**Test Method Specification** 

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

S.No. Product /

**Discipline Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 1 of 21

**Specific Test Performed** 

	Material of Test		against which tests are performed	Limits of Detection
I. D	RUGS & PHARMACE	EUTICALS		
1.	Acetic Acid	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Colour	IS 8768-1988, (RA 2006)	5.0 to 200 HU.
		Crystallization point	IS 695-1986, (RA 2008)	14.0 to 16.4°C
		Formic acid	IS 695-1986, (RA 2008)	0.01 to 0.350%
		Acetaldehyde	ASTM D 2191-06, Page-104	0.0005 to 0.10%
		Acetic Acid content	BS 576 (Part 2)- 1988	98.5 to 99.99%
		Water Content	IS 2362-1993, (RA 2010)	0.010 to 2.0%
		Chloride	IS 695-1986, (RA 2008)	Pass / Fail (Qualitative)
		Sulphate	IS 695-1986, (RA 2008)	Pass / Fail (Qualitative)
		Heavy Metal	IS 695-1986, (RA 2008)	Pass / Fail (Qualitative)
		Iron Content	IS 695-1986, (RA 2008)	Pass / Fail (Qualitative)

Range of Testing /

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 2 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Acetic Anhydride	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Colour	IS 8768-1988, (RA 2006)	5.0 to 200 HU
		Reducing Substances	IS 1235-1988, (RA 2005)	Pass / Fail (Qualitative)
		Chloride	IS 1235-1988, (RA 2005)	Pass / Fail (Qualitative)
		Sulphate	IS 1235-1988, (RA 2005)	Pass / Fail (Qualitative)
		Purity	FPTO-021, Issue date: 01/10/13	0.25 to 99.99%
3.	Ethyl Acetate	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Colour	IS 8768-1988, (RA 2006)	5.0 to 200 HU
		Odour	FPTO-013, Issue date: 01/10/13	Pass / Fail
		Moisture	IS 2362-1993, (RA 2010)	(Qualitative) 0.01 to 2.0%
		Acidity	IS 229-1993, (RA 2007)	10 to 5000 ppm
		Purity	FPTO-027, Issue date: 01/10/13	0.25 to 99.99%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 3 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	Vinyl Acetate	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
	Monomer	Acidity w/w	ASTM D 2086-03, Page-97	20 to 5000 ppm
		Aldehyde (as acetaldehyde)	RMTO-020, Issue date: 01/10/13	0.00075 to 1.0%
		Acetone	RMTO-020, Issue date: 01/10/13	0.00075 to 1.0%
		Methyl acetate	RMTO-020, Issue date: 01/10/13	0.00075 to 1.0%
		Ethyl acetate	RMTO-020, Issue date: 01/10/13	0.00075 to 1.0%
		Moisture	IS 2362-1993 (RA 2010)	0.0010 to 2.0%
		Vinyl acetate monomer	RMTO-020, Issue date: 01/10/13	0.025 to 99.99%
		Inhibitor content	ASTM D 2193-06, Page-111	2.0 to 30.0 ppm
5.	Formaldehyde-	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
	37%	Colour (Pt-Co scale)	IS 8768-1988, (RA 2006)	5 to 200 HU
		Acidity as formic acid	IS 3321-1973, (RA 2006)	0.0010 to 0.50%
		Aldehyde content as HCHO	IS 3321-1973, (RA 2006)	30.0 to 50.0%
		Methanol	IS 3321-1973, (RA 2006)	Colourless to pale yellow 20 to 5000 ppm 0.00075 to 1.0% 0.00075 to 1.0% 0.00075 to 1.0% 0.00075 to 1.0% 0.0010 to 2.0% 0.025 to 99.99% 2.0 to 30.0 ppm Colourless to pale yellow 5 to 200 HU 0.0010 to 0.50%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 4 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
6.	Pyridine 1°	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Moisture	IS 2362:1993, (RA 2010)	0.0010 to 2.0%
		Colour	IS 8768-1988, (RA 2006)	5 to 200 HU
		Purity	FPTO-050, Issue date: 01/10/13	0.03 to 100%
		Identification (By IR)	BP-2012 (Appendix IIA)	Pass / Fail (Qualitative)
		Strong Bases (as piperidine)	FPTO-038, Issue date: 01/10/13	0.0004 to 0.03%
7.	Carbon dioxide (Liquid)	Purity	ISBT (Procedure-2.0) (2 <sup>nd</sup> Revision-30.11.10)	99.00 to 99.99%
		Moisture	ISBT (Procedure-3.0) (2 <sup>nd</sup> Revision-30.11.10)	3.0 to 140 ppm
		Nitrose gases	ISBT (Procedure-7.0) (2 <sup>nd</sup> Revision-30.11.10)	0.5 to 500 ppm
		Appearance in water	ISBT (Procedure-16) (2 <sup>nd</sup> Revision-30.11.10)	Pass / Fail (Qualitative)

