Tulsiyan Industrial Estate, Gram Kumedi, Indore, Madhya Pradesh

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

## **BIOLOGICAL TESTING**

l.	WATER			
1.	Water,	Microbial contaminatio	<u>:</u> n:	
	Purified Water	Total aerobic viable count (Pour plate method)	Indian Pharmacopeia	1 cfu/ml
		Escherichia coli	Indian Pharmacopeia	Qualitative (Absent or Present/100ml)
		Salmonella	Indian Pharmacopeia	Qualitative (Absent or Present/100ml)
		Staphylococcus aureus	Indian Pharmacopeia	Qualitative (Absent or Present/100ml)
		Pseudomonas aeruginosa	Indian Pharmacopeia	Qualitative Absent or Present/100ml
2.	Drinking Water	Total viable count	IS 5402	1cfu (at 30°C) in per ml.
		Yeast & Mould	IS 5403	Qualitative Absent or Present in 250 ml
		E. coli	IS 5887 (Part1)	Qualitative Absent or Present in 250 ml
		Coliform	IS 5401 (Part1)	Qualitative Absent or Present in 250 ml
		Pseudomonas aeruginosa	IS 13428 (Annex D)	Qualitative Absent or Present in 250 ml
3.	Packaged Drinking Water	Total viable count	IS 5402	1 cfu (at 20 °C to 22°C) and 1 cfu (at 37°C) in per 100 ml
		Yeast and Mould	IS 5403	Qualitative Absent or Present in 250 ml
		E.coli	IS 5887 (Part1)	Qualitative Absent or Present in 250 ml.
		Coliform	IS 5401 (Part1)	Qualitative Absent or Present in 250 ml

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[		Staphylococcus aureus	IS 5887 (Part 2)	Absent or Present in 250 ml
		Pseudomonas aeruginosa	IS 13428 (Annex D)	Absent or Present in 250 ml
II.	FOOD & AGRICULT	URAL PRODUCTS	l	
1.	Jam, Juices,	TPC	IS 5402	≥ 10 cfu/g
	Sauces &	Yeast & Mould	IS 5403	≥ 10 cfu/g
	Concentrates	Coliforms	IS 5401 (Part 1)	≥ 10 cfu/g
2.	Starch & Starch Products	Yeast & Mould	IS 5403	≥ 10 cfu/g
3.	Cereals & Wheat Flour	Yeast & Mould	IS 5403	≥ 10 cfu/g

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## **CHEMICAL TESTING**

I.	FOOD AND AGRIC	ULTURAL PRODUCTS		
1.	Bakery and Confec	tionary Products		
a.	Biscuit	Acid Insoluble Ash	IS 1011	0.02 % to 2.0 %
		Acidity of Extracted Fat	IS 1011	0.1 % to 2 %
		Alcoholic Acidity	IS12711	0.1 % to 2 %
		Moisture	IS 1011	1.0 % to 20.0 %
		Total ash	IS12711	0.1 % to 5.0 %
		Total fat	IS12711	0.5 % to 60 %
		Total Solid Content	IS12711	20 % to 98 %
b.	Cookies & Rusk	Acid Insoluble Ash	IS12711	0.02 % to 2.0 %
		Acidity of Extracted Fat	IS12711	0.1 % to 2 %
		Alcoholic Acidity	IS12711	0.1 % to 2 %
		Moisture	IS12711	1.0 % to 20.0 %
		Total ash	IS12711	0.1 % to 5.0 %
		Total fat	IS12711	0.5 % to 60 %
		Total Solid Content	IS12711	10 % to 98 %
C.	White Bread &	Acid Insoluble Ash	IS 1483	0.02 % to 2.0 %
	Milk Bread	Total Solid Content	IS 1483	10 % to 100 %
d.	Biscuits;	Protein	IS 7219	5 % to 30.0 %
	Cookies & Rusk;	Carbohydrate	IS 1656	10 % to 99 %
	White Bread	Energy	IS 13285	50 kcal/g to 500 kcal/g
2.	Cereals, Pulses & b	py-products		
a.	Atta	Moisture	IS 1155	1.0 % to 20.0 %
		Total ash	IS 1155	0.1 % to 5.0 %
		Acid Insoluble Ash	IS 1155	0.02 % to 2.0 %
		Alcoholic Acidity	IS 1155	0.05 % to 2 %
		Gluten	IS 1155 Appendix D	5 .0 % to 25 %
		Crude Fiber	IS 1155 Appendix E	1.0 % to 10 %
b.	Maida	Moisture	IS1009	1.0 % to 20.0 %
		Total ash	IS1009	0.1 % to 5.0 %

