

Laboratory **Shree Green Environmental Laboratories, 806, SNS Platina, Vesu, Surat, Gujarat**

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

Certificate Number **TC-7983**

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Validity **10.10.2018 to 09.10.2020**

Last Amended on --

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.	<b>Water (Surface Water, Ground water)</b>	pH	APHA (23 <sup>rd</sup> Edition) 4500-H+B IS 3025 (Part 11)	4 to 10
		Temperature	APHA (23 <sup>rd</sup> Edition) 2550	10 °C to 50 °C
		Total dissolved solids	APHA (23 <sup>rd</sup> Edition) 2540 B	10 mg/L to 2500 mg/L
		Total Hardness	IS 3025 (Part 21) APHA (23 <sup>rd</sup> Edition) 2340C	5 mg/L to 1000 mg/L
		Calcium	IS 3025 (Part 40) APHA (23 <sup>rd</sup> Edition) 3500 Ca B	2 mg/L to 600 mg/L
		Magnesium	IS 3025 (Part 46) APHA (23 <sup>rd</sup> Edition) 3500 Mg B	2 mg/L to 200 mg/L
		Chloride	IS 3025 (Part 32) APHA (23 <sup>rd</sup> Edition) 4500 Cl-B	2 mg/L to 1500 mg/L
		Total Alkalinity	IS 3025 (Part 23) APHA (23 <sup>rd</sup> Edition) 2320 B	5 mg/L to 1000 mg/L
		Sodium	IS 3025 (Part 45) APHA (23 <sup>rd</sup> Edition) 3500 Na B	5 mg/L to 250 mg/L
		Potassium	IS 3025 (Part 45) APHA (23 <sup>rd</sup> Edition) 3500 K B	1 mg/L to 250 mg/L
		Ammonical Nitrogen	IS 3025 (Part 34)	0.1 mg/L to 10 mg/L
		Iron as Fe	IS 3025 (Part 53) APHA (23 <sup>rd</sup> Edition) 3500 Fe B	0.1 mg/L to 10 mg/L

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		Phosphate	APHA (23 <sup>rd</sup> Edition) 4500 P, D	0.1 mg/L to 50 mg/L
		Turbidity	APHA (23 <sup>rd</sup> Edition) 2130 B	1 NTU to 200 NTU
		Conductivity	APHA (23 <sup>rd</sup> Edition) 2510 B	1 µS/cm to 10000 µS/cm
<b>II.</b>	<b>POLLUTION AND ENVIRONMENT</b>			
<b>1.</b>	<b>Waste Water (Effluent/ Sewage)</b>	pH	APHA (23 <sup>rd</sup> Edition) 4500 H <sup>+</sup> B IS 3025 (Part 11)	2 to 12
		Total dissolved solids	APHA (23 <sup>rd</sup> Edition) 2540 B	10 mg/L to 20000 mg/L
		Total Hardness	IS 3025 (Part 21) APHA (23 <sup>rd</sup> Edition) 2340C	10 mg/L to 10000 mg/L
		Calcium	IS 3025 (Part 40) APHA (23 <sup>rd</sup> Edition) 3500 Ca B	4 mg/L to 4000 mg/L
		Magnesium	IS 3025 (Part 46) APHA (23 <sup>rd</sup> Edition) 3500 Mg B	4 mg/L to 1000 mg/L
		Chloride	IS 3025 (Part 32) APHA (23 <sup>rd</sup> Edition) 4500 Cl-B	4 mg/L to 10000 mg/L
		Ammonical Nitrogen	IS 3025 (Part 34)	5 mg/L to 500 mg/L
		Iron as Fe	IS 3025 (Part 53) APHA (23 <sup>rd</sup> Edition) 3500 Fe B	0.1 mg/L to 50 mg/L
		Phosphate	APHA (23 <sup>rd</sup> Edition) 4500 P, D	0.1 mg/L to 50 mg/L
		Total Alkalinity as CaCO <sub>3</sub>	IS 3025 (Part 23) APHA (23 <sup>rd</sup> Edition) 2320 B	10 mg/L to 2000 mg/L
		Biochemical Oxygen Demand (BOD) 3 days at 27 °C	IS 3025 (Part 44)	5 mg/L to 5000 mg/L

