

Laboratory	Robust Materials Technology Pvt. Ltd., No. 94, 2nd Floor, Thirumala Complex, Nagarabhavi Main Road, NGEF Layout, Nagarabhavi, Bengaluru, Karnataka		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	11.09.2015
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	FOODS & AGRICULTURAL PRODUCTS			
1.	Tea	Water Soluble Extracts	AOAC (19 th Edition) 30.1.34 (920.104)	1 % to 50 %
		Total Ash	AOAC (19 th Edition) 30.1.25 (920.100)	0.1 % to 10 %
		Alkalinity of Water Soluble Ash	AOAC (19 th Edition) 44.1.05 (900.02)	0.1 % to 3 %
		Water Soluble Ash	AOAC (19 th Edition) 44.1.05 (900.02)	20 % to 80 %
		Acid Insoluble Ash	AOAC (19 th Edition) 43.1.05 (941.12)	0.01 % to 3 %
		Crude Fibre	IS 10226 (Part 1): 1982, (RA 2005)	0.1 % to 20 %
2.	Milk and Dairy Products	Total Solids	AOAC (19 th Edition), 33.2.44 (990.20), 33.8.03 (941.08)	10 % to 99 %
		Total Ash	AOAC (19 th Edition) 33.2.10 (945.46)	0.1 % to 10 %
		Total Fat	AOAC (19 th Edition) 33.2.26 (989.05)	0.1 % to 40 %
		Total Protein	AOAC (19 th Edition) 33.2.11 (991.20)	0.1 % to 30 %
		Carbohydrates	AOAC (19 th Edition) 50.1.16 (986.25)	1 % to 70 %

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Convenor

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Program Manager

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	Milk and Dairy Products	Solids Not Fat	AOAC (19 th Edition), 33.2.45 (990.21)	5 % to 98 %
3.	Spices and Condiments	Total Ash	AOAC (19 th Edition), 43.1.05 (941.12)	0.1 % to 10 %
		Acid Insoluble Ash	AOAC (19 th Edition), 43.1.05 (941.12)	0.01 % to 5 %
		Crude Fibre	IS 10226 (Part 1): 1982 (RA 2005)	0.1 % to 20 %
4.	Animal Feed	Moisture	AOAC (19 th Edition) 4.1.06 (930.15), 4.1.04 (925.04)	0.1 % to 20 %
		Total Ash	AOAC (19 th Edition) 4.1.10 (942.05)	0.1 % to 10 %
		Acid Insoluble Ash	IS 7874 (Part 2): 1975 (RA 2004)	0.01 to 3 %
		Total Fat	AOAC (19 th Edition) 4.5.01 (920.39), 4.5.02 (954.02)	0.1 % to 20 %
		Protein	AOAC (19 th Edition) 4.2.09 (984.13)	0.1 % to 30%
		Crude Fibre	IS 10226 (Part 1): 1982 (RA 2005)	0.1 % to 20 %
		Carbohydrates	AOAC (19 th Edition) 50.1.16 (986.25)	1 % to 70 %
5.	Cereal Based Foods	Loss On Drying (Or) Moisture	AOAC (19 th Edition) 32.1.03 (925.10)	0.1 % to 15 %

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	Cereal Based Foods	Total Ash	AOAC (19 th Edition) 32.1.05 (923.03)	0.1 % to 10 %
		Crude Fibre	IS 10226 (Part 1): 1982, (RA 2005)	0.1 % to 20 %
		Crude Fat Or Ether Extract	AOAC (19 th Edition) 4.5.01 (920.39)	0.1 % to 30 %
		Total Protein	AOAC (19 th Edition) 32.1.22 (920.87)	0.1 % to 30 %
6.	Oils & Fats	Saponification Value	AOAC (19 th Edition) 41.1.18 (920.160)	100 to 250
		Unsaponifiable Matter	AOAC (19 th Edition) 41.1.39 (933.08)	0.1 % to 5 %
		FFA as Oleic Acid (Or) Acid Value	AOAC (19 th Edition) 41.1.21 (940.28)	0.1 % to 10 %
7.	Animal Feed & Feed Stuff	Sodium	AOAC (19 th Edition) 4.8.02 (968.08)	500 mg/kg to 10000 mg/kg
		Potassium	AOAC (19 th Edition) 4.8.02 (968.08)	100 mg/kg to 10000 mg/kg
		Calcium	AOAC (19 th Edition) 4.8.02 (968.08)	100 mg/kg to 10000 mg/kg
		Iron (AAS)	AOAC (19 th Edition) 9.1.09 (999.11)	100 mg/kg to 10000 mg/kg

