

Laboratory	HiTech Testing and Research Centre Pvt. Ltd., F- 1/7,Okhla Industrial Area, Phase-I, New Delhi		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	04.07.2014
Certificate Number	T-0799	Valid Until	03.07.2016
Last Amended on	-	Page	1 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. AIR,GASES & ATMOSPHERE				
1.	Ambient Air Monitoring	PM _{2.5}	HTRC/SOP/ENV-001	1.0 to 200 µg/m ³
		Respirable Suspended Particulate Matter (RSPM-PM ₁₀)	IS: 5182(Part-23):1999-RA 2006	20 to 1000 µg/m ³
		Sulphur Dioxide	IS: 5182(Part-2):2001-RA 2006	5.0 to 100 µg/m ³
		Oxides of Nitrogen (NO ₂)	IS: 5182(Part-6):2006-RA 2006	5.0 to 100 µg/m ³
		Ozone	IS: 5182(Part-9):1974/ APHA 2 nd ed.	10.0 to 100 µg/m ³
		Ammonia	APHA 2 nd ed.	10.0 to 500 µg/m ³
		Lead	IS: 5182(Part-22): RA 2006	1.0 to 50 µg/m ³
		Nickel	APHA 2 nd ed.	1.0 to 50 µg/m ³
		Arsenic	APHA 2 nd ed.	1.0 to 50 µg/m ³
		2.	Stack Emission Monitoring	Particulate Matter
Sulphur dioxide	IS: 11255 (Part-2):1995- RA 2009			5 to 250 mg/Nm ³
Oxides of Nitrogen	IS: 11255 (Part-7):1995- RA 2009			4 to 400 mg/Nm ³
Carbon Monoxide	IS: 13270 : 1992			1 to 10 %
Oxygen	IS: 13270 : 1992			0.2 to 20 %
Carbon Dioxide	IS: 13270 : 1992			1 to 20 %

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 2 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
II. PETROLEUM				
1.	Furnace Oil	Relative Density	IS: 1448 (Part-32) : 1992	0.6 to 1.000
		K. Viscosity	IS: 1448 (Part-25) : 1976	1 to 200 cst
		Water Content	IS: 1448 (Part-40) : 1987	0.02 to 60 %
		Sulphur	IS: 1448 (Part-33) : 1991	0.01 to 30 %
		Flash Point	IS: 1448 (Part-21) : 2012	35 to 400 °C
		Sediment	IS: 1448 (Part-30) : 2013	0.001 to 20 %
		Ash	IS: 1448 (Part-4) : 1984	0.01 to 20 %
		Asphalatenene	IS: 1448 (Part-22) : 1985	0.01 to 20 %
		Inorganic Acidity	IS: 1448 (Part-2) : 2002	0 to 35 mg KOH/gm
		GCV	IS: 1448 (Part-6) : 1984	1 to 11000 cal/gm
2.	HSD/LDO	Acidity (Inorganic)	IS: 1448 (Part-2) : 2002	0.01to2.0 mgKOH/gm
		Acidity (Total)	IS: 1448 (Part-2) : 2002	0.01to2.0 mgKOH/gm
		Ash Content	IS: 1448 (Part-4) : 1984	0.01 to 20 %
		Carbon residue	IS: 1448 (Part-8) : 2012	0.001 to 70 %
		Pour Point	IS: 1448 (Part-10) : 1970	-30 to +45°C
		Distillation	IS: 1448 (Part-18) : 1991	1 to 100 %

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 3 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	HSD/LDO	Flash Point (Abel)	IS: 1448 (Part-20) : 1998	0 to +50 ⁰ C
		Flash point (PMCC)	IS: 1448 (Part-21) : 2012	35 to 400 ⁰ C
		K. Viscosity	IS: 1448 (Part-25) : 1976	1 to 100cSt
		Sediment	IS: 1448 (Part-30) : 2013	0.001 to 20 %
		Density	IS: 1448 (Part-32) : 1992	800 to 1000 kg/m ³
		Sulphur	IS: 1448 (Part-33) : 1991	0.05 to 30 %
		Water Content	IS: 1448 (Part-40) : 1987	0.05 to 60 %
		Calorific Value	IS: 1448 (Part-6) : 1984	1 to 11000 cal/gm
3.	Lubricant Oil/ Gear Oil/ Hydraulic Oil	K. Viscosity @ 40 ⁰ C	IS: 1448 (Part-25) :1976	1 to 150 cSt
		K. Viscosity @ 100 ⁰ C	IS: 1448 (Part-25) :1976	1 to 50 cSt
		V. Index	IS: 1448 (Part-56) :2013	50 to 200
		Flash Point	IS: 1448 (Part-69) :2013	79 to 360 ⁰ C
		TBN	IS: 1448 (Part-86) :1977	0 to 35 mg KOH/g
		Sulphated Ash	IS: 1448 (Part-4) :1984	0.01 to 30 %
		Total Acid No.	IS: 1448 (Part-1) :2002	0 to 35 mg KOH/g
		Pour Point	IS: 1448 (Part-10) :1970	0 to + 50 ⁰ C
		Water Content	IS: 1448 (Part-40) :1987	0.05 to 60 %

