

Laboratory Water and Food Analysis Laboratory, Marketing Godown Building,1st Floor, Tirumala Tirupati Devasthanams, Tirumala, Andhra Pradesh

Accreditation Standard ISO/IEC 17025: 2005

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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 AND AGRICULTURAL PRODUCTS			
1.	Cereals, Pulses and Cereal Products (Rice, Bengal Gram Dal, Dehusked Whole Black gram)	Foreign matter	Section 1.2 of FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.1 % to 5 %
		Inorganic Matter	Section 1.2 of FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.1 % to 5 %
		Organic Matter	Section 1.2 of FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.1 % to 5.0 %
		Admixture	IS 4333 (Part 1): 1996 (RA 2012)	0.15 % to 5.0 %
		Moisture content	Section 2.0 FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.1 % to 15 %
a.	Sujji	Total Ash (On dry basis)	Section 8.2 FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.1 % to 10 %
		Acid insoluble ash in HCl (On dry basis)	Section 8.3 FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.01 % to 5 %
		Alcoholic acidity (90% alc.) expresses as sulphuric acid	Section 8.5 FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.01 % to 5 %

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b.	Maida	Gluten content	Section 8.4 FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.1 % to 15 %
c.	Vermicelli	Nitrogen content	Section 8.7 FSSAI Manual of methods of Analysis of cereal and cereal products 2016	0.1% to 15 %
d.	Rice	Chalky grains	IS 4333 (Part 1): 1996 (RA 2012)	0.1% to 25 %
		Red grains	IS 4333 (Part 1): 1996 (RA 2012)	0.1% to 5 %
		Small Broken	IS 4333 (Part 1): 1996 (RA 2012)	0.1% to 25 %
		Other variety grains	IS 4333 (Part 1): 1996 (RA 2012)	0.1% to 10 %
		L B Ratio (Rice)	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 mm to 5 mm
e.	Bengal gram Dal	Slightly touched pulses	IS 4333 (Part 1): 1996 (RA 2012)	0.1 % to 25 %
		Green Grain	SOP: WFTTD/SOP-01, Issue No.: 11 Issue Date: 18/12/2017	0.1 % to 5 %
		Weevilled	IS 4333 (Part 1): 1996 (RA 2012)	0.1 % to 5 %
		Broken	IS 4333 (Part 1): 1996 (RA 2012)	0.1 % to 25 %
		Damaged or Discoloured grain	IS 4333 (Part 1): 1996 (RA 2012)	0.1 % to 5 %
		Fragments	IS 4333 (Part 1): 1996 (RA 2012)	0.15 % to 5 %
		Partially Husked	IS 4333 (Part 1): 1996 (RA 2012)	0.1 % to 5 %

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f.	Dehusked Whole Black gram	Immature & Shrivelled	IS 4333 (Part 1): 1996 (RA 2012)	0.1 % to 5 %
g.	Roasted Bengal gram dal	Other Edible Seeds	IS 4333 (Part 1): 1996 (RA 2012)	0.1 % to 5 %
2.	Herbs, Spices and condiments			
a.	Cardamom	Empty & Malformed capsules	IS 13446: 2009	0.1 % to 10 %
		Immature & Shrivelled	IS 13446: 2009	0.1 % to 10 %
		Blacks & Splits	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 10 %
		Sieve Test (8 mm sieve Passed)	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 20 %
		Extraneous matter	IS 13446: 2009	0.01 % to 10 %
		Weight in g per liter	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	1 g/L to 500 g/L
		Volatile Oil	Section 10.0 of FSSAI manual of methods of Analysis of Spices and condiments 2016	0.1 % to 20 %
		Insect damaged	IS 1797: 2017 for Spices and condiments	0.1 % to 10 %
b.	Mustard Seeds	Small atrophied seeds	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 10 %
c.	Black pepper	Light berries	Section 14.2 of FSSAI manual of methods of Analysis of Spices and condiments 2016	0.1 % to 20 %
		Insect damaged	IS 13446: 2009	0.1 % to 10 %
		Extraneous matter	IS 13446: 2009	0.01 % to 10 %

