

Laboratory Cargo Inspectors & Superintendence Co. Pvt. Ltd., Kasa Industrial Park, Unit No. PEB-II, 1st Floor, Vill. & P.O. Duila, Jalaradhar, Andul Road, Nimtala, Sankrail, Dist. Howrah, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7572

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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.	WATER			
1.	Drinking Water, Ground Water, Swimming Pool Water, Others (Water for Processed Food)	Colour	APHA 23rd Edn., 2017, 2120 B	1 Hz to 500 Hz
		Odour	IS 3025 (Part 5): 1983 (RA 2017)	Qualitative
		pH Value	APHA 23rd Edn., 2017, 4500-H+A	1 to 14
		Taste	IS 3025 (Part 7): 1984 (RA 2017)	Qualitative
		Turbidity	APHA 23rd Edn., 2017, 2130 B	1 NTU to 200 NTU
		Total Dissolved Solids	APHA 23rd Edn., 2017, 2540 C	10 mg/L to 2000 mg/L
		Nitrate	APHA 23rd Edn., 2017, 4500- NO ₃ ⁻ B	0.5 mg/L to 10 mg/L
		Chloride	APHA 23rd Edn., 2017, 4500- Cl ⁻ B	5 mg/L to 1000 mg/L
		Magnesium	APHA 23rd Edn., 2017, 3500 Mg-B	1.0 mg/L to 200 mg/L
		Fluoride	APHA 23rd Edn., 2017, 4500- F ⁻ C	0.1 mg/L to 20.0 mg/L
		Total Hardness as CaCO ₃	APHA 23rd Edn., 2017, 2340 C	4.0 mg/L to 800 mg/L
	Alkalinity as CaCO ₃	APHA 23rd Edn., 2017, 2320 B	5.0 mg/L to 800 mg/L	
	Sulfate	EPA 9038	10 mg/L to 60 mg/L	
	Calcium as Ca	APHA 23rd Edn., 2017, 3500- Ca B	4.0 mg/L to 400 mg/L	

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		Residual free chlorine	CISCO/SOP/CEM/001 Issue No.01, Issue Date: 05.12.2017 Ref IS 3025 (Part 26): 1986 (RA-2014) & Journal of AOAC International (Sanyal & Laha), Vol-77, No.5, 1994	0.1 mg/L to 1.6 mg/L
		Sulphide	APHA 23rd Edn., 2017, 4500- S ²⁻ D & F	0.025 mg/L to 0.2 mg/L
		Cyanide	APHA 23rd Edn., 2017, 4500- CN F	0.01 mg/L to 20.0 mg/L
		Hexavalent Chromium	APHA 23rd Edn., 2017, 3500- Cr-B	0.05 mg/L to 1.0 mg/L
		Total Solids	APHA 23rd Edn., 2017, 2540 B	10 mg/L to 2000 mg/L
		Nitrite as NO ₂	APHA 23rd Edn., 2017, 4500- NO ₂ B	0.01 mg/L to 0.2 mg/L
		Potassium as K	APHA 23rd Edn., 2017, 3500- K B	1.0 mg/L to 100.0 mg/L
		Sodium as Na	APHA 23rd Edn., 2017, 3500- Na B	1.0 mg/L to 100.0 mg/L
		Electro-Conductivity	APHA 23rd Edn., 2017, 2510 B	1.0 µS/cm to 200 µS/cm 0.2 mS/cm to 200 mS/cm
		Phosphate	APHA 23rd Edn., 2017, 4500- P D	0.05 mg/L to 0.5 mg/L
		Phenolic compounds as Phenol	APHA 23rd Edn., 2017, 5530 C	0.005 mg/L to 0.040 mg/L
		Ammonia-Nitrogen	IS 3025 (Part 34): 1988 (RA 2014)	0.125 mg/L to 4.0 mg/L