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 4 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection	
4.	Used Oil/ Waste Oil	Kinematic Viscosity	IS: 1448 (Part-25):1976	1 to 500 cSt	
		Saponification Value	IS: 1448 (Part-55):2004/ ASTM 1994	1 to 18 mg KOH/g	
		Water Content	IS: 1448 (Part-40):1987	0.05 to 20 %	
		Neutralization Value (Total Acid Number)	IS:-1448(Part-2):2007	0.1 to 5 mgKOH/gm	
5.	Insulating Oil/ Transformer Oil	Water Content	IS:-13567-1992	0 to 50 ppm	
		Neutralization Value	IS: 1448 (Part-2):2007	0.1 to 5 mgKOH/gm	
		Sediment	IS: 1448:1983 (Annex-A)	0 to 30 %	
		Flash Point	IS: 1448 (Part-21):2012	79 to 360 ⁰ C	
		Kin. Viscosity	IS: 1448 (Part-25):1976	2 to 50 cSt	
		Interfacial Tension	IS: 6104:1971	0 to 90 dyne/cm	
		Dissolves Gas Analysis (DGA)			
		CH ₄	IS: 9434: 1992	0.1 to 1000 mg/l	
		C ₂ H ₆	IS: 9434: 1992	0.1 to 1000 mg/l	
		C ₂ H ₄	IS: 9434: 1992	0.1 to 1000 mg/l	
		C ₂ H ₂	IS: 9434: 1992	0.1 to 1000 mg/l	
		CO	IS: 9434: 1992	0.1 to 5000 mg/l	
		CO ₂	IS: 9434: 1992	0.1 to 5000 mg/l	
H ₂	IS: 9434: 1992	0.1 to 1000 mg/l			