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[		Acid In soluble Ash	IS1009	0.02 % to 2.0 %
		Alcoholic Acidity	IS1009	0.05 % to 2 %
		Gluten	IS 1009	5.0 % to 25 %
C.	Suji or Rawa	Moisture	IS1010	1.0 % to 20.0 %
		Total ash	IS 1010	0.1 % to 5.0 %
		Acid In soluble Ash	IS1010	0.02 % to 2.0 %
		Alcoholic Acidity	IS 1010	0.05 % to 2 %
		Gluten	IS 1010 Appendix E	5 .0 % to 25 %
d.	Besan	Moisture	IS 2400	1.0 % to 20.0 %
		Total ash	IS 2400	0.1 % to 5.0 %
		Acid In soluble Ash	IS 2400	0.02 % to 2.0 %
		Alcoholic Acidity	IS 2400	0.1 % to 2 %
e.	Pearl Barley	Moisture	IS 1156	1.0 % to 20.0 %
		Total ash	IS 1156	0.1 % to 15.0 %
		Acid In soluble Ash	IS 1156	0.02 % to 2.0 %
		Alcoholic Acidity	IS 1156	0.05 % to 2 %
		Protein	IS 1156	2.0 % to 50 %
f.	Corn Flaks	Moisture	IS 1158	1.0 % to 20.0 %
		Total ash	IS 1158	0.1 % to 15.0 %
		Acid In soluble Ash	IS 1158	0.02 % to 2.0 %
		Alcoholic Acidity	IS 1158	0.05 % to 2 %
g.	Polish Rice	Moisture	IS 3163	1.0 % to 20.0 %
		Total ash	IS 3163	0.1 % to 5.0 %
		Acid In soluble Ash	IS 3163	0.02 % to 2.0 %
		Fat	IS 3163	0.02 % to 2.0 %
		Protein	IS 7874 (Part 1)	1 % to 80.0 %
h.	Papad	Moisture	IS 2639	1.0 % to 20.0 %
		Total ash	IS 2639	0.1 % to 5.0 %
		Acid In soluble Ash	IS 2639	0.02 % to 2.0 %
		Alcoholic Acidity	IS 2639	0.05 % to 2 %
		Fat	IS 2639	0.02 % to 2.0 %
i.	Ready to Eat	Moisture	IS15271	1.0 % to 20.0 %
	Namkeen	Total ash	IS15271	0.1 % to 15.0 %
		Acid In soluble Ash	IS15271	0.02 % to 2.0 %

