

Laboratory	Microchem Silliker Private Limited, 8/41-A, 2nd Floor, Kirti Nagar Industrial Area, New Delhi		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	30.06.2014
Certificate Number	T-3012	Valid Until	29.06.2016
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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. FOOD & AGRICULTURAL PRODUCTS				
1.	Bakery products (Breads, Biscuits, cakes, Muffins)	Moisture	IS 12711: 1989 (Reaff. 1994)/ IS 1011 – 2002 (Reaff. 2009)/ AOAC 935.29/945.15 19 th Ed 2012	1 - 30 %
		Energy / Calories	FAO Food & Nutrition Paper 77- 2003 Page 18	100 - 600 Kcal/100g
		Carbohydrates	AOAC 986.25 19 th Ed 2012	10 - 80 %
		Fat	IS 12711: 1989 (Reaff. 1994)	0.1 - 50 %
		Protein	IS 7219 : 1973 (Reaff. 2005)/ IS 1011 – 2002 (Reaff. 2009)	0.1 - 20 %
		Ash	IS 12711: 1989 (Reaff. 1994) / IS 1011 – 2002 (Reaff. 2009)/ AOAC 923.03 19 th Ed 2012	0.1 - 5 %
		Sugars	IS 6287 : 1985 (Reaff. 1999) AOAC 923.09 19 th Ed 2012	1 - 30 %
2.	Fruits & vegetable products (Fruit Juice, Fruit candies, pickles, ketchup)	Ash	IS 13846 : 2009/ IS 3500 – 1966 (Reaff. 2005)/ DGHS 2005 : Man 5, Cl. 14.4	0.1 - 10 %
		Acid insoluble ash	IS 13846 : 2009/ IS 3500 – 1966 (Reaff. 2005)/ DGHS 2005 : Man 5 Cl. 5.3	0.01 - 2 %

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	Fruits & vegetable products (Fruit Juice, Fruit candies, pickles, ketchup)	Acidity	IS 13844 : 2003/ IS 2860 :1964 (Reaff. 2008)/ DGHS : 2005 Man 5, Cl. 2.4/ AOAC 942.15 19 th Ed 2012	0.1 - 10 %
3.	Cereals, pulses, and by products (Maida, Atta, Sooji, Besan, Soya flour)	Moisture	IS 1009:1 979 (Reaff. 2010)/ IS 1155 – 1968 (Reaff. 2010)/ AOAC 935.29/945.15 19 th Ed 2012/DGHS 2005 : Man 3 Cl. 2.0	1 - 20 %
		Fat	AOAC 963.15/ 922.06 19 th Ed 2012	0.1 - 30 %
		Ash	IS 1009 : 1979 (Reaff. 2010)/ IS 1155 – 1968 (Reaff. 2010)/ DGHS 2005 : Man 3 Cl. 8.3	0.1 - 10 %
		Acid insoluble ash	IS 1009 : 1979 (Reaff. 2010)/ IS 1155 – 1968 (Reaff. 2010)/ DGHS 2005 : Man 3 Cl. 8.4	0.01 - 2 %
		Alcoholic acidity	IS 1009 : 1979 (Reaff. 2010)/ IS 1155 – 1968 (Reaff. 2010)/ DGHS 2005 : Man 3 Cl. 8.6	0.1 -5 mL of 1N NaOH per 100g or 0.1 -5%
		Gluten	IS 1009 : 1979 (Reaff. 2010)/ IS 1155 – 1968 (Reaff. 2010)/ DGHS 2005 : Man 3 Cl. 8.5	5 - 30 %