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 5 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Carbon dioxide (Liquid)	Odour (as such)	ISBT (Procedure-15.0) (2 <sup>nd</sup> Revision-30.11.10)	Pass / Fail (Qualitative)
		Taste & Odour (in water)	ISBT (Procedure-16.0) (2 <sup>nd</sup> Revision-30.11.10)	Pass / Fail (Qualitative)
8.	Pyridine ACS	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Colour	IS 8768-1988, (RA 2006)	5 to 200 HU
		Water solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Moisture content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-050, Issue date: 01/10/13	0.03 to 100%
		Chlorides	USP-34, Page-131	Pass / Fail (Qualitative)
		Sulphates	USP-34, Page-131	Pass / Fail (Qualitative)
		Ammonia (as NH <sub>3</sub> )	FPTO-034, Issue date: 20/08/11	0.0005 to 0.010%
		Residue on evaporation	FPTO-322, Issue date: 01/10/13	0.0005 to 0.100%
		Reducing substances (permanent colour persist for 30 minutes)	IS 8058:1976, (RA 2006)	Pass / Fail (Qualitative)

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 6 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
9.	Beta Picoline	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Moisture content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-049, Issue date: 06/02/10	0.0017 to 100%
		Gamma picoline	FPTO-049, Issue date: 01/10/13	0.062 to 1.0%
		2- Ethyl pyridine	FPTO-049, Issue date: 01/10/13	0.048 to 1.0%
		Alpha picoline	FPTO-049, Issue date: 01/10/13	0.043 to 1.0%
		3,5-Lutidine	FPTO-049, Issue date: 01/10/13	0.005 to 1.0%
10.	Alpha Picoline	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Moisture content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-051, Issue date: 01/10/13	0.043 to 100%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 7 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
11.	Gamma Picoline	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Moisture Content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-048, Issue date: 01/10/13	0.062 to 100%
12.	Isonipecotic Acid	Description	FPTO-001, Issue date: 08/05/2014	White to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Loss on drying	IP-2010, P-139	0.05 to 2.0%
		Assay By Chemical	FPTO-092, Issue date: 01/10/13	80.0 to 102%
13.	3-Cyanopyridine	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Moisture	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Melting Range	IP-2010, P-140	40 to 100°C
		Purity	FPTO-054, Issue date: 01/10/13	5.0 to 99.99%
		4-Cyanopyridine	FPTO-054, Issue date: 01/10/13	0.01 to 1.0%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 8 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
14.	Pyridine	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
	Hydrobromide	Solubility	USP-34, Page-994	Limits of Detection  White to pale yellow  Pass / Fail (Qualitative)  1.0 to 13.0  0.0010 to 2.0%  0.050 to 1.0%  80.0 to 102%  White to pale yellow  Pass / Fail (Qualitative)  1.0 to 13.0  0.0050 to 2.0%  0.02 to 5.0%
		pH of 5% aqueous solution	ASTM E 70-07, Page-348 (Re-approved 2002)	1.0 to 13.0
		Water Content	IS 2362:1993, (RA 2010)	0.0010 to 2.0%
		Free Pyridine	FPTO-087, Issue date: 01/10/13	0.050 to 1.0%
		Assay By Chemical	FPTO-039, Issue date: 01/10/13	80.0 to 102%
15.	Pyridine	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
	Hydrochloride	Solubility	USP-34, Page-994	
		pH of 5% aqueous solution	ASTM E 70-07, Page-348 (Re-approved 2002)	1.0 to 13.0
		Water Content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Free Pyridine	FPTO-087, Issue date: 01/10/13	0.02 to 5.0%
		Assay By Chemical	FPTO-040, Issue date: 01/10/13	80.0 to 102%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 9 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
16.	Niacin	Description	USP-34, Page-994	White to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Assay by UV	USP-34, Page-3694	90 to 102%
		Identification By IR	USP-34, <197M>	Pass / Fail (Qualitative)
