

Laboratory Quality Assurance Department, Reliance Industries, Vadodara
Manufacturing Division, P.O. Petrochemicals, Vadodara, Gujarat

Accreditation Standard ISO/IEC 17025: 2005

Discipline Chemical Testing **Issue Date** 12.04.2016

Certificate Number T-2200 **Valid Until** 11.04.2018

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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.	PEROLEUM AND PRODUCTS			
1.	Mono Ethylene Glycol (MEG)	UV Transmittance %T		
		220 nm	ASTM E 2193-08	20 % to 75 % T
		275 nm	ASTM E 2193-08	20 % to 95 % T
		350 nm	ASTM E 2193-08	20 % to 100 % T
		Aldehyde in MEG	ASTM E 2313-08	0.02 mg/kg to 50 mg/kg
		Iron as Fe	ASTM E 394-09	0.01 mg/kg to 0.5 mg/kg
		DEG content in MEG	ASTM E 2409-13	50 mg/kg to 3000 mg/kg
		Water	ASTM E 203-08	0.001 Wt % to 0.2 Wt %
		Sp.Gr@20°C	ASTM D4052 -11	1.1151 to 1.1300
		Dist. Range	ASTM D 1078-11	IBP 194.0 °C Min- FBP 202.0 °C Max
		Acidity as CH3COOH	ASTM D 1613- 06 (2012)	0.001 mg/kg to 50 mg/kg
		Color Pt-Co	ASTM D1209-05 (2011)	5 to 100 Pt-Co units
	Purity of MEG	ASTM E 2409- 13	95.00 Wt% to 99.99 Wt%	
	pH (10% aqueous)	ASTM D 1293- 12	2.0 to 12.0	
2.	EO	Moisture	ASTM E-203-08	0.0025 Wt % to 5.0 Wt %
		Aldehyde as CH3CHO	SD DC-163A RILVMD/SOP/QAD/EOEG/09: 2014	2 mg/kg to 100 mg/kg

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	EO	Non Volatile Residue / matter	ASTM D1353-13	0.0005 Wt % to 0.5 Wt %
		Acidity as CH ₃ COOH	ASTM D-1613-06(2012)	0.0005 Wt % to 0.05 Wt %
		Chloride	SD A- 137	0.01 mg/kg to 1.0 mg/kg
3.	Linear Alkyl Benzene (LAB)	Specific Gravity @ 15.5° C	ASTM D 4052-11	0.8500 to 0.8700
		Bromine Index	ASTM D2710-13 UOP-304	1 mg Br/100 g to 10 mg Br/100 g
		Paraffin content	UOP 673-12 & UOP 698 – 04	0.1 Wt % to 1.0 Wt %
		Homologue distribution		
		C10 LAB	UOP 673-12 & UOP 698-04	5 Wt % to 30 Wt %
		C11 LAB	UOP 673-12 & UOP 698-04	5 Wt % to 50 Wt %
		C12 LAB	UOP 673-12 & UOP 698-04	5 Wt % to 50 Wt %
		C13 LAB	UOP 673-12 & UOP 698-04	5 Wt % to 30 Wt %
		C14 LAB	UOP 673-12 & UOP 698-04	0.2 Wt % to 4 Wt %
		C10 To C13 LAB	UOP 673-12 & UOP 698-04	90 Wt % to 99.9 Wt %
		Average Molecular Weight	RILVMD/SOP/QAD/LAB/25-2014 Issue. 02, Issue Dated 01.09.14	235 to 245
		Moisture	UOP-481-10	10 mg/kg to 200 mg/kg

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4.	Linear Alkyl Benzene (LAB)	Acid Wash Colour (Transmittance @ 403nm)	RILVMD/SOP/QAD/LAB/19: 2014	40 %T to 100 %T
		Say bolt Colour	ASTM D 156-12	(-)16 to (+) 30 Saybolt unit
		Doctor Test	UOP 41 -07	Qualitative (Negative/Positive)
	GOP Lab Benzene	2 Phenyl Alkanes	UOP 673- 12 & UOP 698- 04	10 Wt% to 30 Wt%
		Purity	ASTM D 7360-11	90 Wt % to 99.99 Wt %
		Total Non-aromatics	ASTM D 7360-11	5 mg/kg to 2000 mg/kg
		Toluene	ASTM D 7360-11	5 mg/kg to 2000 mg/kg
		Bromine Index	ASTM D 2710-13 UOP 304 - 08	(1 mg to 500 mg) Br/ 100 g
		Sp Gr. @ 15.5 / 15.5	ASTM D 4052-11	0.8500 to 0.8900
		Color Pt-CO	ASTM D1209-05(2011)	(5 to 100) Pt-Co unit
		Acid wash color	ASTM D848-14	0.5 to 5
		Moisture (by KFR)	ASTM E203-08	5 mg/kg to 500 mg/kg
		Distillation Range : 1 to 96 % volume	ASTM D850-11	30 °C to 250 °C
		Acidity	ASTM D - 847	Qualitative
Total Sulfur	ASTM D 5453-12	1 mg/kg to 5 mg/kg		