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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
4.	Milk & dairy products (Milk, Paneer, Cheese, Butter, Milk Powder)	Moisture	IS: 1479 Part 2 : 1961 (Reaff. 2009)/ IS: 16072 - 2012/ IS: 3507 : 1966 (Reaff. 2003)/ IS: 3508 : 1966 (Reaff. 2003)/ DGHS 2005 : Man 1 Cl. 2.1, 3.0, 4.1, 5.0, 6.0, 7.0, 9.0	0.1 - 90 %
		Ash	DGHS Manual No.1, 2005 Cl. 2.2/ IS: 1479 (Part 2) 1961 (Reaff. 2009)/ AOAC 945.46 19 th Ed 2012	0.1 - 10 %
		Acid Insoluble Ash	IS: 14433 - 2007 Annex. C	0.01 – 2%
		Fat	IS 1479 Part 2 :1961 (Reaff. 2009)/ IS: 11721 - 2013/ DGHS 2005 : Man 1 Cl. 2, 3.2, 4.2, 11	0.1 - 99 %
		SNF	IS 1479 Part 1 : 1960 (Reaff. 2003)	5 – 10 %
		Protein	IS 7219 : 1973 (Reaff. 2005)/ IS 1479 Part 2 – 1961 (Reaff. 2009)	1 - 50 %
		Added Starch	IS 1479 Part 1 : 1960 (Reaff. 2003)	Present / Absent

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	Milk & dairy products (Milk, Paneer, Cheese, Butter, Milk Powder)	Added Sugar	IS 1479 Part 2 : 1961 (Reaff. 2009)	Present / Absent
		pH	IS 1479 Part 2 : 1961 (Reaff. 2009) DGHS 2005 : Man 1 Cl. 2.8	3 - 8
		Carbonates	IS 1479 Part 2 : 1961 (Reaff. 2009)	Present / Absent
5.	Spices & condiments (Garam masala, Coriander, Chilli, Black pepper, Cumin & Turmeric powder)	Moisture	IS 1797 : 1985 (Reaff. 2009)	1 - 20 %
		Ash	IS 1797 : 1985 (Reaff. 2009)	2 - 10 %
		Acid insoluble ash	IS 1797 : 1985 (Reaff. 2009)	0.01 - 2 %
II.	WATER			
1.	Drinking Water	Turbidity	IS 3025 Part 10 : 1984 (Reaff. 2006)	1 - 10 NTU
		pH	IS 3025 Part 11 : 1983 (Reaff. 2002)	2 - 10
		Total Dissolved Solids	IS3025 Part 16 : 1984 (Reaff. 2006)	1 - 1000 mg/L
		Calcium	IS 3025 Part 40 : 1991 (Reaff. 2003)	0.1 - 1000 mg/L

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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
	Drinking Water	Magnesium	IS 3025 Part 46 : 1994 (Reaff. 2009)	0.1 - 1000 mg/L
		Total Hardness	IS 3025 Part 21 : 1983 (Reaff. 2009)	1 - 1000 mg/L
		Alkalinity	IS 3025 Part 23 : 1986 (Reaff. 2003)	1 - 1000 mg/L
		Chloride	IS 3025 Part 32 : 1988 (Reaff. 2007)	0.1 - 1000 mg/L
		Sulphates	IS 3025 Part 24 : 1986 (Reaff. 2009)	1 - 1000 mg/L
		Residual Free Chlorine	IS 3025 Part 26 : 1986 (Reaff. 2003)	0.2 - 10 mg/L
2.	Raw Water	Turbidity	IS 3025 Part 10 : 1984 (Reaff. 2006)	1 - 100 NTU
		pH	IS 3025 Part 11 : 1983 (Reaff. 2002)	2 – 10
		Total Dissolved Solids	IS3025 Part 16 : 1984 (Reaff. 2006)	1 - 1000 mg/L
		Calcium	IS 3025 Part 40 : 1991 (Reaff. 2003)	0.1 - 1000 mg/L
		Magnesium	IS 3025 Part 46 : 1994 (Reaff. 2009)	0.1 - 1000 mg/L