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		Chemical Oxygen Demand (COD)	IS 3025 (Part 58)	5 mg/L to 10000 mg/L
		Sodium	IS 3025 (Part 45) APHA (23 <sup>rd</sup> Edition) 3500 Na B	5 mg/L to 500 mg/L
		Potassium	IS 3025 (Part 45) APHA (23 <sup>rd</sup> Edition) 3500 K B	5 mg/L to 250 mg/L
		Temperature	APHA (23 <sup>rd</sup> Edition) 2550	5°C to 60°C
		Acidity	IS 3025 (Part 22)	25 mg/L to 1000 mg/L
		Total Solids	APHA (23 <sup>rd</sup> Edition) 2540B	10 mg/L to 20000 mg/L
		Total Suspended Solids	APHA (23 <sup>rd</sup> Edition) 2540D	10 mg/L to 2000 mg/L
		Fixed Solids	APHA (23 <sup>rd</sup> Edition) 2540E	10 mg/L to 2000 mg/L
		Volatile Solids	APHA (23 <sup>rd</sup> Edition) 2540E	10 mg/L to 2000 mg/L
		Chlorine residual	APHA (23 <sup>rd</sup> Edition) 4500 Cl-B	0.2 mg/L to 10 mg/L
		Nitrite Nitrogen	APHA (23 <sup>rd</sup> Edition) 4500 NO <sub>2</sub> B	0.5 mg/L to 10 mg/L
		Nitrate Nitrogen	APHA (23 <sup>rd</sup> Edition) 4500 NO <sub>3</sub> B	0.5 mg/L to 300 mg/L
		Sulphate	APHA (23 <sup>rd</sup> Edition) 4500 SO <sub>4</sub> <sup>-2</sup> E	1 mg/L to 500 mg/L
		Silica	APHA (23 <sup>rd</sup> Edition) 4500 SiO <sub>2</sub> C	0.1 mg/L to 100 mg/L
		Oil & Grease	IS 3025 (Part 39) APHA (23 <sup>rd</sup> Edition) 5520G	3 mg/L to 500 mg/L
		Cyanide	APHA (23 <sup>rd</sup> Edition) 4500 CN-E	0.1 mg/L to 20 mg/L
		Sulphide	APHA (23 <sup>rd</sup> Edition) 4500 S <sup>-2</sup> F	0.5 mg/L to 50 mg/L
		Dissolved Oxygen	IS 3025 (Part 38)	2 mg/L to 10 mg/l
<b>2.</b>	<b>Wastes (Liquid/ Slurry/ Sludge/ Solid/ Semi-Solid/ Soil/ Sediments)</b>	pH	IS 2720 (Part 26)	2 to 12
		Moisture Content	IS 2720 (Part 18)	2 % to 60 %
		Bulk Density	IS 2720 (Part 8)	1 gm/cm <sup>3</sup> to 3 gm/cm <sup>3</sup>
		Porosity	IS 2720 (Part 8)	10 % to 90 %
		Electrical Conductivity	IS 14767	10 µS/cm to 5000 µS/cm

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		Calcium	SGEL/SOP/SS/06	50 mg/kg to 5000 mg/kg
		Magnesium	SGEL/SOP/SS/06	50 mg/kg to 5000 mg/kg
		Organic Carbon	IS 2720 (Part 22)	0.1 % to 35 %
		Organic Matter	IS 2720 (Part 22)	0.2 % to 60 %
		Available Sulfur (as SO <sub>4</sub> <sup>-2</sup> )	IS 2720 (Part 27)	35 mg/100 gm to 1000 mg/100 gm
		Total Nitrogen	SGEL/SOP/SS/01	5 mg/kg to 100 mg/kg
		Available Phosphorus	SGEL/SOP/SS/02	0.1 % to 0.5 %
		Chloride (as Cl <sup>-</sup> )	SGEL/SOP/SS/04	10 mg/100 g to 1000 mg/100 g
<b>III.</b>	<b>ATMOSPHERIC POLLUTION</b>			
<b>1.</b>	<b>Ambient Air</b>	Particulate Matter-PM <sub>10</sub>	IS 5182 (Part 23)	10 µg/m <sup>3</sup> to 400 µg/m <sup>3</sup>
		Particulate Matter-PM <sub>2.5</sub>	SGEL/SOP/AA/03	10 µg/m <sup>3</sup> to 300 µg/m <sup>3</sup>
		Sulphur dioxide SO <sub>2</sub>	IS 5182 (Part 2)	6 µg/m <sup>3</sup> to 600 µg/m <sup>3</sup>
		Oxides of Nitrogen (NO <sub>x</sub> )	IS 5182 (Part 6)	6 µg/m <sup>3</sup> to 750 µg/m <sup>3</sup>
		Ammonia (NH <sub>3</sub> )	SGEL/SOP/AA/06	20 µg/m <sup>3</sup> to 500 µg/m <sup>3</sup>
		Carbon Sulphide (CS <sub>2</sub> )	IS 5182 (Part 20)	5 µg/m <sup>3</sup> to 50 µg/m <sup>3</sup>
		Hydrogen Sulphide (H <sub>2</sub> S)	IS 5182 (Part 7)	10 µg/m <sup>3</sup> to 100 µg/m <sup>3</sup>
		Chlorine (Cl <sub>2</sub> )	IS 5182 (Part 19)	3 µg/m <sup>3</sup> to 500 µg/m <sup>3</sup>
		Ozone (O <sub>3</sub> )	IS 5182 (Part 9)	20 µg/m <sup>3</sup> to 60 µg/m <sup>3</sup>
<b>2.</b>	<b>Stack Emission</b>	Particulate Matter (PM)	IS 11255 (Part 1)	10 mg/Nm <sup>3</sup> to 1000 mg/Nm <sup>3</sup>
		Sulphur Dioxide (SO <sub>2</sub> )	IS 11255 (Part 2)	5 mg/Nm <sup>3</sup> to 1000 mg/Nm <sup>3</sup>
		Oxides of Nitrogen (NO <sub>x</sub> )	IS 11255 (Part 7)	5 mg/Nm <sup>3</sup> to 1000 mg/Nm <sup>3</sup>
		Ammonia (NH <sub>3</sub> )	IS 11255 (Part 6)	5 mg/Nm <sup>3</sup> to 500 mg/Nm <sup>3</sup>
		Carbon disulphide (CS <sub>2</sub> )	IS 11255 (Part 4)	5 mg/Nm <sup>3</sup> to 100 mg/Nm <sup>3</sup>
		Hydrogen Sulphide (H <sub>2</sub> S)	IS 11255 (Part 4)	5 mg/Nm <sup>3</sup> to 100 mg/Nm <sup>3</sup>

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**CHEMICAL TESTING**

<u>AT SITE</u>				
I.	ATMOSPHERIC POLLUTION			
1.	Ambient Noise Level	Ambient Noise (Leq)	IS 9989	30 dB(A) to 130 dB(A)