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5.	GOP Lab Toluene	Sp Gr. @ 15.5 / 15.5	ASTM D 4052-11	0.8500 to 0.8900
		Total Non-aromatics	ASTM D 5917-12	350 mg/kg to 2000 mg/kg
		Purity	ASTM D 5917-12	99.80 Wt % to 99.96 Wt %
		Benzene	ASTM D 5917-12	25 mg/kg to 500 mg/kg
		C8+	ASTM D 5917-12	25 mg/kg to 500 mg/kg
		Moisture (by KFR)	ASTM E 203-08	5 mg/kg to 500 mg/kg
		Color Pt-CO	ASTM D1209-05(2011)	(5 to 100) Pt-Co unit
		Acid wash color	ASTM D 848-14	0.5 to 5.0
6.	Acrylonitrile	Color	ASTM D 1209-05(2011)	1 Pt-Co unit to 100 Pt-Co unit
		Moisture	ASTM E1178-08/E203-08	0.05 Wt %to 3.00 Wt %
		Acidity as CH3COOH	ASTM E 1788-08	0.0005 Wt % to 0.5 Wt %
		pH of 5 % aq. soln.	(ACRN 19) RILVMD/SOP/QAD/ACN/27-2013	2.0 to 12.0
		Inhibitor MEHQ	ASTM E1178-08	10 mg/kg to 150 mg/kg
	Non-volatile matter	(ACRN 16) RILVMD/SOP/QAD/ACN/29-2013	5 mg/kg to 100 mg/kg	

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	Acrylonitrile	Aldehyde as CH ₃ CHO	(ACRN 05) RILVMD/SOP/QAD/ACN/30-2013	2 mg/kg to 100 mg/kg
		Hydrocyanic acid(HCN)	ASTM E1178-08	4 Wt % to 50 Wt %
		Acetonitrile	ASTM E 1863-07	50 mg/kg to 1000 mg/kg
		Acetone	ASTM E 1863-07	2 mg/kg to 1000 mg/kg
		Propionitrile	ASTM E 1863-07	1 mg/kg to 200 mg/kg
		Oxazole	ASTM E1863-07	1 mg/kg to 50 mg/kg
		Crotonitrile	ASTM E 1863-07	1 mg/kg to 50 mg/kg
7.	Acetonitrile	Color	ASTM D1209-05(2011)	1 Pt-Co unit to 100 Pt-Co unit
		Moisture	ASTM-E 203-08	0.05 Wt % to 5.00 Wt %
		Ammonia	(ACEN 06) RILVMD/SOP/QAD/ACN/39-2013	2 mg/kg to 200 mg/kg
		Acidity as CH ₃ COOH	(ACEN 04) RILVMD/SOP/QAD/ACN/37-2013	0.0005 Wt % to 0.5 Wt %
		Acrylonitrile	(ACEN 05) RILVMD/SOP/QAD/ACN/40-2013	1 mg/kg to 500 mg/kg
		Oxazole	(ACEN 05) RILVMD/SOP/QAD/ACN/40-2013	1 mg/kg to 2000mg/kg

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	Acetonitrile	Propionitrile	(ACEN 05) RILVMD/SOP/QAD/ACN/40- 2013	1 mg/kg to 500 mg/kg
II. POLLUTION AND ENVIRONMENT				
1.	Effluent	Ph	APHA (22 nd Edition) 4500H ⁺ B: 2012	2.0 to 12.0
		Chemical Oxygen Demand	APHA (22 nd Edition) 5220 D: 2012	10 mg/l to 1500 mg/l
		Fluoride	APHA (22 nd Edition) 4500 F C: 2012	0.05 mg/l to 20 mg/l
		Cyanide	APHA (22 nd Edition) 4500 CN AE: 2012	0.02 mg/l to 10.00 mg/l
III. WATER				
1.	DM Water	Ph	APHA (22 nd Edition) 4500 H ⁺ B: 2012	2.0 to 12.0
		Conductivity at 25°C	APHA (22 nd Edition) 2510 B: 2012	0.10 µS/cm to 2.00 µS/cm
		Silica	ASTM D 859-10	0.01 mg/l to 2.00 mg/l
IV. PLASTIC AND RESINS				
1.	Poly Vinyl Chloride (PVC)	Residual Vinyl Chloride Monomer	ASTM D 3749 –13	1 mg/kg to 50 mg/kg
		Heat Loss	ASTM D 3030-11	0.02 Wt % to 0.45 Wt %
		Apparent Bulk Density	ASTM D 1895-96 (2010)	0.40 g/ml to 0.59 g/ml

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	Poly Vinyl Chloride (PVC)	Flow Time	ASTM D1895 –96 (2010)	17 s to 35 s
		Porosity	ASTM D 3367-13	0.20 ml/g to 0.31 ml/g
		Inherent Viscosity	ASTM D 1243-15	0.70 to 0.96
2.	Poly Ethylene (PE)	Melt Flow Index	ASTM D1238-13	0.15 g/10 min to 50 g/10 min
		Density	ASTM D 792-13	0.910 g/ml to 0.930 g/ml
3.	Polypropylene (PP IV)	Melt Flow Index	ASTM D 1238-13	0.15 g/10 min to 1400 g/10 min
4.	Poly Propylene copolymer (PPCP)	Melt Flow Index	ASTM D 1238-13	0.15 g/ 10 min to 75 g/10 min
5.	Polybutadiene Rubber (CISA01)	Mooney viscosity	ASTM D1646-07(2012)	20 MU to 100 MU
		Volatile matter	ASTM D 5668-14	0.01 Wt % to 5.0 Wt %
		Ash Content	ASTM D5667 –95(2010)	0.1 Wt % to 1 Wt %
6.	Polybutadiene Rubber (CISA1220)	Mooney viscosity	ASTM D 1646-07 (2012)	20 MU to 100 MU
		Volatile matter	ASTM D 5668-14	0.01 Wt % to 5.0 Wt %
		Ash Content	ASTM D5667-95(2010)	0.1 Wt % to 1 Wt %

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