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II.	RESIDUES IN WATER			
1.	Trace Metal Elements in Drinking Water, Ground Water, Swimming Pool Water, Others (Processed Food Water)	Iron as Fe	CISCO/SOP/CEM/002 Issue No.01, Issue Date: 05.12.2017 Ref: FSSAI Manual, Clause III of Manual of Methods of Analysis of Foods (Water)	0.15 mg/L to 1.5 mg/L
		Lead as Pb		0.006 mg/L to 0.1 mg/L
		Barium as Ba		0.0509 mg/L to 0.5 mg/L
		Aluminium as Al		0.015 mg/L to 0.3 mg/L
		Zinc as Zn		0.1045 mg/L to 20 mg/L
		Chromium as Cr		0.014 mg/L to 0.3 mg/L
		Arsenic as As		0.002 mg/L to 0.2 mg/L
		Silver as Ag		0.0466 mg/L to 2.0 mg/L
		Mercury as Hg		0.0004 mg/L to 0.005 mg/L
		Manganese as Mn		0.0124 mg/L to 0.3 mg/L
		Nickel as Ni		0.0052 mg/L to 0.2 mg/L
		Selenium as Se		0.00053 mg/L to 0.05 mg/L
		Molybdenum as Mo		0.01424 mg/L to 0.3 mg/L
	Cadmium as Cd	0.00132 mg/L to 0.05 mg/L		
	Copper as Cu	0.01432 mg/L to 0.3 mg/L		
III.	FOOD & AGRICULTURAL PRODUCTS			
1.	Edible Oils & Fats (Mustard Oil, Cotton Seed Oil, Sesame Oil, Palm Oil, Soyabean Oil, Palmolein Oil, Palm Kernel Oil, Refined Vegetable Oil, Sunflower seed Oil & All Others Oil)	Moisture and Volatile matter content	IS 548 (Part 1): 1964 (RA 2015), Sl. No. 5.1	0.01 g/100g to 10.0 g/100g
		Insoluble Impurities	IS 548 (Part 1): 1964 (RA 2015), Sl. No. 6	0.01 g/100g to 5.0 g/100g
		BR Reading at 40° C	IS 548 (Part 1): 1964 (RA 2015), Sl. No. 10.4	25.0 to 83.0
		Refractive index at 40° C	IS 548 (Part 1): 1964 (RA 2015), Sl. No. 10	1.3 to 1.6
		Acid Value	IS 548 (Part 1): 1964 (RA 2015), Sl. No. 7	0.1 to 10.0
		Free Fatty Acid as Oleic acid	IS 548 (Part 1): 1964 (RA 2015), Sl. No. 7	0.05 g/100g to 10.0 g/100g

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		Peroxide Value	IS 548 (Part 1): 1964 (RA 2015) Sl. No. 20	0.1 meq/1000 g to 50.0 meq/1000 g
		Iodine Value	IS 548 (Part 1): 1964 (RA 2015) Sl. No. 14	3.0 to 250.0
		Saponification Value	IS 548 (Part 1): 1964 (RA 2015) Sl. No. 15	80.0 to 300.0
		Unsaponifiable matter	IS 548 (Part 1): 1964 (RA 2015) Sl. No. 8	0.1 g/100g to 8.0 g/100g
		Specific gravity	IS 548 (Part 1): 1964 (RA 2015) Sl. No. 11.3	0.5 to 1.0
		Moisture	FSSAI-2016, Cereals & Cereals Products, Sl. No. 2.0	1 g/100g to 20 g/100g
		Ash	FSSAI-2016, Cereals & Cereals Products, Sl. No. 8.2	0.4 g/100g to 10 g/100g
		Acid Insoluble ash	FSSAI-2016, Cereals & Cereals Products, Sl. No. 8.3	0.01 g/100g to 0.5 g/100g
2.	Cereals, Pulses & Cereal Products (Atta, Maida, Besan, Suji, Barley, Maize, Rice, Food Grains, Chana, Dal, Soya Flour, Corn Flour, Besan, Soya Chunks, Sattu)	Foreign Matter	FSSAI-2016, Cereals & Cereals Products, SI No. 1.2	0.01 g/100g to 25 g/100g
Damaged grains		CISCO/SOP/CEM/003 Issue No.01, Issue Date: 05.12.2017 Ref: FSSAI-2016, Cereal & Cereal Products & The FS & S , Reg-2011	0.01 g/100g to 25 g/100g	
Insect infestation / Weevilled grains		CISCO/SOP/CEM/004 Issue No.01, Issue Date: 05.12.2017 Ref: FSSAI-2016, Cereal & Cereal Products & The FS & S , Reg-2011	0.01 g/100g to 25 g/100g	

