

Laboratory

LTC Lab - Testing Services, LTC Commercial Company (P) Ltd.,
156, Nawalgarh House, Sansar Chandra Road, Jaipur, Rajasthan

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7131 (in lieu of T-2913)

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Validity 05.04.2018 to 04.04.2020

Last Amended on 03.11.2018

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			
A.	Spice & Condiments			
1.	Coriander Whole, Cumin Seed, Turmeric Whole, Chilli Whole, Black Pepper	Moisture	IS 1797	0.5 to 10 g/100 g
		Volatile oil	IS 1797	0.1 to 10 ml/100 g
2.	Coriander Whole	Coriander Splits	IS 1797	0.5 to 10 g/100 g
		Damaged, Discolored	IS 1797	0.5 to 10 g/100 g
		Shriveled Seed, immature	IS 1797	0.5 to 10 g/100 g
		Foreign Matter	IS 1797	0.5 to 10 g/100 g
		Weevilled Seed	IS 1797	0.1 to 5 g/100 g
3.	Cumin Seed	Foreign matter/ Edible Seeds (Other Than Cumin)	IS 1797	0.5 to 10 g/100 g
4.	Turmeric Whole	Fingers that are broken/ Those Less Than 15mm	IS 3576	0.5 to 100 mm
		Extraneous Matter	IS 1797	0.1 to 15 g/100 g
		Defective Rhizomes (Damage Due To Moisture And Over Boiling)	IS 3576	0.1 to 15 g/100 g
5.	Chilli Whole	Foreign Matter	IS 1797	1.0 to 10 g/100 g
		Broken Chillies	IS 2322	1.0 to 40 g/100 g
		Damaged & Discolored pods/Black Stained & Unripe Pods	IS 2322	1.0 to 50 g/100 g
		Length Of Chilli Whole	IS 2322	2 cm to 15 cm

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		Colour	IS 2322	Qualitative (Present/ Absent)
6.	Black Pepper	Light Pepper	IS 1797	0.1 to 15 g/100 g
		Other Matter	IS 1797	0.1 to 15 g/100 g
		Moisture	IS 1797	0.1 to 30 g/100 g
7.	Coriander Powder, Chilli Powder, Turmeric powder	Total Ash (Dry Basis)	IS 1797	0.1 to 10 g/100 g
		Acid Insoluble Ash (Dry Basis)	IS 1797	0.02 to 2 g/ 100 g
		Crude Fiber (Dry Basis)	IS 1797	1 to 40/100 g
8.	Turmeric powder	Lead Chromate Test	IS 3576	Qualitative (Present/ Absent)
B.	OIL SEEDS			
1.	RM Seed/Mustard Seed, Soybean, Castor Seed	Moisture	IS 3579	1.0 to 10 g/100 g
		Foreign Matter	IS 3579	0.1 to 10 g/ 100 g
2.	RM Seed (Mustard Seed), Castor Seed	Oil Content (Dry Basis)	IS 3579	30.0 to 60 g/ 100 g
3.	RM Seed	Free Fatty Acid As oleic Acid	IS 548	0.1 to 2 g/ 100
4.	Soybean Whole	Damaged Seed	IS 3579	1.0 to 20 g/ 100 g
C.	Oil & Fats	Moisture	IS 548 (Part 1)	0.01 to 20 g/ 100 g
		Saponification Value	IS 548 (Part 1)	100 to 250
		Refractive Index At 40° C	IS 548 (Part 1)	1.325 to 1.700
		Iodine Value	IS 548 (Part 1)	2 to 200
		Unsaponification Value	IS 548 (Part 1)	0.1 to 1 g/ 100 g
		Acid Value	IS 548 (Part 1)	0.1 to 10
		Free Fatty Acid As Oleic Acid	IS 548 (Part 1)	0.1 to 10 g/ 100 g
		Peroxide value	IS 548 (Part 1)	1.1 to 20 meq/1000 g
Insoluble Impurities	IS 548 (Part 1)	0.1 to 10 g/100 g		

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		Specific Gravity At 25/20° C	IS 548 (Part 1)	0.6 to 1.4
		Bedouin Test	IS 548 (Part 2)	Qualitative (Positive/Negative)
D.	Food Grains			
1.	Wheat, Barley, Chana, Maize, Bajra	Moisture	IS 4333 (Part II)	1.0 to 20 g/100 g
		Foreign Matter (Organic & Inorganic)	IS 4333 (Part I)	1.0 to 20 g/100 g
		Broken grains	IS 4333 (Part I)	1.0 to 20 g/100 g
		Shrunken/ Shriveled/ Immature	IS 4333 (Part I)	1.0 to 20 g/100 g
		Weevilled Seed	IS 4333 (Part I)	0.1 to 15 g/100 g
		Damaged Seed/ Damaged Kernel	IS 4333 (Part I)	1.0 to 20 g/100 g
2.	Wheat	Test Weight (Hectoliter Weight)	IS 4333 (Part III)	70 to 90 Kg/ HL
3.	Barley	Total Count Per Thousand Kernel (TCW)	IS 4333 (Part IV)	30 to 50 g/ 1000 Kernel
4.	Wheat Flour/ Atta	Moisture	IS 1155	5 to 15 g/100 g
		Total Ash (Dry Basis)	IS 1155	1 to 2.5 g/100 g
		Acid Insoluble Ash (in 5NHCL)	IS 1155	0.02 to 2 g/100 g
		Protein, NX5.7 (Dry Basis)	IS 7219	5 to 15 g/100 g
		Gluten (Dry Basis)	IS 1155	1 to 10 g/100 g
		Alcoholic Acidity	IS 1155	0.01 to 0.15 g/100 g
		Crude Fiber (Dry Basis)	IS 10226 (Part 1)	0.5 to 2.5 g/100 g
		Carbohydrates	IS 1656	40 to 90 %
	Fat Content	IS 1656	0.1 to 5 g/100 g	
5.	Maida, Besan	Moisture	IS 1009	1 to 10 g/100 g
		Total Ash (Dry Basis)	IS 1009	0.1 to 2 g/100 g
		Acid Insoluble Ash (As Basis)	IS 1009	0.01 to 2 g/100 g