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		Fat	IS15271	2.0 % to 60.0 %
		Acid Value of Extracted Fat	IS15271	0.1 % to 5 %
		Crude fiber	IS10226 (Part 2)	1.0 % to 25 %
		Calcium	IS 1797	0.005 % to 1.0 %
j.	Wheat , Rice,	Foreign Matter	IS 4333 (Part I)	0.01 % to 5.0 %
-	Soyabean, Jowar,	Broken matter	IS 4333 (Part I)	0.01 % to 5.0 %
	Maize	Insect infestation	IS 4333 (Part I)	0.01 % to 5.0 %
		Other insect	IS 4333 (Part I)	0.01 % to 5.0 %
		Damage grain	IS 4333 (Part-I)	0.1 % to 5.0 %
		Weevilled grain	IS 4333 (Part I)	0.1 % to 50 %
		Other edible grain	IS 4333 (Part I)	0.01 % to 50 %
k.	Atta; Maida; Suji or		IS 7219	5.0 % to 30.0 %
	Rawa; Besan;	Carbohydrate	IS 1656	10 % to 99 %
	Pearl Barley; Corn	Energy	IS 13285	50 kcal/g to 500 kcal/g
	Flakes; Polish			g g
	Rice; Papad			
3.	Milk & Dairy Produc	ts		
a.	Milk Powder	Ash	IS 1165	0.1 % to 5.0 %
4.	Herbs, Spices & Co	ndiments		
a.	Black Pepper;	Ash Insoluble in dil. HCl	IS 1797	0.05 % to 5.0 %
	Turmeric;	Cold water Soluble	IS 1797	1.0 % to 60 %
	Coriander; Ginger;	extract	IS 1797	1.0 % to 20 %
	Cumin; Fenugreek;	Moisture		
	Mustard; Garlic	Total ash	IS 1797	0.5 % to 25.0 %
		Water Insoluble Ash	IS 1797	0.05 % to 5.0 %
		Volatile matter	IS 1797	0.15 % to 25 %
		Non Volatile Matter	IS 1797	0.1 % to 25 %
		Crude Fiber	IS 1797	0.2 % to 2 %
		Alcohol soluble extract	IS 1797	1.0 % to 50 %
		Mass	IS 1797	0.02 g to 900 g.
		Extraneous matter	IS 1797	1.0 % to 6 %
		Salt	IS 1797	1.0 % to 25 %
		Calcium	IS 1797	0.1 % to 70 %

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
b.	Turmeric Powder	Colour Value	IS 10925 Annexure B	300 % to 700 %
		Starch	IS 4706 (Part 2)	5.0 % to 80 %
		Presence of Chromate	IS 3576 Annexure A	Qualitative
5.	Oil, Seeds & By-Pro	oducts		
a.	Cotton seed Oil	Acid Insoluble Ash	IS 7474 (Part 1)	0.05 % to 5.0 %
	Cake	Crude Fat	IS 7474 (Part 1)	0.5 % to 40 %
		Moisture	IS3579 / IS 7474 (Part 1)	1.0 % to 20 %
		Total Ash	IS 7474 (Part 1)	1.0 % to 20 %
b.	Oil	Iodine Value	IS 548 (Part I) Clause 14.0	5 % to 200 %
		Acid Value	IS 548 (Part I) Clause 14.0	0.05 % to 5 %
		Free Fatty Acid (as Oleic acid)	IS 548 (Part I) Clause 14.0	0.05 % to 5 %
		Specific Gravity	IS 548 (Part I) Clause 14.0	0.860 to 0.999
		Saponification Value	IS 548 (Part I) Clause 14.0	50 % to 200 %
		Unsaponifiable Matter	IS 548 (Part I) Clause 14.0	0.2 % to 5.0 %
6.	Fruit & vegetables			
1.	Tomato ketchup	Acidity as Acetic acid	IS 3882	0.1 % to 10 %
II.	ANIMAL FOODS/FE	ED		
1.	Compounded	Acid insoluble ash	IS7874 (Part I)	0.1 % to 20.0 %
	Cattle Feed,	Protein	IS7874 (Part I)	1 % to 80.0 %
	Mineral Mixtures,	Crude fat	IS7874 (Part I)	0.1 % to 5.0 %
	Rice Bran,	Moisture	IS7874 (Part I)	1.0 % to 15.0 %
	Soya DOC	Total ash	IS7874 (Part I)	0.5 % to 90.0 %
III.	WATER			
1.	Potable Water/	Acidity (as CaCO <sub>3</sub> )	IS 3025 Part (22)	0.005 % to 1.5 %
	Drinking Water/	Alkalinity (as CaCO <sub>3</sub> )	IS 3025 Part (23)	0.005 % to 1.5 %
	Borewell Water	Calcium (as Ca)	IS 3025 Part (40)	0.005 % to 0.5 %
		Chloride (as Cl)	IS 3025 Part (32)	0.005 % to 1.0 %
		Magnesium (as Mg)	IS 3025 Part (46)	0.005 % to 0.5 %
		pH value	IS 3025 Part (11)	1 to 14