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		Test for Presence of the mineral Oil	Section 20.0 of FSSAI manual of methods of Analysis of Spices and condiments 2016	Qualitative
d.	Dry Chillies	Length	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	5 cm to 12 cm
		Damaged & Discolored pods	IS 1797: 2017	0.1 % to 10 %
		Pods without stalks	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 10 %
		Broken Chillies	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 10 %
e.	Coriander Seeds	blackened and insect bored seeds for coriander seeds	IS 1797: 2017	0.1 % to 10 %
		Loose and Split Seeds	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 10 %
		Foreign matter	IS 1797: 2017	0.1 % to 10 %
		Mould Infested, Live Insect & Musty odour	IS 2443: 2008 (RA 2009)	0.1 % to 10 %
d.	Cumin seeds	Other seeds	IS 1797: 2017	0.1 % to 10 %
e.	Turmeric powder	Moisture Content	Section 3.0 of FSSAI manual of methods of Analysis of Spices and condiments 2016	0.1 % to 15 %
		Total ash Content	Section 4.0 of FSSAI manual of methods of Analysis of Spices and condiments 2016	0.1 % to 15 %

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		Ash insoluble in HCl	Section 5.0 of FSSAI manual of methods of Analysis of Spices and condiments 2016	0.1 % to 10 %
		Added starch	Section 16.5 of FSSAI manual of methods of Analysis of Spices and condiments 2016	0.1 % to 70 %
		Test for Chromate	Section 16.6 of FSSAI manual of methods of Analysis of Spices and condiments 2016	Qualitative
f.	Chillies Powder	Crude Fibre	Section 11.0 of FSSAI manual of methods of Analysis of Spices and condiments 2016	0.1 % to 30 %
		Non - volatile ether extract (on dry basis)	Section 9.0 of FSSAI manual of methods of Analysis of Spices and condiments 2016	0.1 % to 30 %
3.	Nuts and Nut Products			
a.	Almonds	Insect infested, Weevilled	IS 4333 (Part1): 1996	0.1 % to 10.0 %
b.	Cashew splits	Moisture content	Section 4.1 of FSSAI manual of methods of Analysis of Fruit and Vegetable Products 2016	0.1 % to 15.0 %
		Broken Kernels	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 15.0 %
		Shrivelled kernels	IS 3579: 1966 (RA 2015)	0.1 % to 10 %
		Scorched kernels	IS 7750: 1975 (RA 2003)	0.1 % to 10 %
4.	Edible Oils and Fats	Butyro-Refractometer reading / Refractive Index at 40°C	Section 5.0 FSSAI Manual of Method of analysis of Oils and Fats 2016	1.3329 to 1.5699

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		Iodine value (Wijs method)	Section 12.0 FSSAI Manual of Method of analysis of Oils and Fats 2016	10 to 150
		Saponification value	Section 9.0 FSSAI Manual of Method of analysis of Oils and Fats 2016	100 to 300
		Unsaponifiable value	Section 10 FSSAI Manual of Method of analysis of Oils and Fats 2016	0.1 % to 1.5 %
		Acid value	Section 11.0 FSSAI Manual of Method of analysis of Oils and Fats 2016	0.01 % to 10 %
		Moisture and insoluble impurities	Section 3.0 FSSAI Manual of Method of analysis of Oils and Fats 2016	0.1 % to 10%
		Specific gravity	Section 4.0 FSSAI Manual of Method of analysis of Oils and Fats 2016	0.91 to 0.93
		Polensky Value	Section 13 FSSAI Manual of Method of analysis of Oils and Fats 2016	1 to 50
		FFA (as oleic acid)	Section 11.8 FSSAI Manual of Method of analysis of Oils and Fats 2016	0.01 % to 10 %
		Bellier Turbidity test	Section 14.0 FSSAI Manual of Method of analysis of Oils and Fats 2016	15°C to 22°C
5.	Coffee and Cocoa Products			
a.	Coffee powder	Moisture content	IS 2791: 1992 (RA 2009)	0.1 % to 10 %
		Total ash (on dry basis)	IS 2791: 1992 (RA 2009)	0.1 % to 15 %