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 5 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
III. WATER				
1.	Surface & Ground Water	Colour	IS: 3025 (Part-4) :1983/ APHA 22 nd -2120B-2012	1 to 50 Hazen
		Odour	IS: 3025 (Part-5) :1983	Qualitative
		Turbidity	IS: 3025 (Part-10) :1984/ APHA 22 nd ed. -2130B 2012	1 to 1000 NTU
		pH	IS: 3025 (Part-11) :1983/ APHA 22 nd ed. -2500-2012	1 to 14
		TDS	IS: 3025 (Part-16) :1984/ APHA 22 nd ed. -2541-2012	1 to 20000 mg/l
		Total Suspended Solids	IS: 3025 (Part-17) :1984/ APHA 22 nd ed.-2540-2012	1 to 1000 mg/l
		T. Hardness	IS: 3025 (Part-21) :1984/ APHA 22 nd ed.-2430-C-2012	1 to 2000 mg/l
		Acidity	IS: 3025 (Part-22) :1986	0.1 to 1000 mg/l
		Alkalinity (M&P)	IS: 3025 (Part-23) :1986	1.0 to 1000 mg/l
		Sulphate	IS: 3025 (Part-24) :1986 APHA 22 nd ed.-4500E-2012	1 to 40 mg/l >40 mg/l
		Residual Chlorine	IS: 3025 (Part-26) :1986	0.1 to 10 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 6 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Surface & Ground Water	Cyanide	IS: 3025 (Part-27) :1986	0.01 to 100 mg/l
		Phosphorus	IS: 3025 (Part-31) :1988/ APHA 22 nd ed.-4500C-2012	0.05 to 100 mg/l
		Specific Conductivity	IS: 3025 (Part-14) :1984/ APHA 22 nd ed.-2510-B- 2012	1 to 1000mhos/cm
		Dissolved Oxygen	IS: 3025 (Part-38) :1989	1 to 10 mg/l
		Oil & Grease	IS: 3025 (Part-39) : 1991/ APHA 22 nd ed.-5520- 2012	5 to 1000 mg/l
		Iron	IS: 3025 (Part-53) 2003 APHA 22 nd ed.-3500-Fe-B	0.3 to 100 mg/l
		Calcium	IS: 3025 (Part-40) : 1991/ APHA 22 nd ed.-3500B- 2012	1 to 500 mg/l
		Copper	IS: 3025 (Part-42) 1994	0.2 to 10 mg/l
		Phenol	IS: 3025 (Part-43) : 1992	0.001 to 150 mg/l
		Biological Oxygen Demand(BOD)	IS: 3025 (Part-44) : 1993/ APHA 22 nd ed.-5210B-2012	1.0 to 10000 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 7 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Surface & Ground Water	Sodium	IS: 3025 (Part-45):1993/ APHA 22 nd ed. -3500Na-2012	1 to 100 mg/l
		Potassium	IS: 3025 (Part-45) : 1993/ APHA 22 nd ed.-3500K-2012	1 to 200 mg/l
		Magnesium	IS: 3025 (Part-46) : 1994/ APHA 22 nd ed.-3500B-2012	1 to 100 mg/l
		Lead	IS: 3025 (Part-47) 1994	0.5 to 20 mg/l
		Zinc	IS: 3025 (Part-49) 1994	0.05 to 100 mg/l
		Nitrate	IS: 3025 (Part-34) : 1988/ APHA 22 nd ed.-4500B-2012	1 to 100 mg/l
		Nitrite	IS: 3025 (Part-34) : 1988	0.01 to 100 mg/l
		Chloride	IS: 3025 (Part-32) : 1993/ APHA 22 nd ed. -4500E-2012	1 to 5000 mg/l
		Chemical Oxygen Demand	IS: 3025 (Part-58) : 2006/ APHA 22 nd ed.-5220-2012	1 to 20000 mg/l
		Nickel	IS: 3025 (Part-54) 2003	0.5 to 10 mg/l
		Fluoride	IS: 3025(Part-60) : 2008/ APHA 22 nd ed.-4500-2012	0.1 to 5 mg/l
		Chromium	IS: 3025 (Part-52) : 2003/ APHA 22 nd ed.-3111B	0.5 to 10 mg/l
		CO ₃ /HCO ₃	IS: 3025 (Part-51) : 2001	1 to 1000 mg/l
		Cadmium	IS: 3025 (Part-41) : 1992	0.05 to 2 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 8 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Waste Water/ Effluent	pH	IS: 3025 (Part-11) :1983/ APHA 22 nd ed.-2500-2012	1 to 14
		Total Dissolved Solids	IS: 3025 (Part-16) :1984/ APHA 22 nd ed.-2541-2012	1 to 20000 mg/l
		Total Suspended Solids	IS: 3025 (Part-17) :1984/ APHA 22 nd ed.-2540-2012	1 to 1000 mg/l
		Cyanide	IS: 3025 (Part-27) :1986	0.01 to 100 mg/l
		Dissolved Oxygen	IS: 3025 (Part-38) :1989	1 to 10 mg/l
		Oil & Grease	IS: 3025 (Part-39) : 1991/ APHA 22 nd ed. -5520-2012	5 to 1000 mg/l
		Biochemical Oxygen Demand (BOD)	IS: 3025 (Part-44) : 1993/ APHA 22 nd ed.-5210B-2012	1 to 10000 mg/l
		Lead	IS: 3025 (Part-47) 1994	0.5 to 20 mg/l
		Zinc	IS: 3025 (Part-49) 1994	0.05 to 100 mg/l
		Chromium	IS: 3025 (Part-52) : 2003/ APHA 22 nd ed. -3500-2012	0.01 to 10 mg/l
		Chemical Oxygen Demand (COD)	IS: 3025 (Part-58) : 2006/ APHA 22 nd ed.-5220-2012	1 to 20000 mg/l
		Arsenic	IS: 3025 (Part-37) : 1988	0.005 to 1 mg/l
		Mercury	IS: 3025 (Part-48) : 1994 R.A.2003	0.0005 to 1 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 9 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Waste Water/ Effluent	Lead	IS: 3025 (Part-47) 1994	0.5 to 20 mg/l
		Cadmium	IS: 3025 (Part-41) : 1992/RA1998	0.05 to 2 mg/l
		Total Chromium	IS: 3025 (Part-52) : 2003/ APHA 22 nd ed. -3111B-2012	0.5 to 10 mg/l
		Copper	IS: 3025 (Part-42) 1994	0.2 to 10 mg/l
		Nickel	IS: 3025 (Part-54) 2003	0.5 to 10 mg/l
		Manganese	APHA 22 nd ed. 3111B	0.1 to 50 mg/l
		Aluminum	IS: 3025 (Part-55) : 2003	5 to 100 mg/l
		Turbidity	IS: 3025 (Part-10) : 1984	1 to 1000 NTU
		Conductivity	IS: 3025 (Part-14) : 1984	0.5 to 5000 µmhos/cm
		Temperature	IS: 3025 (Part-9) : 1984	1 to 100 °C
		Total Residual chlorine	IS: 3025 (Part-26) : 1986/RA 2003	0.1 to 10 mg/l
		Ammonical Nitrogen	IS: 3025 (Part-34) : 1988/RA2009	1 to 100 mg/l
		T. Kjeldahl Nitrogen	IS: 3025 (Part-34) : 1988/RA2009	0.1 to 100 mg/l
		Free ammonia	IS: 3025 (Part-34) : 1988/RA2009	0.1 to 100 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 10 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Waste Water/ Effluent	Total Iron	IS: 3025 (Part-53) : 2003	0.3 to 100 mg/l
		Aluminum	IS: 3025 (Part-55) : 2003	5 to 100 mg/l
		Sulphide	IS: 3025 (Part-29) : 1986	0.1 to 10 mg/l
		Nitrate	IS: 3025 (Part-34) : 1988	0.2 to 200 mg/l
		Ammonia	IS: 3025 (Part-34) : 1988/RA2009	1 to 100 mg/l
		Phosphates	IS: 3025 (Part-31) : 1988	0.01 to 100 mg/l
		Phenolic Compounds (as C ₆ H ₅ OH)	IS: 3025 (Part-43) : 1992/RA2003	0.02 to 150 mg/l
		Sulphates	IS: 3025 (Part-24) : 1986	1 to 40 mg/l >40 mg/l
		Chlorides	IS: 3025 (Part-32) : 1988	1 to 5000 mg/l
3.	Construction Water	Alkalinity	IS: 456 : 2000	0.1 to 100 ml
		Acidity	IS: 456 : 2000	0.1 to 100 ml
		Chloride	IS: 3025 (Part-32) : 1998	1 to 1000 mg/l
		Sulphate	IS: 3025 (Part-24) : 1986	1 to 1000 mg/l
		Inorganic Solids	IS: 3025 (Part-18) : 1984	1 to 10000 mg/l
		Organic Solids	IS: 3025 (Part-18) : 1984	1 to 10000 mg/l
		Suspended Solids	IS: 3025 (Part-17) : 1984	1 to 1000 mg/l
	pH	IS: 3025 (Part-11) : 1983	1 to 14	