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		Other edible grains	CISCO/SOP/CEM/005 Issue No.01, Issue Date: 05.12.2017 Ref: FSSAI-2016, Cereal & Cereal Products & The FS & S , Reg-2011	0.01 g/100g to 25 g/100g
		Insect	CISCO/SOP/CEM/006 Issue No.01, Issue Date: 05.12.2017 Ref: FSSAI-2016, Cereal & Cereal Products & The FS & S , Reg-2011	Qualitative
		Alcoholic Acidity	FSSAI-2016, Cereals & Cereals Products, SI No. 8.5	0.014 g/100g to 5 g/100g
		Crude Fibre	FSSAI-2016, Cereals & Cereals Products, SI No. 8.8	0.2 g/100g to 5 g/100g
		Acidity of extracted Fat	CISCO/SOP/CEM/007 Issue No.01, Issue Date: 05.12.2017 Ref: FSSAI-2016, Cereal & Cereal Products, SI. No. 14.5	0.1 g/100g to 20 g/100g
		Gluten	FSSAI-2016, Cereals & Cereals Products, SI No. 8.4	0.2 g/100g to 20 g/100g
		Energy	CISCO/SOP/CEM/008 Issue No.01, Issue Date: 05.12.2017 Ref: FAO, ISSN 0254-4725;P-77, Chapter-3	2 kCal/100g to 900 kCal/100g
		Protein	IS 7219:1973 (RA 2010), Amendment- 2016	1 g/100g to 35 g/100g

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		Fat	CISCO/SOP/CEM/009 Issue No.01, Issue Date: 05.12.2017 Ref: IS 4684:1975 (RA 2015), Appendix-F	0.5 g/100g to 25 g/100g
		Carbohydrate	IS 1656:2007 (RA 2012), Amendment- 2016, Annex-C	5 g/100g to 60 g/100g
3.	Tea	Total Ash	IS 13854:1994 (RA 2009) ISO 1575:1987	1.0 g/100g to 15.0 g/100g
		Water soluble Ash of Total Ash	IS 13855:1993 (RA 2009) ISO 1576:1988	20.0 g/100g to 80.0 g/100g
		Acid insoluble Ash	IS 13857:1993, (RA 2009) ISO 1577:1987	0.01 g/100g to 5.0 g/100g
		Alkalinity of Water Soluble ash as KOH	IS 13856:1993 (RA 2009) ISO 1578:1975	0.5 g/100g to 6.0 g/100g
		Water extract	IS 13862:1999 (RA 2009) ISO 9768:1994	15.0 g/100g to 70.0 g/100g
		Crude fibre	IS 16041:2012 ISO 15598:1999	2.0 g/100g to 25.0 g/100g
		Determination of loss in mass at 103°C	IS 13853:1994 (RA 2009) ISO 1573:1980	1.0 g/100g to 20.0 g/100g
		Iron filings	CISCO/SOP/CEM/010 Issue No.01, Issue Date: 05.12.2017 Ref. IS 3633:2003 (RA 2008), Annex-C	20.0 mg/kg to 300.0 mg/kg
		Poly Phenol as Gallic acid	ISO 14502-1:2005(E)	0.80 g/100g to 30.0 g/100g
		Energy	CISCO/SOP/CEM/011 Issue No.01, Issue Date: 05.12.2017 Ref.: UNFAO-2003, Chapter-3, Page No-18 &	300 kCal/100g to 500 kCal/100g

