

Laboratory Regional Analytical Laboratory, Kakkanad, Ernakulam, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-6793

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	FOOD& AGRICULTURAL PRODUCTS			
1.	Milk & Milk Products			
A.	Toned Milk/ Double Toned Milk/ Standardized Milk/ Cow milk Buffalo Milk	Fat	IS 1224 Part I-1977 (RA 2018)	0.1 % to 10.0 %
		Solid not fat	IS 12333,1977 (RA 2017)	5.0 % to 15.0 %
		Starch	IS 1479 Part I, 1960 (RA 2016)	Qualitative (Present/Absent)
		Sugar	IS 1479 Part I,1960 (RA 2016)	Qualitative (Present/Absent)
		Neutralizers	IS 1479 Part I, 1960 (RA 2016)	Qualitative (Present/Absent)
		Added Urea	FSSAI Manual of methods for analysis of Milk & milk products, Method No. 1.2.4.1, 2016.	Qualitative (Positive/Negative)
	Formalin	FSSAI Manual of methods for analysis of Milk & milk products, Method No. 1.2.17.1, 2016.	Qualitative (Positive/Negative)	
2.	Ice Cream			
A.	Low fat Ice cream Medium fat Ice cream High fat Ice cream	Milk Fat	AOAC official Methods of Analysis 2016,20 th edition 952.06	0.5 % to 17.0 %
		Total Solids	IS 2802 1975 (RA 2016)	15.0 % to 45.0 %
		Milk Protein	AOAC official Methods of Analysis 2016,20 th edition 930.33	0.5 % to 30.0 %

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3.	Frozen Dessert			
A.	Low fat Frozen dessert	Total Fat	AOAC official Methods of Analysis 2016,20 th edition 952.06	0.5 % to 17.0 %
	Medium fat Frozen dessert	Total Solids	FSSAI Lab Manual 1,2015, Method No:7.2	15.0 % to 45.0 %
	High fat Frozen Dessert	Total Protein	AOAC official Methods of Analysis2016,20 th edition 930.33	0.5 % to 30.0 %
4.	Creals& Cereal products			
A.	Biscuits	Ash Insoluble in dil.HCl. (on dry basis)	FSSAI manual of methods of Analysis of Cereals & Cereal products, Method:14.4, 2016	0.010 % to 1.000 %
		Moisture	FSSAI manual of methods of Analysis of Cereals & Cereal products, Method No:14.3, 2016	1.00 % to 15.00 %
B.	Bread	Ash insoluble in dil. HCl (on dry basis)	FSSAI manual of methods of Analysis of Cereals & Cereal products, Method No: Cl. 15.4:2016	0.005 % to 0.500 %
		Moisture	FSSAI manual of methods of Analysis of Cereals & Cereal products, Method No:Cl.15.2:2016	1.00 % to 45.00 %
C.	Biscuits & Bread	Synthetic food colour	RALE/FS(T)SOP-01.7/ Issue No. 01/ date: 01.04.2015	Qualitative (Present/Absent)
D.	Atta, Fortified Atta, Maida, Fortified Maida, Semolina (suji,rava)	Moisture	FSSAI manual of methods of Analysis of Cereals & Cereal products, Method.No:2.0, 2016	1.00 % to 20.00 %
	Protein rich Atta, Protein rich Maida, Besan	Ash Insoluble in dil.HCl. (on dry basis)	FSSAI manual of methods of Analysis of Cereals & Cereal products, Method .No 8.3,2016	0.010 % to 2.000 %

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		Total Ash (on dry basis)	FSSAI manual of methods of Analysis of Cereals & Cereal products, Method. No:8.2,2016.	0.10 % to 4.00 %
E.	Food Grains Whole & Powder	Synthetic Food Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
5.	Edible Oils& Fats			
A.	Coconut oil, Sesame oil, Sunflower oil, Palm oil, Palmolein, Palm Kernel oil, Rice bran oil, Soya bean oil, Mustard oil/Rapeseed oil, Ground nut oil, Refined vegetable oil, Olive oil & Virgin coconut oil	Refractive Index at 40°C	IS 548 (Part I)1964 (RA 2015)	1.4445 to 1.4783
		Butyro Refractometer reading at 40°C	IS 548 (Part I)1964 (RA 2015)	29 to 80
		Saponification value	IS 548 (Part I)1964 (RA 2015)	100 to 300
		Iodine value	IS 548 (Part I)1964 (RA 2015)	5 to 200
B.	Coconut oil, Sesame oil, Sunflower oil, Palmolein, Rice bran oil, Soya bean oil, Mustard oil, Ground nut oil, Refined vegetable oil, Virgin coconut oil, Blended edible & Vegetable oil	Acid value	IS 548 (Part I)1964 (RA 2015)	0.10 to 25.00