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Animal Feed & Feed Stuff	Copper (AAS)	AOAC (19 th Edition) 9.1.09 (999.11)	50 mg/kg to 10000 mg/kg
		Zinc (AAS)	AOAC (19 th Edition) 9.1.09 (999.11)	50 mg/kg to 10000 mg/kg
		Manganese (AAS)	AOAC (19 th Edition) 9.1.09 (999.11)	50 mg/kg to 10000 mg/kg
		Magnesium (AAS)	AOAC (19 th Edition) 4.8.02 (968.08)	50 mg/kg to 10000 mg/kg
8.	Fruit And Fruit Products	Total Ash	AOAC (19 th Edition) 37.1.18 (940.26)	0.01 % to 20 %
		Titrateable Acidity as Tartaric Acid, Citric Acid Monohydrate, Oxalic Acid, Malic Acid, Lactic Acid, Acetic Acid, Sulphuric Acid	AOAC (19 th Edition) 37.1.37 (942.15)	0.1 % to 20 %
II.	WATER			
1.	Surface and Ground Water	Color	IS 3025 (Part 4): 1983 (RA 2012)	2 Hazen to 75 Hazen
		Odour	IS 3025 (Part 5): 1983 (RA 2012)	Qualitative (Agreeable/Disagreeable)
		pH	IS 3025 (Part 11): 1983 (RA 2012)	1 to 14
		Turbidity	IS 3025 (Part 10): 1984 (RA 2012)	0.1 NTU to 100 NTU
		Chloride (as Cl)	IS 3025 (Part 32): 1988 (RA 2009)	1.0 mg/l to 5000 mg/l

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	Surface and Ground Water	Total Hardness as CaCO_3	IS 3025 (Part 21): 2009	1.0 mg/l to 2000 mg/l
		Calcium (as Ca)	IS 3025 (Part 40): 1991 (RA 2009)	1.0 mg/l to 1000 mg/l
		Magnesium (as Mg)	IS 3025 (Part 46): 1994 (RA 2009)	1.0 mg/l to 1000 mg/l
		Total Dissolved Solids	IS 3025 (Part 16): 1984 (RA 2009)	1 mg/l to 10,000 mg/l
		Sulphate (as SO_4)	IS 3025 (Part 24): 1986 (RA 2009)	1 mg/l to 1000 mg/l
		Fluoride (as F)	IS 3025 (Part 60): 2008	0.1 mg/l to 100 mg/l
		Residual, Free Chlorine	IS 3025 (Part 26): 1986 (RA 2009)	1.0 mg/l to 100 mg/l
		Total Alkalinity (as CaCO_3)	IS 3025 (Part 23): 1986 (RA 2009)	1.0 mg/l to 2000 mg/l
		Nitrate as (NO_3)	APHA (22 nd Edition) 4500- NO_3 -B: 2012	1.0 mg/l to 100 mg/l
		Copper (as Cu)	APHA (22 nd Edition) 3111-B: 2012	0.5 mg/l to 10 mg/l
		Iron (as Fe)	APHA (22 nd Edition) 3111-B: 2012	0.5 mg/l to 100 mg/l
		Manganese (as Mn)	APHA (22 nd Edition) 3111-B: 2012	0.2 mg/l to 10 mg/l
		Cadmium (as Cd)	APHA (22 nd Edition) 3111-B: 2012	0.2 mg/l to 10 mg/l
		Lead (as Pb)	APHA (22 nd Edition) 3111-B: 2012	0.5 mg/l to 10 mg/l
	Zinc (as Zn)	APHA (22 nd Edition) 3111-B: 2012	0.1 mg/l to 100 mg/l	

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	Surface and Ground Water	Aluminium (as Al)	APHA (22 nd Edition) 3111-D: 2012	5 mg/l to 100 mg/l
		Conductivity	APHA (22 nd Edition) 2510-B: 2012	1 µs/cm to 10,000 µs/cm
		Acidity as CaCO ₃	IS 3025 (Part2): 1986 (RA 2009)	1 mg/l to 500mg/l
		Reactive Silica as SiO ₂	IS 3025 (Part 35): 1988 (RA 2009)	0.02 mg/l to 100 mg/l
		Sodium as Na	IS 3025 (Part 45): 1993 (RA 2009)	1 mg/l to 5000mg/l
		Potassium as K	IS 3025 (Part 45): 1993 (RA 2009)	1 mg/l to 1000mg/l
		Hexavalent Chromium as Cr ⁶⁺	APHA (22 nd Edition) 3500-Cr-B	0.02 mg/l to 10 mg/l
		Nitrite as NO ₂	IS 3025 (Part 34): 1988 (RA 2009)	0.01 mg/l to 10 mg/l
		Nickel	APHA (22 nd Edition) 3111-B: 2012	0.5 mg/l to 10 mg/l
III.	POLLUTION & ENVIRONMENT			
1.	Liquid Effluents (Effluent & Sewage)	pH	IS 3025 (Part 11):1983 (RA 2012)	1 to 14
		Chloride (as Cl)	IS 3025 (Part 32): 1988 (RA 2012)	1.0 mg/l to 5000 mg/l
		Total Dissolved Solids	IS 3025 (Part 16): 1984 (RA 2012)	1 mg/l to 10,000 mg/l
		Sulphate (as SO ₄)	IS 3025 (Part 24): 1986 (RA 2012)	1 mg/l to 1000 mg/l
		Residual, Free Chlorine	IS 3025 (Part 26):1986 (RA 2012)	1.0 mg/l to 100 mg/l
		Copper (as Cu)	APHA (22 nd Edition) 3111-B: 2012	0.5 mg/l to 100 mg/l
		Iron (as Fe)	APHA (22 nd Edition) 3111-B: 2012	0.5 mg/l to 100 mg/l