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 11 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	Water Used For Swimming Pool Purpose	pH	IS: 3025 (Part-11) : 1983	1 to 14
		Odour	IS: 3025 (Part-5) : 1983	Qualitative
		Turbidity	IS: 3025 (Part-10) : 1984	1 to 1000 NTU
		Colour	IS: 3025 (Part-4) : 1983	2 to 100 Hazen
		Total Dissolved Solids (Residue on Evaporation)	IS: 3025 (Part-16) : 1984/RA 2006	1 to 10000 mg/l
		Total Alkalinity	IS: 3025 (Part-23) : 1986RA.2009	1 to 10000 mg/l
		Aluminum	IS: 3025 (Part-55) : 2003	5 to 100 mg/l
		Total Residual Chlorine	IS: 3025 (Part-26) : 1986/RA 2003	0.1 to 1000 mg/l
		Oxygen absorbed in 4 hours	IS: 3025 (Part-63) : 2007	0.1 to 100 mg/l
		Chlorides	IS: 3025 (Part-32) : 1988	1 to 10000 mg/l
		Iron	IS: 3025 (Part-53) 2003/ APHA 22 nd ed.-3500-Fe-B-2012	0.3 to 100 mg/l
		Lead	IS: 3025 (Part-47) : 1994/ RA 2009	0.5 to 20 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 12 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	Drinking Water	Colour	IS: 3025 (Part-4) : 1983	2 to 100 Hazen
		Odour	IS: 3025 (Part-5) : 1983	Qualitative
		Turbidity	IS: 3025 (Part-10) : 1984	1 to 1000 NTU
		pH	IS: 3025 (Part-11) : 1983	1 to 14
		Total Hardness	IS: 3025 (Part-21) : 2009	1 to 10000 mg/l
		Iron	IS: 3025 (Part-53) 2003/ APHA 22 nd -3500-Fe-B-2012	0.3 to 100 mg/l
		Chlorides	IS: 3025 (Part-32) : 1988	1 to 10000 mg/l
		Total Dissolved Solids (Residue on Evaporation)	IS: 3025 (Part-16) : 1984/RA2006	1 to 10000 mg/l
		Silica	APHA 22 nd ed. 4500 Si-C-2012	1 to 100 mg/l
		Calcium	IS: 3025 (Part-40) : 1991/ RA2009	1 to 10000 mg/l
		Magnesium	IS: 3025 (Part-46) : 1994/ R.A.2009	1 to 10000 mg/l
Copper	IS: 3025 (Part-42) 1994	0.2 to 10 mg/l		
Manganese	APHA 22 nd ed.3111B-2012	0.1 to 50 mg/l		

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 13 of 28

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	Sulphates	IS: 3025 (Part-24) : 1986	1 to 40 mg/l >40 mg/l
		Nitrate	IS: 3025 (Part-34) : 1988	1 to 100 mg/l
		Fluoride	IS: 3025 (Part-60) : 2008	0.1 to 100 mg/l
		Phenols	IS: 3025 (Part-43) : 1992/RA2003	0.001 to 150 mg/l
		Mercury	IS: 3025 (Part-48) : 1992/RA2003	0.0005 to 1 mg/l
		Cadmium	IS: 3025 (Part-41) : 1992/RA1998	0.05 to 2 mg/l
		Selenium	IS: 3025 (Part-56) 2003	0.005 to 10 mg/l
		Arsenic	IS: 3025 (Part-37) : 1988	0.005 to 1 mg/l
		Cyanide	IS: 3025 (Part-27) : 1986/RA2003	0.01 to 100 mg/l
		Lead	IS: 3025 (Part-47) 1994	0.5 to 20 mg/l
		Zinc	IS: 3025 (Part-49) 1994	0.05 to 100 mg/l
		Hexavalent Chromium	IS: 3025 (Part-52) : 2003	0.01 to 50 mg/l
		Alkalinity	IS: 3025 (Part-23) : 1986/RA2009	2 to 10000 mg/l
		Aluminum	IS: 3025 (Part-55) : 2003	5 to 100 mg/l
		Boron	IS: 3025 (Part-57) : 2005	1 to 50 mg/l
		Residual Free Chlorine	IS: 3025 (Part-26) : 1986/RA2003	0.1 to 100 mg/l
		Tin	APHA 22 nd ed.3111B-2012	10 to 200 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 14 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
6.	Natural Mineral Water	Colour	IS: 3025 (Part-4) : 1983	2 to 100 Hazen
		Odour	IS: 3025 (Part-5) : 1983	Qualitative
		Turbidity	IS: 3025 (Part-10) : 1984	1 to 1000 NTU
		Total Dissolved Solids	IS: 3025 (Part-16) : 1984/ RA 2006	5 to 10000 mg/l
		pH	IS: 3025 (Part-11) : 1983	1 to 14
		Nitrate	IS: 3025 (Part-34) : 1988	1 to 100 mg/l
		Nitrite	IS: 3025 (Part-34) : 1988	0.01 to 100 mg/l
		Sulphide	IS: 3025 (Part-29) : 1986/RA2009	0.05 to 20 mg/l
		Manganese	APHA 22 nd ed.3111B-2012	0.1 to 50 mg/l
		Copper	IS: 3025 (Part-42) 1994	0.2 to 10 mg/l
		Zinc	IS: 3025 (Part-49) 1994	0.05 to 100 mg/l
		Fluoride	IS: 3025 (Part-60) : 2008	0.1 to 50 mg/l
		Barium	APHA 22 nd ed. 3111D-2012	1 to 50 mg/l
		Antimony	APHA 22 nd ed.3111B-2012	1 to 50 mg/l
		Borate	IS: 13428:2005(Annex H)	0.1 to 1 mg/l
Silver	APHA 22 nd ed. 3111B-2012	0.1 to 50 mg/l		