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		Alcoholic Acidity)	IS 1009	0.05 to 0.5 g/100 g
		Protein, NX5.7 (Dry Basis)	IS 7219	5.0 to 20 g/100 g
		Gluten(Dry basis)	IS 1009	1.0 to 15 g/100 g
		Crude Fiber (Dry Basis)	IS 10226 (Part 1)	0.5 to 2.5 g/100 g
		Carbohydrates	IS 1656	40 to 90 %
		Fat	IS 1656	0.1 to 5 g/100 g
6.	Besan	Protein (As Dry Basis)	IS 7219	10 to 25 g/100 g
		Crude Fiber(Dry Basis)	IS 10226 (Part 1)	1 to 10 g/100 g
		Carbohydrate	IS 1656	60 to 90 %
		Fat	IS 1656	0.1 to 5 g/100 g
7.	Guar Seed	Moisture	IS 7437	2 to 15 g/100 g
		Whitish Seed	IS 2813	2.0 to 10 g/100 g
		Foreign Matter	IS 2813	0.1 to 10 g/100 g
		Damaged Seed	IS 2813	0.1 to 10 g/100 g
8.	Guar Gum	Moisture	IS 7437	2 to 15 g/100 g
		Foreign Particles(All Non Gum Particles)	IS 2813	0.1 to 5 g/100 g
		Particles Size (Pass Through 14 Mesh/20 Mesh)	IS 2813	0.01 to 10 g/100 g
		Particles Size (Pass Through 14 Mesh/20 Mesh)	IS 2813	0.01 to 10 g/100 g
		Undehusked Splits	IS 2813	0.1 to 20 g/100 g
		Protein, NX5.7 (Dry Basis)	IS 7437	1.0 to 15 g/100 g
		Residue Insoluble In Acid	IS 3988	0.5 to 7 g/100 g
9.	Sugar	Colour	IS 15279	50 to 250 ICUMSA
		Extraneous Matter	IS 15279	0.01 to 2 g/100 g
		Grain Size Retained On Sieves	IS 498	60 to 100%
		Moisture	IS 15279	0.01 to 5 g/100 g

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10.	Gur	Moisture	IS 15279	1 to 10 g/100 g
		Sulphur dioxide (on dry basis) percent by mass	IS 15279	50 to 90 mg/ kg
II.	ANIMAL FOOD & FEEDS			
1.	Oil Seed Meal cake	Crude Fiber(Dry Basis)	IS 7874(Part 1)	4.0 to 35 g/ 100 g
		Oil content(Dry Basis)	IS 3579	0.05 to 10 g/ 100 g
		Protein, NX6.25 (Dry Basis)	IS 7874(Part 1)	0.25 to 50 g/ 100 g
		Total Ash(Dry Basis)	IS 7874(Part 1)	0.25 to 10 g/ 100 g
		Moisture	IS 7874(Part 1)	5.0 to 15 g/ 100 g
III.	WATER			
1.	Water (Drinking water & Ground Water)	PH	IS 3025(Part 11)	4 to 9
		Conductivity at 25°C	IS 3025(Part 14)	100 to 15000 µs/ cm
		Chloride As Cl	IS 3025(Part 32)	0.5 mg/l to 1000 mg/l
		Calcium As Ca	IS 3025(Part 40)	1.0 to 100 mg/l
		Potassium As K	IS 3025(Part 45)	0.01 to 10 mg/l
IV.	ORES & MINERALS			
1.	Soil	PH	IS 2720 (Part 26)	4 to 9
		Electrical Conductivity	IS 14767	0.01 ds/m to 100 ds/m
		Organic Carbon	IS 2720 (Part 22)	0.01 to 1.0%
		K ₂ O	A Method Manual of Soil Plant Water Analysis by IARI, New Delhi (Page No.1 to 93), Amend-2011	100 to 250 kg/ha
		Phosphorous As P ₂ O ₅	IS 5305	10 to 56 kg/ha

Ashutosh D. Tatwawadi
Convenor

Battal Singh
Program Manager

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		Sulfur (S)	LTCCCPL/WI/5.4.2/017 (ICP-OES) Issue date 02.09.2018	0.10 to 200 mg/kg
		Zinc (Zn)	LTCCCPL/WI/5.4.2/017 (ICP-OES) Issue date 02.09.2018	0.10 to 200 mg/kg
		Manganese (Mn)	LTCCCPL/WI/5.4.2/017 (ICP-OES) Issue date 02.09.2018	0.10 to 200 mg/kg
		Iron (Fe)	LTCCCPL/WI/5.4.2/017 (ICP-OES) Issue date 02.09.2018	0.10 to 200 mg/kg
		Copper (Cu)	LTCCCPL/WI/5.4.2/017 (ICP-OES) Issue date 02.09.2018	0.10 to 100 mg/kg
		Boron (B)	LTCCCPL/WI/5.4.2/017 (ICP-OES) Issue date 02.09.2018	0.10 to 100 mg/kg

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