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
[		Specific conductance	IS 3025 Part (14)	5 μS/cm to 5000 μS/cm
		Total dissolved Solids	IS 3025 Part (16)	0.01 % to 3.0 %
		Total hardness (as CaCO <sub>3</sub> )	IS 3025 Part(21)	0.01 % to 1.5 %
		Potassium	IS 3025 Part (45)	0.001 % to 1.5 %
		Sodium	IS 3025 Part (45)	0.001 % to 1.5 %
		Color	IS 3025 (Part 4) Platinum Cobalt method	(1 to 500) hazen
		Turbidity	IS 3025 (Part 10)	1 NTU to 100 NTU
		Iron	IS 3025 (Part 53) 1-10 Phenanthaline method	0.001 % to 1.5 %
		Residual chlorine	IS 3025 (RA 2014) Iodometric method	0.01 % to 1 %
		Sulphate	IS 3025 (Part 24) (Turbidity method)	0.001 % to 0.06 %
IV.	DRUG & PHARMA	CEUTICAL PRODUCTS		
1.	Raw Materials			
a.	Thiamine Hydrochloride,	Identification by Chemical	Indian Pharmacopeia	Qualitative
	Niacinamide, Caffeine, Folic	Identification by Infra Red	Indian Pharmacopeia	Qualitative
	Acid, Sodium	Acidity / Alkalinity	Indian Pharmacopeia	Qualitative
	Chloride, Potassium	Density / Specific Gravity	Indian Pharmacopeia	Qualitative
İ	Chloride	Limit test for Chloride	Indian Pharmacopeia	Qualitative
 		Limit test for Iron	Indian Pharmacopeia	Qualitative
 		Limit test for Sulphate	Indian Pharmacopeia	Qualitative
		Loss on Drying	Indian Pharmacopeia	0.5 % to 30 %
		Sulphated Ash	Indian Pharmacopeia	0.05 % to 10%

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2.	Pharmaceutical Fin	ish Products		
a.	Syrup, Oral Suspension	pH	Indian Pharmacopeia British Pharmacopeia United states Pharmacopeia	1.0 to 14.0
		Acidity/Alkalinity	Indian Pharmacopeia United states Pharmacopeia	Qualitative
		Specific gravity	Indian Pharmacopeia	0.9960 to 1.36
3.	Powder			
a.	Oral Rehydration Powder	Sodium	Indian Pharmacopeia	1.0 % to 110 % of claim (1.7029g)
		Potassium	Indian Pharmacopeia	1.0 % to 110 % of claim (0.7868g)
		Chloride	Indian Pharmacopeia	1.0 % to 110 %of claim (2.2906g)
		Citrate	Indian Pharmacopeia	1.0 % to 110 % of claim (1.8647g)
4.	Tablets			, <u> </u>
a.	Ferrous sulphate	Identification (A & B)	Indian Pharmacopeia	Qualitative
		Assay	Indian Pharmacopeia	80 % to 110 %
		DT	Indian Pharmacopeia	1 Minutes to 60 Minutes
b.	Ibuprofen	Identification (A)	Indian Pharmacopeia	Qualitative
		Assay	Indian Pharmacopeia	80 % to 110 %
C.	Metformin	Identification (A)	Indian Pharmacopeia	Qualitative
		Assay	Indian Pharmacopeia	80 % to 110 %
d.	Paracetamol	Identification (A)	Indian Pharmacopeia	Qualitative
		Assay	Indian Pharmacopeia	80 % to 110 %
5.	Capsules			
a.	Amoxicillin	Identification (B)	Indian Pharmacopeia	Qualitative
	trihydrate Capsules	Assay	Indian Pharmacopeia	80 % to 120 %

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