Laboratory **HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi**

Accreditation Standard **ISO/IEC 17025: 2005**

Discipline **Chemical Testing** **Issue Date** **04.07.2014**

Certificate Number **T-0799** **Valid Until** **03.07.2016**

Last Amended on **-** **Page** **15 of 28**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Natural Mineral Water	Chloride	IS: 3025 (Part-32) : 1988	1 to 10000 mg/l
		Sulphates	IS: 3025 (Part-24) : 1986	1 to 1000 mg/l
		Magnesium	IS: 3025 (Part-46) : 1994/ RA 2009	1 to 10000 mg/l
		Calcium	IS: 3025 (Part-40) : 1991/RA2009	1 to 10000 mg/l
		Sodium	IS: 3025 (Part-45) : 1993	1 to 300 mg/l
		Alkalinity	IS: 3025 (Part-23) : 1986/RA2009	1 to 1000 mg/l
		Selenium	IS: 3025 (Part-56) 2003	0.005 to 10 mg/l
		Arsenic	IS: 3025 (Part-37) : 1988	0.005 to 1 mg/l
		Cadmium	IS: 3025 (Part-41) : 1992/RA1998	0.05 to 2 mg/l
		Cyanide	IS: 3025 (Part-27) : 1986/RA2003	0.01 to 100 mg/l
		Chromium	IS: 3025 (Part-52) : 2003	0.5 to 10 mg/l
		Mercury	IS: 3025 (Part-48) : 1992/RA2003	0.0005 to 1 mg/l
		Lead	IS: 3025 (Part-47) 1994	0.5 to 20 mg/l
	Nickel	IS: 3025 (Part-54) 2003	0.5 to 10 mg/l	

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 16 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
7.	Packaged Drinking Water	Colour	IS: 3025 (Part-4) : 1983	2 to 100 Hazen
		Odour	IS: 3025 (Part-5) : 1983	-
		Turbidity	IS: 3025 (Part-10) : 1984	1 to 1000 NTU
		Total Dissolved Solids	IS: 3025 (Part-16) : 1984/RA2006	1 to 10000 mg/l
		pH	IS: 3025 (Part-11) : 1983	1 to 14
		Nitrate	IS: 3025 (Part-34) : 1988	1 to 100 mg/l
		Nitrite	IS: 3025 (Part-34) : 1988	0.01 to 50 mg/l
		Sulphide	IS: 3025 (Part-29) : 1986/RA2009	0.05 to 20 mg/l
		Manganese	APHA 22 nd ed.3111B-2012	0.1 to 50 mg/l
		Copper	IS: 3025 (Part-42) 1994	0.2 to 10 mg/l
		Zinc	IS: 3025 (Part-49) 1994	0.05 to 100 mg/l
		Fluoride	IS: 3025 (Part-60) : 2008	0.1 to 100 mg/l
		Barium	APHA 22 nd ed.3111D-2012	1 to 50 mg/l
		Antimony	APHA 22 nd ed. 3111B-2012	1 to 50 mg/l
		Borate	IS: 13428:2005(Annex H)	0.1 to 1 mg/l
Chloride	IS: 3025 (Part-32) : 1988	1 to 10000 mg/l		