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	Liquid Effluents (Effluent & Sewage)	Manganese (as Mn)	APHA (22 nd Edition) 3111-B: 2012	0.5 mg/l to 100 mg/l
		Cadmium (as Cd)	APHA (22 nd Edition) 3111-B: 2012	0.2 mg/l to 100 mg/l
		Lead (as Pb)	APHA (22 nd Edition) 3111-B: 2012	0.5 mg/l to 100 mg/l
		Zinc (as Zn)	APHA (22 nd Edition) 3111-B: 2012	0.1 mg/l to 100 mg/l
		Aluminium (as Al)	APHA (22 nd Edition) 3111-B: 2012	5 mg/l to 100 mg/l
		Conductivity	APHA (22 nd Edition) 3111-B: 2012	1 mg/l to 10000 µs/cm
		Ammonical Nitrogen as NH ₃ -N	IS 3025 (Part 34): 1988 (RA 2009)	1 mg/l to 100 mg/l
		Total Kjeldhal Nitrogen as N	IS 3025 (Part 34): 1988	1 mg/l to 1000 mg/l
		Biochemical Oxygen Demand At 20 °C/5 Days & 27 °C/3 Days	IS 3025 (Part 44): 1993 (RA 2009)	2 mg/l to 5000 mg/l
		Chemical Oxygen Demand	APHA (22 nd Edition) 5220-B: 2012	4 mg/l to 10,000 mg/l
		Dissolved Oxygen	APHA (22 nd Edition)	0.1 mg/l to 8 mg/l
		Sodium as Na	IS 3025 (Part 45): 1993 (RA 2009)	10 mg/l to 5000mg/l
	Potassium as K	IS 3025 (Part 45): 1993 (RA 2009)	1 mg/l to 1000 mg/l	

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	Liquid Effluents (Effluent & Sewage)	Hexavalent Chromium as Cr ⁶⁺	APHA (22 nd Edition) 3500-Cr-B: 2012	0.02 mg/l to 100 mg/l
		Total Phosphate as PO ₄	APHA (22 nd Edition) P-B,D: 2012	0.02 mg/l to 100 mg/l
		Nickel as Ni	APHA (22 nd Edition) 3111-B:2012	0.5 mg/l to 100 mg/l
		Temperature	IS 3025 (Part9): 1984 (RA 2012)	Ambient to 40 °C
		Oil And Grease	IS 3025 (Part 39): 1991 (RA 2009)	1 mg/l to 1000 mg/l
2.	Soil	pH	IS 2720 (Part 26): 1987	1 to 14
		Electrical Conductivity	IS 14767: 2000	1 µs/cm to 1000 µs/cm
		Moisture Content	IS 2720 (Part 2): 1973 (RA 2010)	0.2 % to 20 %
		Organic Carbon	SOP No. E/WP/38 Issue No. 01, Effective date:13.11.2014	0.1 % to 10 %
IV.	AIR, GASES & ATMOSPHERE			
1.	Ambient Air Quality Monitoring	Particulate Matter (PM ₁₀)	IS 5182 (Part 23): 2006 (RA 2012)	1 µg/m ³ to 1000 µg/m ³
		Particulate Matter (PM _{2.5})	SOP No. E/WP/41 Issue No. 01, Effective date:13.11.2014	1 µg/m ³ to 1000 µg/m ³
		Sulphur Dioxide as SO ₂	IS 5182 (Part 2): 2001 (RA 2012)	5 µg/m ³ to 500 µg/m ³
		Nitrogen Dioxide as NO ₂	IS 5182 (Part 6): 2006 (RA 2012)	6 µg/m ³ to 750 µg/m ³

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2.	Stack Emission Monitoring	Velocity	IS 11255 (Part 3): 2008	3 m/s to 60 m/s
		Volume of Gas Discharge		100 Nm ³ /h to 10000 Nm ³ /h
		Particulate Matter	IS 11255 (Part 1): 1985 (RA 2009)	1 mg/Nm ³ to 1000 mg/Nm ³
		Sulphur Dioxide	IS 11255 (Part 2): 1985 (RA 2003)	0 to 2000 mg/Nm ³
		Nitrogen Dioxide	IS 11255 (Part 7): 2005 (RA 2012)	0 to 2000 mg/Nm ³
3.	Noise Level Monitoring	Leq (Equivalent Noise Level Meter)	IS 9989: 1981	25 dB (A) to 140 dB (A)

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