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
C.	Palm Oil, Palm kernel Oil, Olive Oil & Vanaspathi, Ghee	Free fatty acid	IS 548 (Part I)1964 (RA 2015)	0.10 to 25.00
D.	Ghee	Butyro Refractometer reading at 40°C	IS 548 (Part I)1964 (RA 2015)	29 to 80
		Free fatty acid as oleic acid	IS 548 (Part I)1964 (RA 2015)	0.10 % to 25.00 %
E.	Coconut oil, Sesame oil, Sunflower oil, Palm oil, Palmolein, Palm Kernel oil, Rice bran oil, Soya bean oil, Mustard oil, Ground nut oil, Refined vegetable oil, Olive oil, Virgin coconut oil, Vanaspathi, Blended edible & Vegetable oil	Test for cotton seed oil	FSSAI manual of methods of analysis of foods, Oils and Fats Method No. 16:2016	Qualitative (Positive/Negative)
		Test for mineral oil	FSSAI manual of methods of analysis of foods, Oils and Fats Method No. 28:2016	Qualitative (Positive/Negative)
		Test for sesame oil	FSSAI manual of methods of analysis of foods, Oils and Fats Method No. 15:2016	Qualitative (Positive/Negative)
F.	Refined vegetable oil, Olive oil, Virgin coconut oil, Blended edible vegetable oil	Moisture	FSSAI manual of methods of analysis of foods, Oils & Fats, Method No:3.1:2016.	0.010 % to 10.000 %
6.	Fruits and Fruits Products			
A.	Fruits, Fruit juices, Fruit nectars, Squashes, Sharbats	Synthetic colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)

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B.	Jams, Jellies	Total Soluble Solids	FSSAI manual of methods of analysis of foods, Fruits & Vegetable Products Method No. 1.6:2016	5.00 % to 80.00 %
C.	Juices, Squashes, Fruit Syrups or Sharbats, Ketchups, Sauces, Fruit Beverages, Synthetic syrups or Sharbats, Jam, jellies	Acidity	FSSAI manual of methods of analysis of foods, Fruits & Vegetable Products Method No. 2.4:2016	0.05 % to 20.00 %
D.	Juices, Squashes, Fruit Syrups or Sharbats, Crushes, Fruit Beverage	Total Soluble Solids	FSSAI manual of methods of analysis of foods, Fruits & Vegetable Products Method No. 1.6:2016	0.50 % to 80.00 %
E.	Fruit jams, Soft drinks, Conc. juices	Synthetic color	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
7.	Honey & Honey Products			
A.	Honey	Moisture	FSSAI manual of methods of analysis of foods, Part A, Beverages, Sugar & Confectionery products, Method No:6.2:2015	2.00 % to 30.00 %
		Synthetic Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015:2015	Qualitative (Present/Absent)
		Total Ash	FSSAI manual of methods of analysis of foods, Part A, Beverages, Sugar & Confectionery products, Method No:6.7:2015	0.05 % to 5.00 %

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8.	Meat & Meat Products			
A.	Prepared Meat products	Synthetic Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
9.	Sugar & Sugar Products			
A.	Sugar, Jaggery	Synthetic Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
B.	Sugar, Khandsari sugar, Bura, Cube sugar	Moisture	FSSAI manual of methods of analysis of foods, Beverages, Sugar & Confectionery products, Method No:7.2:2015	0.05 % to 10.00 %
10.	Tea			
A.	Tea, Tea dust, Flavoured Tea powder	Water soluble ash (% of Total Ash)	IS 13855:1993 (RA 2009)	10.0 % to 80.0 %
		Acid Insoluble Ash	IS 13857:1993 (RA 2014)	0.05 % to 6.0 %
		Alkalinity of water soluble ash	IS 13856:1993 (RA 2014)	0.5 % to 5.0 %
		Water extract	AOAC official Methods of Analysis 2016, 20 th edition 920.104	10.0 % to 50.0 %
		Synthetic food colour	In-house validated method:- RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015:2015	Qualitative (Present/Absent)
B.	Tea powder	Total Ash	IS 13854:1994, (RA 2014)	0.5 % to 14.0 %
		Crude Fibre	FSSAI Manual of methods of analysis of foods, beverages, sugars and sugar products, Manual No:4, Method No:5.8:2015	8.00 % to 25.00 %

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11.	Spices/Condiments			
A.	Chilly powder Coriander powder Turmeric powder	Moisture	IS 1797: 2017	3.0 % to 20.0 %
		Total ash	IS 1797: 2017	2.0 % to 16.0 %
		Acid Insoluble Ash	IS 1797: 2017	0.01 % to 5.0 %
		Non-volatile ether extract	IS 1797: 2017	5.0 % to 25.0 %
		Synthetic food colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
		Extraneous starch	FSSAI Lab manual-10, Method No:2, 2015	Qualitative (Present/Absent)
B.	Turmeric powder	Test for Chromate	IS 3576: 2010	Qualitative (Positive/Negative)
C.	Chilli powder, Pepper powder	Crude Fibre	FSSAI manual of methods of analysis, manual no:10 spices & condiments, Method no:11.0:2015	15.00 % to 35.00 %
D.	Black pepper (whole)	Test for Mineral oil	FSSAI manual of methods of analysis, manual no:10 spices & condiments, method No:19.0:2015	Qualitative (Positive/Negative)
E.	Turmeric Whole	Test for Chromate	FSSAI manual of methods of analysis, manual no:10 spices & condiments, method No:15.6:2015	Qualitative (Positive/Negative)
F.	Cardamom, Chillies, Cinnamon, Cassia,Nutmeg, Cloves, Coriander, Cumin, Fennel, Fenugreek, Mustard, Pepper, Turmeric	Moisture	Fssai manual of methods of analysis, manual no:10 spices & condiments, method No:3.0:2015	2.00 % to 25.00 %
		Synthetic food colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
		Extraneous Matter	FSSAI manual of methods of analysis, manual no:10 spices & condiments, Method No:2, 2015.	0.00 % to 15.00 %