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 17 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Packaged Drinking Water	Sulphates	IS: 3025 (Part-24) : 1986	1 to 1000 mg/l
		Magnesium	IS: 3025 (Part-46) : 1994/ RA 2009	1 to 1000 mg/l
		Calcium	IS: 3025 (Part-40) : 1991/RA2009	1 to 1000 mg/l
		Sodium	IS: 3025 (Part-45) : 1993	1 to 300 mg/l
		Alkalinity	IS: 3025 (Part-23) : 1986/RA2009	1 to 10000 mg/l
		Selenium	IS: 3025 (Part-56) 2003	0.005 to 10 mg/l
		Arsenic	IS: 3025 (Part-37) : 1988	0.005 to 1 mg/l
		Cadmium	IS: 3025 (Part-41) : 1992/RA1998	0.05 to 2 mg/l
		Cyanide	IS: 3025 (Part-27) : 1986/RA2003	0.01 to 100 mg/l
		Chromium	IS: 3025 (Part-52) : 2003	0.5 to 10 mg/l
		Mercury	IS: 3025 (Part-48) : 1992/RA2003	0.0005 to 1 mg/l
		Lead	IS: 3025 (Part-47) 1994	0.5 to 20 mg/l
		Nickel	IS: 3025 (Part-54) 2003	0.5 to 10 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 18 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
8.	Quality Tolerance for Water for Ice Manufacture	Colour	IS: 3025 (Part-4) : 1983	2 to 100 Hazen
		Odour	IS: 3025 (Part-5) : 1983	Qualitative
		Turbidity	IS: 3025 (Part-10) : 1984	1 to 1000 NTU
		Dissolved Solids	IS: 3025 (Part-16):1984/ RA 2006	1 to 10000 mg/l
		Alkalinity	IS: 3025 (Part-23) : 1986/RA2009	1 to 10000 mg/l
		Chlorides	IS: 3025 (Part-32) : 1988	1 to 10000 mg/l
		Sulphates	IS: 3025 (Part-24) : 1986	1 to 10000 mg/l
		Iron	IS: 3025 (Part-53) : 2003	0.3 to 100 mg/l
		Manganese	APHA 22 nd ed.3111B-2012	0.1 to 50 mg/l
		Copper	IS: 3025 (Part-42) 1994	0.2 to 10 mg/l
		Zinc	IS: 3025 (Part-49) 1994	0.05 to 100 mg/l
		Magnesium	IS: 3025 (Part-46) : 1994/RA2009	1 to 10000 mg/l
		pH	IS: 3025 (Part-11) : 1983	1 to 14
		Fluorides	IS: 3025 (Part-60) : 2008	0.1 to 100 mg/l
Nitrates	IS: 3025 (Part-34) : 1988	1 to 100 mg/l		

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 19 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Quality Tolerance for Water for Ice Manufacture	Phenols	IS: 3025 (Part-43) : 1992/RA2003	0.001 to 150 mg/l
		Arsenic	IS: 3025 (Part-37) : 1988	0.005 to 1 mg/l
		Chromium	IS: 3025 (Part-52) : 2003	0.01 to 50 mg/l
		Cyanide	IS: 3025 (Part-27) : 1986/RA2003	0.01 to 50 mg/l
		Lead	IS: 3025 (Part-47) 1994	0.5 to 20 mg/l
		Selenium	IS: 3025 (Part-56) 2003	0.005 to 10 mg/l
		Cadmium	IS: 3025 (Part-41) : 1992/RA1998	0.05 to 2 mg/l
		Mercury	IS: 3025 (Part-48) : 1992/RA2003	0.0005 to 1 mg/l
9.	Quality Tolerance for Water for Processed Food Industry	Turbidity	IS: 3025 (Part-10) : 1984	1 to 1000 NTU
		Colour	IS: 3025 (Part-4) : 1983	2 to 100 HU
		Odour	IS: 3025 (Part-5) : 1983	-
		Total Suspended Solids	IS: 3025 (Part-17) : 1984	1 to 10000 mg/l
		Total Hardness	IS: 3025 (Part-21) : 2009	1 to 10000 mg/l
		Chlorides	IS: 3025 (Part-32) : 1988	1 to 10000 mg/l
		Sulphates	IS: 3025 (Part-24) : 1986	1 to 1000 mg/l

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 20 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Quality Tolerance for Water for Processed Food Industry	Iron	IS: 3025 (Part-53) 2003/ APHA 22 nd ed.-3500-Fe-B-2012	0.3 to 100 mg/l
		Manganese	APHA 22 nd ed.3111B-2012	0.1 to 50 mg/l
		Copper	IS: 3025 (Part-42) 1994	0.2 to 10 mg/l
		Zinc	IS: 3025 (Part-49) 1994	0.05 to 100 mg/l
		Magnesium	IS: 3025 (Part-46) :1994/RA 2009	1 to 10000 mg/l
		pH	IS: 3025 (Part-11) : 1983	1 to 14
		Fluorides	IS: 3025 (Part-60) : 2008	0.1 to 100 mg/l
		Nitrates	IS: 3025 (Part-34) : 1988	1 to 100 mg/l
		Phenols	IS: 3025 (Part-43) : 1992/RA2003	0.001 to 100 mg/l
		Arsenic	IS: 3025 (Part-37) : 1988	0.005 to 1 mg/l
		Chromium	IS: 3025 (Part-52) : 2003	0.5 to 10 mg/l
		Cyanide	IS: 3025 (Part-27) : 1986/RA2003	0.01 to 100 mg/l
		Lead	IS: 3025 (Part-47) 1994	0.5 to 20 mg/l
		Selenium	IS: 3025 (Part-56) 2003	0.005 to 10 mg/l
		Cadmium	IS: 3025 (Part-41) : 1992/RA1998	0.05 to 2 mg/l
	Mercury	IS: 3025 (Part-48) : 1992/RA2003	0.0005 to 1 mg/l	