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		Caffeine content (on dry basis)	Section 1.8 of FSSAI Manual of method of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar products & Confectionery product, 2015.	0.1 % to 20 %
		Solubility in boiling water	IS 2791: 1992 (RA 2009)	Qualitative
		Solubility in cold water at 16 ± 2°C	IS 2791: 1992 (RA 2009)	Qualitative
6.	Tea	Moisture content	Section No. 1.2 FSSAI Manual of method of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015	0.1 % to 15 %
		Total ash	Section No. 1.3 FSSAI Manual of method of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015	0.1 % to 10 %
		Acid insoluble ash	Section No. 1.5 FSSAI Manual of method of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015	0.1 % to 10 %
		Water soluble ash	Section No. 1.4 FSSAI Manual of method of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar	0.1 % to 30 %

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			Products & Confectionery Products, 2015.	
		Water extract	Section No. 1.7 FSSAI Manual of method of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015	10 % to 90 %
		Crude fiber	Section No. 5.8 FSSAI Manual of method of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015.	0.1 % to 20 %
		Alkalinity of water soluble ash expressed as KOH	Section No. 5.7 FSSAI Manual of method of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015	0.01 % to 1.0 %
		Test for added colour	Section 6.4.2 Manual method of analysis of adulterants and contaminates in food, ICMR, 1997	Qualitative
7.	Vegetable and Vegetable Products	Moisture content	Section 4.1 of FSSAI manual of methods of Analysis of Fruits and Vegetable Products, 2016	0.1 % to 20 %
		Seed content	SOP: WFTTD/SOP-01, Issue No.1 Issue Date: 18/12/2017	0.1 % to 10 %

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		Foreign matter	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 10 %
		Acid insoluble ash	Section 5.3 of FSSAI manual of methods of Analysis of Fruits and Vegetable Products 2016	0.1 % to 10 %
8.	Fruit & Fruit Products			
a.	Dried Grapes	Moisture content	Section 4.1 of FSSAI manual methods of Analysis of Food Fruit and Vegetable Products 2016	0.1 % to 15.0 %
		Pieces of Stems	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	1 to 150
		Capstems	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	1 to150
		Immature & Under developed berries	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18-12-2017	0.1 % to 15 %
		Damaged berries	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	0.1 % to 15 %
		Insect damaged	SOP: WFTTD/SOP-01, Issue No.1 1 Effective date on 18/12/2017	1 % to 50 %
		Size	SOP: WFTTD/SOP-01, Issue No.: 1 Issue Date: 18/12/2017	(1800 to 2000) Medium

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9.	Milk and Dairy Products			
a.	Ghee	Moisture	Section 13.2 FSSAI Manual of Method of analysis of Milk and Milk Products,2016	0.1 % to 8.0 %
		Butyro Refractometer Reading at 40°C	Section 13.3 FSSAI Manual of Method of analysis of Milk and Milk Products,2016	1.30 to 1.48
		Free Fatty Acids (as Oleic acid)	Section 13.4 FSSAI Manual of Method of analysis of Milk and Milk Products,2016	0.1 % to 5 %
		R. M. Value	Section 13.5 FSSAI Manual of Method of analysis of Milk and Milk Products,2016	1 to 50
		Baudouin Test	Section 13.6 FSSAI Manual of Method of analysis of Milk and Milk Products, 2016	Qualitative
		Test for Mineral Oil	Section 13.7 FSSAI Manual of Method of analysis of Milk and Milk Products,2016	Qualitative
		Test for foreign Colours	Methods of Analysis of AGMARK Products, AGMARK Manual, 1988, "Detection of Colouring Matters"	Qualitative
		Melting Point	Section 8.0 FSSAI Manual of Method of analysis of Oils and Fats	1°C to -50°C
10.	Sugar and Sugar Products			
a.	Sugar	Moisture content	Section 7.2 of FSSAI Manual of Methods of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory),	0.1 % to 10.0 %

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			Sugar and Sugar Products & Confectionery Products, 2015	
		Sucrose Content	Section 7.4 of FSSAI Manual of Methods of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015	0.1 % to 80 %
		Extraneous matter	Section 9.2 of FSSAI Manual of Methods of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015.	0.01 % to 2 .0 %
b.	Sugar and Sugar Products	Sulphur Dioxide content	Section 7.5 of FSSAI Manual of Methods of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015	10 mg/kg to 1000 mg/kg
		Iron fillings	Section 5.9 of FSSAI Manual of Methods of Analysis of Beverages (Coffee, Tea, Cocoa, Chicory), Sugar and Sugar Products & Confectionery Products, 2015	Qualitative