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		Total Ash(dry basis)	FSSAI manual of methods of analysis, manual no:10 spices & condiments, Method no:4:2015	0.50 % to 15.00 %
G.	Chillies, Cinnamon, Cassia, Nutmeg, Coriander, Cumin, Fennel, Fenugreek, Mustard	Ash Insoluble in dil.HCl. (dry basis)	FSSAI manual of methods of analysis, manual no:10 spices & condiments, Method no:5:2015	0.020 % to 7.000 %
H.	Cumin, Mustard, Pepper	Non Volatile Ether Extract (dry basis)	FSSAI manual of methods of analysis, manual no:10 spices & condiments, Method no:9.0:2015	2.00 % to 35.00 %
12.	Coffee & Cocoa Products			
A.	Roasted & Ground Coffee	Alkalinity	FSSAI manual of methods of analysis of foods, Beverages & Sugar & Sugar Products, Manual No:4, Method No:1.6, 2015	0.50 mL to 10.00 mL
		Water Soluble Ash (% of Total Ash)	FSSAI manual of methods of analysis of foods, Beverages & Sugar & Sugar Products, Manual No:4, Method No:1.4, 2015	30.00 % to 80.00 %
B.	Roasted & Ground Coffee powder, Soluble Coffee powder, and Coffee chicory mixture	Moisture	FSSAI manual of methods of analysis of foods, Beverages & Sugar & Sugar Products, Manual No:4, Method No:1.2, 2015	0.50 % to 10.00 %
C.	Roasted & ground Coffee, Coffee chicory mixture	Aqueous Extract	FSSAI manual of methods of analysis of foods, Beverages & Sugar & Sugar Products, Manual No:4, Method No:1.7, 2015	20.00 % to 70.00 %

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D.	Roasted & ground Coffee, Coffee chicory mixture, instant coffee chicory mixture	Acid insoluble Ash	FSSAI manual of methods of analysis of foods, Beverages & Sugar & Sugar Products, Manual No:4, Method No:1.5, 2015	0.020 % to 1.500 %
E.	Roasted & ground Coffee, Soluble Coffee powder, and Coffee chicory mixture, Instant coffee	Total Ash	FSSAI manual of methods of analysis of foods, Beverages & Sugar & Sugar Products, Manual No:4, Method No:1.3, 2015	0.50 % to 15.00 %
13.	Tobacco and Tobacco Products			
A.	Pan Masala	Synthetic Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
14.	Canned & Processed Foods			
A.	Vegetables, Chips, Prepared Vegetable products	Synthetic Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
B.	Sugar boiled Confectionery, snacks, cakes	Synthetic Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
C.	Beverages, Canned Fish	Synthetic Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
15.	Beverages (Alcoholic/Non- alcoholic)			
A.	Synthetic/Fruit Beverages	Synthetic Colour	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
16.	Food Additives and Preservatives			
A.	Synthetic Vinegar & Brewed Vinegar	Acidity	FSSAI manual of methods of analysis of foods, Fruits & Vegetable Products Method No. 14.5:2016	1.00 % to 20.00 %

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		Test for Mineral Acid	FSSAI manual of methods of analysis of foods, Fruits & Vegetable Products Method No. 14.6:2016	Qualitative (Positive/Negative)
B.	Vinegar, Flavoring Agents	Synthetic color	RALE/FS(T)SOP-01.7/Issue No. 01/ date 01.04.2015	Qualitative (Present/Absent)
II.	WATER			
1.	Packaged Drinking water	pH value	IS 3025 (Part 11)-1983 (RA 2017)	3.0 to 10.0
		Chloride (as Cl ⁻)	IS 3025 (Part 32)-1988, (RA 2014)	3.0 mg/L to 200.0 mg/L
		Total dissolved solids	IS 3025 (Part 16)-1984, (RA 2017)	10.0 mg/L to 600.0 mg/L
		Alkalinity (as HCO ₃ ⁻)	IS 3025 (Part 23)-1986, (RA 2014)	4.0 mg/L to 500.0 mg/L
		Calcium as Ca	APHA (23 rd Edition) 3500 Ca:2017	2.0 mg/L to 100 mg/L
		Magnesium as Mg	APHA (23 rd Edition) 3500 Mg 2017 APHA (23 rd Edition) 2340 Hardness 2017	1.0 mg/L to 100 mg/L