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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
	Raw Water	Total Hardness	IS 3025 Part 21 : 1983 (Reaff. 2009)	1 - 1000 mg/L
		Alkalinity	IS 3025 Part 23 : 1986 (Reaff. 2003)	1 - 1000 mg/L
		Chloride	IS 3025 Part 32 : 1988 (Reaff. 2007)	0.1 - 10000 mg/L
		Sulphates	IS 3025 Part 24 : 1986 (Reaff. 2009)	1 - 10000 mg/L
3.	Swimming Pool Water	Turbidity	IS 3025 Part 10 : 1984 (Reaff. 2006)	1 - 100 NTU
		pH	IS 3025 Part 11 : 1983 (Reaff. 2002)	2 – 10
		Total Dissolved Solids	IS3025 Part 16 : 1984 (Reaff. 2006)	1 - 1500 mg/L
		Calcium	IS 3025 Part 40 : 1991 (Reaff. 2003)	0.1 - 1000 mg/L
		Magnesium	IS 3025 Part 46 : 1994 (Reaff. 2009)	0.1 - 1000 mg/L
		Total Hardness	IS 3025 Part 21 : 1983 (Reaff. 2009)	1 - 1000 mg/L
		Alkalinity	IS 3025 Part 23 : 1986 (Reaff. 2003)	1 - 1000 mg/L

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	Swimming Pool Water	Chloride	IS 3025 Part 32 : 1988 (Reaff. 2007)	0.1 - 10000 mg/L
		Sulphates	IS 3025 Part 24 : 1986 (Reaff. 2009)	1 - 10000 mg/L
		Residual Free Chlorine	IS 3025 Part 26 : 1986 (Reaff. 2003)	0.2 - 10 mg/L
4.	Water for Processed Food Industry	Turbidity	IS 3025 Part 10 : 1984 (Reaff. 2006)	1 - 100 NTU
		pH	IS 3025 Part 11 : 1983 (Reaff. 2002)	2 – 10
		Total Dissolved Solids	IS3025 Part 16 : 1984 (Reaff. 2006)	1 - 1000 mg/L
		Calcium	IS 3025 Part 40 : 1991 (Reaff. 2003)	0.1 - 1000 mg/L
		Magnesium	IS 3025 Part 46 : 1994 (Reaff. 2009)	0.1 - 1000 mg/L
		Total Hardness	IS 3025 Part 21 : 1983 (Reaff. 2009)	1 - 1000 mg/L
		Alkalinity	IS 3025 Part 23 : 1986 (Reaff. 2003)	1 - 1000 mg/L
		Chloride	IS 3025 Part 32 : 1988 (Reaff. 2007)	0.1 - 10000 mg/L

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	Water for Processed Food Industry	Sulphates	IS 3025 Part 24 : 1986 (Reaff. 2009)	1 - 10000 mg/L
		Residual Free Chlorine	IS 3025 Part 26 : 1986 (Reaff. 2003)	0.2 - 10 mg/L
5.	Packaged Drinking water Natural Mineral Water	Turbidity	IS 3025 Part 10 : 1984 (Reaff. 2006)	1 - 20 NTU
		pH	IS 3025 Part 11 : 1983 (Reaff. 2002)	2 – 10
		Total Dissolved Solids	IS3025 Part 16 : 1984 (Reaff. 2006)	1 - 1000 mg/L
		Calcium	IS 3025 Part 40 : 1991 (Reaff. 2003)	0.1 - 500 mg/L
		Magnesium	IS 3025 Part 46 : 1994 (Reaff. 2009)	0.1 - 500 mg/L
		Total Hardness	IS 3025 Part 21 : 1983 (Reaff. 2009)	1 - 100 mg/L
		Alkalinity	IS 3025 Part 23 : 1986 (Reaff. 2003)	1 - 1000 mg/L
		Chloride	IS 3025 Part 32 : 1988 (Reaff. 2007)	0.1 - 500 mg/L
	Sulphates	IS 3025 Part 24 : 1986 (Reaff. 2009)	1 - 500 mg/L	

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	Packaged Drinking water Natural Mineral Water	Residual Free Chlorine	IS 3025 Part 26 : 1986 (Reaff. 2003)	0.2 - 10 mg/L

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***NOTE:** The Laboratory has demonstrated competence for the stated scope for **WATER**. This however **does not fully cover** the specification requirements of **BIS for the Packaged Drinking Water as per IS:14543 and the Packaged Natural Mineral Water IS:13428**.