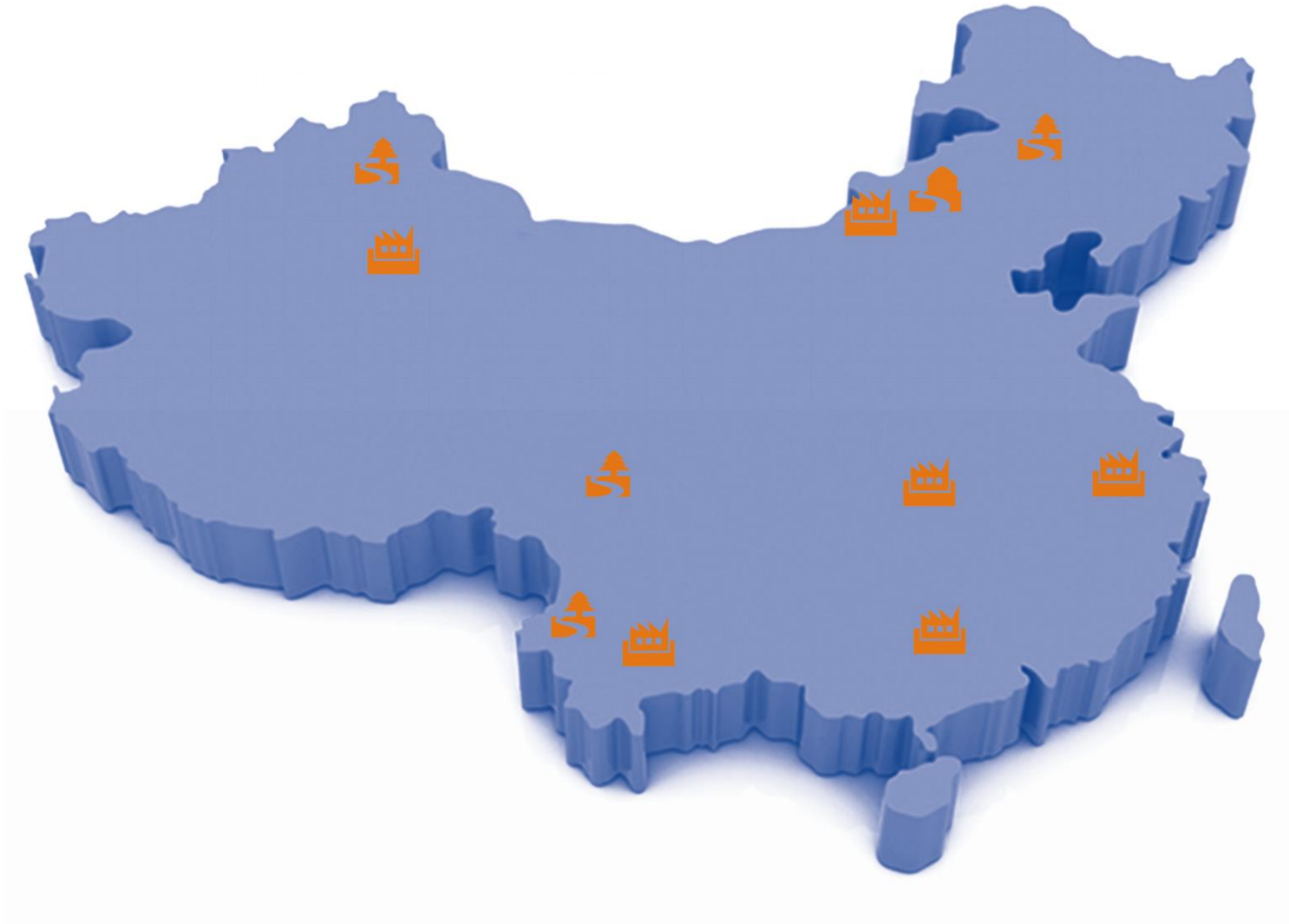
List of Application Standards Applied by Zhongda

No.	Color Name	Application Scope
6	Carthamus Yellow	Instant rice noodles, frozen rice noodles, food product fillings, baked goods, cured meat products, frozen surimi products, fried foods, puffed foods, frozen drinks, condiments
7	Annatto extract	Instant rice noodles, frozen rice noodles, frozen surimi products, dried noodles, fried foods, puffed foods, baked goods, condiments, frozen drinks, food products, seasonings
8	Carmine	Frozen rice noodles, frozen surimi products
8	Kaoliang Red	Raw noodles, pickled vegetables, wheat flour products, frozen rice noodles, food product fillings, baked goods, cured meat products, condiments, fruit and vegetable juices, protein drinks, solid beverages, fried foods
9	Sodium Copper Chlorophyllin	Instant rice noodles, frozen rice noodles, frozen surimi products, other meat and meat products
10	Lutein	Frozen rice noodles, frozen surimi products
11	Caramel	Frozen rice noodles, frozen surimi products
12	Citrus Yellow	Instant rice noodles, fried foods, puffed foods, margarines, pickled vegetables, wheat flour products, frozen rice noodles, food product stuffings, baked goods, cured meat products, cooked meat products, condiments, fruit and vegetable juices, protein Beverages, solid beverages
13	Riboflavin	Instant rice noodles

3.4 Any color you need



3.5 Plantation Bases Presence



- 12 Plantation sites
- 5 Raw Material Processing sites
- 2 Manufacturing sites

Contact



Thank you!

e-mail: zhongda@hazhongda.com

 +86-395-5658 180

 +86-395-5658 199

www.hazhongda.com

Expert of Natural Color Application

Professional Provider of Natural Color Solution