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		Protein	Annex-III, Page No.57,79 IS: 7219- 1973, RA- 2010, Amendment- 2016	1 g/100g to 30 g/100g
		Fat	AOAC 20th Edn 2016, 925.18	0.01 g/100g to 15.0 g/100g
		Carbohydrate	IS: 1656- 2007, RA- 2012, Amendment- 2015, Annex-C	19 g/100g to 97 g/100g
4.	Coffee & Cocoa Products			
a.	Coffee	Moisture	FSSAI-2015, Lab Manual-4, SI.No. 1.2	0.5 g/100g to 20.0 g/100g
		Total ash	FSSAI-2015, Lab Manual-4, SI.No. 1.3	1 g/100g to 20 g/100g
		Acid insoluble Ash	FSSAI-2015, Lab Manual 4, SI No. 2.4, Clause No. 1.5	0.05 g/100g to 20 g/100g
		Water Soluble Ash	FSSAI-2015, Lab Manual-4, SI.No1.4	1 g/100g to 95 g/100g
		Aqueous Extract	FSSAI-2015, Lab Manual 4, SI No.1.7	1 g/100g to 95 g/100g
		pH	CISCO/SOP/CEM/013 Issue No.01, Issue Date: 05.12.2017 Ref.: GOST R 51881:2002	4 to 7
		Bulk Density	IS:16033-2012	0.1 gm/ml to 2 gm/ml
		Alkalinity of water Soluble ash	FSSAI-2015, Lab Manual-4, SI.No1.6	0.1 g/100g to 10 g/100g
		Solubility in boiling water	FSSAI-2015, Lab Manual-4, SI.No3.4	Qualitative
		Solubility in cold water (16±2 °C)	IS: 2791-1992, RA-2009, Amendment- 2015, Annex E-1.2	Qualitative

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IV.	RESIDUES IN FOOD PRODUCTS			
1.	Trace Metal Elements in Tea	Lead as Pb	CISCO/SOP/CEM/012 Issue No.01, Issue Date: 05.12.2017 Ref.: FSSAI Manual, Manual of Methods of Analysis of Foods (Metals)	0.05 mg/kg to 20.0 mg/kg
		Copper as Cu		0.5 mg/kg to 20.0 mg/kg
		Arsenic as As		0.06 mg/kg to 5.0 mg/kg
		Cadmium as Cd		0.05 mg/kg to 5.0 mg/kg
		Zinc as Zn		0.5 mg/kg to 100.0 mg/kg
		Mercury as Hg		0.03 mg/kg to 5.0 mg/kg
2.	Trace Metal Elements in Coffee	Lead as Pb	CISCO/SOP/CEM/014 Issue No.01, Issue Date: 05.12.2017 Ref.: FSSAI Manual, Manual of Methods of Analysis of Foods (Metals)	0.05 mg/kg to 20.0 mg/kg
		Copper as Cu		0.5 mg/kg to 20.0 mg/kg
		Arsenic as As		0.06 mg/kg to 5.0 mg/kg
		Zinc as Zn		0.5 mg/kg to 100 mg/kg
		Cadmium as Cd		0.05 mg/kg to 5.0 mg/kg
		Mercury as Hg		0.03 mg/kg to 5.0 mg/kg
V.	SOLID FUELS			
1.	Coal & Coke	Total Moisture	IS 1350 (Part 1): 1984 (RA 2013)	1.0 g/100g to 42 g/100g
		Moisture		1.0 g/100g to 42 g/100g
		Ash		1.0 g/100g to 72 g/100g
		Volatile Matter		1.0 g/100g to 65 g/100g
		Fixed Carbon		1.0 g/100g to 97.5 g/100g
		Gross Calorific Value (GCV)		IS 1350 (Part 2): 2017