Laboratory	HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	04.07.2014
Certificate Number	T-0799	Valid Until	03.07.2016
Last Amended on	-	Page	21 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
IV. FOOD & AGRICULTURAL PRODUCTS				
1.	Animal – Foods/ Cattle Feeds Compounded	Moisture	IS: 7874 (Part-I):1975	1 to 20%
		Crude Protein	IS: 7874 (Part-I): 1975	2 to 50%
		Crude Fat	IS: 7874 (Part-I): 1975	1.0 to 20%
		Acid Insoluble Ash	IS: 7874 (Part-I): 1975	1 to 7%
		Sodium Chloride	IS: 7874 (Part-II): 1975	0.5 to 5%
		Calcium	IS: 7874 (Part-II): 1975	0.2 to 25%
		Phosphorus	IS: 7874 (Part-II): 1975	0.2 to 10%
2.	Bakery & Confectionery Biscuits	Moisture	IS: 1011 : 2002	1 to 10.0%
		Acid insoluble Ash	IS: 1011 : 2002	0.03 to 0.5%
		Acidity of the extracted fat	IS: 1011 : 2002	0.1 to 2%
		Protein	IS: 7219 : 1973	0.5 to 15%
3.	Cereal Products			
(a)	Wheat Atta	Moisture	IS: 1155 : 1968	5 to 20%
		Total Ash	IS: 1155 : 1968	0.5 to 3%
		Acid Insoluble Ash	IS: 1155 : 1968	0.05 to 0.2%

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 22 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Wheat Atta	Gluten	IS: 1155 : 1968	5 to 12%
		Alcoholic Acidity (as H ₂ SO ₄)	IS: 1155 : 1968	0.05 to 0.5%
		Granularity	IS: 1155 : 1968	Qualitative
(b)	Maida	Moisture	IS: 1009 : 1979	5 to 20%
		Total Ash	IS: 1009 : 1979	0.5 to 3%
		Acid Insoluble Ash	IS: 1009 : 1979	0.02 to 0.5%
		Gluten	IS: 1009 : 1979	5 to 12%
		Alcoholic Acidity	IS: 1009 : 1979	0.05 to 5%
		Granularity	IS: 1009 : 1979	Qualitative
(c)	Semolina (Suji)	Moisture	IS: 1010 : 1968	5 to 20%
		Total Ash	IS: 1010 : 1968	0.05 to 3%
		Acid Insoluble Ash	IS: 1010 : 1968	0.02 to 1%
		Gluten	IS: 1010 : 1968	5 to 12%
		Alcoholic Acidity	IS: 1010 : 1968	0.05 to 0.5%

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 23 of 28

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			
(a)	Fresh Milk	Milk Solids	IS: 1479 (Part-II) : 1961	4 to 15%
		Fat	IS: 1479 (Part-II) : 1961	0.5% to 10%
		Solids not Fat	IS: 1479 (Part-II) : 1961	1 to 20%
(b)	Cheena Paneer	Moisture	IS: 2785 : 1979	10 to 75%
		Milk Fat	IS: 2785 : 1979	10 to 50%
		Protein	IS: 7219 : 1973	5 to 35%
		Ash	IS: 5162 : 1980	1 to 10%
(c)	Curd/Yoghurt (Vegetable)	Total Solids	IS: 4079 : 1967	2 to 20%
		Fat	IS: 1479 (Part-II) : 1961	0.5 to 5%
		Protein	IS: 7219 : 1973	0.5 to 20%
		Acidity (as Lactic Acid)	IS: 1479 (Part-I) : 1960	0.1 to 15 %

Laboratory	HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	04.07.2014
Certificate Number	T-0799	Valid Until	03.07.2016
Last Amended on	-	Page	24 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	Spices and Condiments			
(a)	Garam Masala	Moisture	IS: 1797 : 1985	2 to 15%
		Total Ash	IS: 1797 : 1985	1 to 15%
		Acid Insoluble Ash	IS: 1797 : 1985	0.2 to 5%
		Non Volatile ether extract	IS: 1797 : 1985	5 to 25%
		Volatile oil per 100g	IS: 1797 : 1985	0.2 to 4 ml
		Salt(as NaCl)	IS: 1797 : 1985	0.5 to 4%
		Chromium Salt	IS: 1797 : 1985	Qualitative
(b)	Chili Powder	Total Ash	IS: 1797 : 1985	1 to 12.0%
		Acid Insoluble Ash	IS: 1797 : 1985	0.2 to 2%
		Non- volatile ether extract	IS: 1797 : 1985	5 to 20%
		Moisture	IS: 1797 : 1985	2 to 15%
(c)	Black Pepper Powder	Moisture	IS: 1797 : 1985	2 to 12.0%
		Total Ash	IS: 1797 : 1985	0.5 to 10%
		Acid Insoluble ash	IS: 1797 : 1985	0.5 to 2%
		Non volatile ether extract	IS: 1797 : 1985	1 to 10%

