

Laboratory	Quality Control Department, Reliance Industries Limited, Dahej Manufacturing Division, Dahej, Gujarat		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Chemical Testing	Issue Date	30.06.2016
Certificate Number	T-1434	Valid Until	29.06.2018
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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.	INDUSTRIAL & FINE CHEMICALS			
1.	Monoethylene Glycol	Purity	ASTM E 2409 - 13	85 % to 100 %
		Moisture	ASTM E 1064- 12	0.0025 % to 0.25 %
		Acidity	ASTM D 1613 –12	1 mg/kg to 200 mg/kg
		Aldehyde	ASTM E 2313 - 08	0.5 mg/kg to 20 mg/kg
		Iron	ASTM E 202 - 12/E 1615- 08	0 to 0.5 mg/kg
		Specific Gravity	ASTM D 4052-11	1.1000 to 1.1300
		Distillation Range	ASTM D 1078 - 11	
		IBP		50.0 °C to 300.0 °C
		95% DP		50.0 °C to 300.0 °C
		Glycol Impurities DEG	ASTM E 2409 - 13	0.005 % to 0.5 %
	Colour	ASTM D 1209 –11	1 pt-co to 250 pt-co	
	UV Transmittance	ASTM E 2193 -16		
	220 nm		0 to 100 %T	
	275 nm		0 to 100 %T	
	350 nm		0 to 100 %T	
2.	Diethylene Glycol	Purity	ASTM E 2409 - 13	85 % to 100 %
		Moisture	ASTM E 1064- 12	0.0025 % to 0.25 %
		Acidity	ASTM D 1613 –12	1 mg/kg to 200 mg/kg

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	Diethylene Glycol	Colour	ASTM D 1209 –11	1 pt-co to 250 pt-co
		Specific Gravity	ASTM D 4052 - 11	1.1000 to 1.1300
		Distillation Range 5% 95%	ASTM D 1078 - 11	50.0 °C to 300.0 °C 50.0 °C to 300.0 °C
		Glycol Impurities MEG TEG	ASTM E 2409 - 13	0.005 % to 0.5 % 0.005 % to 0.5 %
3.	Tri-Ethylene Glycol	Purity	ASTM E 2409 - 13	85 % to 100%
		Moisture	ASTM E 1064- 12	0.0025 % to 0.25 %
		Acidity	ASTM D 1613 –12	1 mg/kg to 200 mg/kg
		Colour	ASTM D 1209 –11	1 pt-co to 250 pt-co
		Specific Gravity	ASTM D 4052 - 11	1.1000 to 1.1300
		Distillation Range 5% 95%	ASTM D 1078 - 11	50.0 °C to 300.0 °C 50.0 °C to 300.0 °C
		Glycol Impurities MEG DEG	ASTM E 2409 - 13	0.0050 % to 0.5 % 0.0050 % to 0.5 %
4.	Pure Terephthalic Acid (PTA)	b* Value	DJINH803, Issue:1, dt. 25.11.13	0.2 to 2.0
		Water	DJINH807, Issue:1, dt. 25.11.13	0.05 % to 5.0 %

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	Pure Terephthalic Acid (PTA)	4-Carboxy Benzaldehyde (4-CBA)	ASTM D7884 -13	5 mg/kg to 50 mg/kg
		p-Toluic Acid (p-TA)	ASTM D7884 -13	20 mg/kg to 350 mg/kg
		Acid Number	DJINH801, Issue:1, dt. 25.11.13	500 mg KOH/gm to 1000 mg KOH / gm
		Ash Content	DJINH831, Issue:1, dt. 25.11.13	5 mg/kg to 15 mg/kg
		Heavy metals (Co, Mn, Fe)	DJINH808, Issue:1, dt. 25.11.13	0.5 mg/kg to 50 mg/kg
5.	Caustic Soda Lye (CSL)	Sodium Hydroxide (as NaOH)	IS 252: 2013, Method A-4	30 % to 50 %
		Sodium Carbonate (as Na ₂ CO ₃)	IS 252: 2013, Method A-3	0.02 % to 0.50 %
		Iron (as Fe)	ASTM E 291-09	0.1 mg/kg to 20 mg/kg
II.	GASES			
1.	Natural Gas (Rich Gas)	Nitrogen	ASTM D 1945 -14	0.001 % to 2.0 %
		Carbon Dioxide		1.00 % to 7.0 %
		Methane		50.0 % to 90.0%
		Ethane		3.0 % to 10.0 %
		Propane		1.0 % to 5.0 %
		i-Butane		0.001 % to 2.0 %
		n-Butane		0.001 % to 2.0 %

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2.	High density polyethylene (HDPE)	Melt Flow Rate	ASTM D 1238 – 13 MFR 190 / 5 MFR 190 / 5 MFR 190 / 21.6	0.15 g/10 min to 1.00 g/10 min 1.10 g/10 min to 2.50 g/10 min 10.1 g/10 min to 30.0 g/10 min
		Density	ASTM D 792 – 13, Method B	0.940 kg/m ³ to 0.960 kg/m ³
3.	Poly Ethylene Terephthalate (PET)	Intrinsic viscosity (IV) @ 30 °C	ASTM D 4603 - 03	0.500 dL/g to 1.000 dL/g
		Acetaldehyde (AA)	ASTM F 2013 - 10	0.01 µg/g to 100.00 µg/g
		Colour L* (CIE, C/2)	ASTM D 6290 - 13	0.00 to 100.00
		Colour a* (CIE, C/2)	ASTM D 6290 - 13	(-) 2.00 to 2.50
		Colour b* (CIE, C/2)	ASTM D 6290 - 13	(-) 5.00 to 2.50
		Moisture	ASTM D 6980 - 12	0.02 % to 1.00 %
	Crystallinity	ASTM D 792 - 13	25 % to 100 %	

IV. POLLUTION & ENVIRONMENT

1.	Treated Effluent Water (TEW)	pH Value	APHA 22 nd Edition, 4500-H ⁺ B	1 to 12
		Chemical Oxygen Demand	APHA 22 nd Edition 5220 B	5 mg/L to 50000 mg/L
		Total Dissolved Solids	APHA 22 nd Edition 2540 C	10 mg/L to 10000 mg/L
		Total Suspended Solids	APHA 22 nd Edition, 2540 D	5 mg/L to 200 mg/L
		Sulfide (as S ²⁻)	APHA 22 nd Edition, 4500 - S ²⁻ F	0.1 mg/L to 10 mg/L
		Sulfate (as SO ₄ ²⁻)	APHA 22 nd Edition 4500-SO ₄ ²⁻ E	1 mg/L to 500 mg/L

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	Treated Effluent Water (TEW)	Chloride (as Cl ⁻)	APHA, 22 nd Edition, 4500 – Cl ⁻ D	5 mg/L to 5000 mg/L

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