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 25 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
(d)	Turmeric Powder	Moisture	IS: 1797 : 1985	2 to 12.0%
		Total Ash	IS: 1797 : 1985	1 to 15%
		Acid insoluble ash	IS: 1797 : 1985	0.5 to 2%
		Presence of chromates	IS: 3576 : 2010	Qualitative
6.	Stimulant Foods			
(a)	Tea	Moisture	IS: 13853 : 1994	2 to 12%
		Total Ash	IS: 13854 : 1994	0.5 to 10%
		Water –soluble ash of total ash	IS: 13855 : 1993	10 to 70%
		Alkalinity of water soluble ash	IS: 13856 : 1993	0.5 to 2.5%
		Acid insoluble ash	IS: 13857 : 1993	0.1 to 3 %
		Water extract	IS: 13862 : 1999	5 to 40.0%
		Water insoluble Ash	IS: 13855 : 1993	10 to 40%
7.	Starch Foods			
(a)	Corn Flakes	Moisture	IS: 1158 : 1973	2 to 10%
		Total Ash	IS: 1158 : 1973	0.2 to 5.0%
		Acid insoluble ash	IS: 1158 : 1973	0.02 to 0.2%
		Alcoholic Acidity	IS: 1158 : 1973	0.05 to 0.5%

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 26 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
(b)	Custard Powder	Moisture	IS: 4706 (Part-II) : 1978	2 to 12%
		Total Ash	IS: 4706 (Part-II) : 1978	0.2 to 2%
		Acid Insoluble ash	IS: 4706 (Part-II) : 1978	0.05 to 2.5%
		Gelling Power	IS: 1007 : 1984	Qualitative
(c)	Macaroni Vermicelli	Moisture	IS: 1485 : 1993	2 to 15%
		Total Ash	IS: 1485 : 1993	0.2 to 2%
		Acid insoluble Ash	IS: 1485 : 1993	0.02 to 0.5%
		Total Protein	IS: 1485 : 1993	2 to 20%
		Free Acidity	IS: 1485 : 1993	0.2 to 10%
8.	Namkeens/ Snack foods/ Bhujia	Moisture	IS: 15271 : 2003	1 to 10%
		Acid Insoluble ash	IS: 15271 : 2003	0.02 to 2%
		Fat	IS: 15271 : 2003	5 to 60%
		Acid value of the extracted Fat	IS: 15271 : 2003	0.15 to 2%
		Peroxide Value of the extracted Fat	IS: 15271 : 2003	1 to 25 meq. Oxygen/Kg Fat

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 27 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
9.	Chewing Gum/Bubble Gum	Moisture	IS: 6287 : 1985	1 to 20%
		Gum Base	IS: 6747 : 1981	5 to 30%
		Sulphated Ash	IS: 6287 : 1985	2 to 20%
		Acid Insoluble Ash	IS: 6287 : 1984	0.5 to 5% %
10.	Iodized salt	Moisture	IS: 7224 : 2006	0.1 to 3%
		Water insoluble matter	IS: 7224 : 2006	0.1 to 5% min
		Chloride content	IS: 7224 : 2006	5 to 100%
		Matter soluble in water other than sodium chloride	IS: 7224 : 2006	0.5 to 2%
		Calcium	IS: 7224 : 2006	0.05 to 0.5%
		Magnesium	IS: 7224 : 2006	0.05 to 0.5%
		Sulphate content	IS: 7224 : 2006	0.1 to 1% (limit test)
		Iodine content	IS: 7224 : 2006	5 to 150 ppm
Alkalinity	IS: 7224 : 2006	0.05 to 0.5%		

Laboratory HiTech Testing and Research Centre Pvt. Ltd., F- 1/7, Okhla Industrial Area, Phase-I, New Delhi

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 04.07.2014

Certificate Number T-0799 **Valid Until** 03.07.2016

Last Amended on - **Page** 28 of 28

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
11.	Edible Oil/Fat Refined Edible Oil/Fat	Free fatty Acid as Oleic Acid	IS: 548(Part-I) : 1964	0.05 to 0.5%
		Peroxide Value	IS: 548(Part-I) : 1964	1 to 25 meq. Oxygen/Kg Fat
12.	Chewing Tobacco Zarda Type	Moisture Content	IS: 2344 : 1994	0.5 to 25%
		Total Ash	IS: 2344 : 1994	0.5 to 25%
		Ash insoluble in HCL.	IS: 2344 : 1994	0.5 to 25%
V.	NOISE			
1.	Noise	Noise Level (Ambient)	IS: 9989-1981	30 to 130 dB
		Noise Level (Source)	IS: 4758 -1989	30 to 130 dB
VI.	SOIL			
1.	Soil	pH(1:2.5)	IS: 2720 (Part-26):1987RA-2002	1 to 14
		Conductivity(1:2) at 25 ⁰ C	IS: 2720 (Part-21):1987RA-2006	1 to 10000 micro mho/cm
		Organic Matter	IS: 2720 (Part-22):1987RA-2006	0.1 to 10 %
		Water Soluble Sulphate	IS: 2720 (Part-27):1987RA-2001	1 to 1000mg/kg
		Soil Grain Size Analysis	IS: 2720 (Part-4):1985	Qualitative

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