		Identification By UV	USP-34, <197U>	Pass / Fail (Qualitative)
		Loss on drying	USP-34, <731>	0.050 to 2.0%
		Residue on Ignition	USP-34, <281>	0.02 to 1.0%
		Chloride	USP-34, <221>	Pass / Fail (Qualitative)
		Sulphate	USP-34, <221>	Pass / Fail (Qualitative)
17.	Niacinamide	Description	USP-34, Page 994	White to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Assay	USP-34, Page-3651	80 to 102%
		Melting range	USP-34, <741>	40 to 200°C
		Identification By IR	USP-34, <197K>	Pass / Fail (Qualitative)
		Identification By UV	USP-34, <197U>	Pass / Fail (Qualitative)
		Loss on Drying	USP-34, <731>	0.05 to 1.0%
		Residue on Ignition	USP-34, <281>	0.01 to 1.0%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 10 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
18.	4-(Dimethyl amino)	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
	pyridine	Melting range	IP-2010, P-140	40 to 200°C
		Water content	IS 2362:1993, (RA 2010)	0.0010 to 2.0%
		Purity	FPTO-062, Issue date: 01/10/13	0.025 to 100%
		Assay by Chemical method	FPTO-140, Issue date: 01/10/13	0.0010 to 2.0% 0.025 to 100% 80.0 to 102.0% Pass / Fail (Qualitative)
		Identification By IR	BP-2012 (Appendix IIA)	Pass / Fail (Qualitative)
19.	2-Aminopyridine	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Identification by GC	FPTO-056, Issue date: 01/10/13	Pass / Fail (Qualitative)
		Identification By IR	BP-2012, (Appendix IIA)	Pass / Fail (Qualitative)
		Melting range	IP2010, P-140	40 to 200°C
		Water Content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Assay	FPTO-080,, Issue date: 01/10/13	80.0 to 102.0%
		Purity	FPTO-056, , Issue date: 01/10/13	0.025 to 100%
		Sulphated ash	BP–2011 (Appendix IX A)	0.04 to 5.0%
		3-Amino pyridine	FPTO-056,, Issue date: 01/10/13	0.025 to 1.0%
		4-Amino pyridine	FPTO-056,, Issue date: 01/10/13	0.025 to 1.0%
		Residue on Ignition	IP-2010, Page-140	0.005 to 5.0%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 11 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
20.	Piperidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Colour	IS 8768-1988, (RA 2006)	5 to 200 HU
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Specific gravity	IP-2010, Page-174	0.70 to 1.0
		Water Content	IS 2362:1993, (RA 2010)	0.0010 to 2.0%
		Purity	FPTO-059,, Issue date: 01/10/13	0.025 to 99.99%
		Pyridine	FPTO-059,, Issue date: 01/10/13	0.0025 to 1.0%
21.	Picolinic acid	Appearance	USP-34, Page-994	White to pale yellow
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Melting Range	IP-2010, Page-140	40 to 200°C
		Sulphated ash	BP-2012(Appendix IX A)	0.01 to 5.0%
		Water Content	IS 2362:1993, (RA 2010)	0.0010 to 2.0%
		Assay	FPTO-064,, Issue date: 01/10/13	80.0 to 100%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 12 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
22.	2-Amino-4-Methyl	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
	pyridine	Identification by IR	BP-2012 (Appendix II A)	Pass / Fail (Qualitative)
		Water Content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Melting Range	IP-2010, Page-140	40 to 200°C
		Assay by chemical method	FPTO-086, Issue date: 01/10/13	5.0 to 102.0%
		Purity	FPTO-058, Issue date: 01/10/13	0.025 to 100%
23.	2-Amino-5-Methyl	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
	pyridine	Water Content	IS 2362:1993, (RA 2010)	0.005 to 2.0%
		Purity	FPTO-074, Issue date: 01/10/13	5.0 to 100%
		Assay, by chemical method	FPTO-075, Issue date: 01/10/13	80.0 to 102.0%
		Melting range	IP-2010, Page-140	40 to 200°C
		Identification by GC	FPTO-074, Issue date: 01/10/13	Pass / Fail (Qualitative)
		Identification by IR	BP-2012 (Appendix II A)	Pass / Fail (Qualitative)

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

**Discipline Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 13 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
24.	2-Amino-6-Methyl	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
	Pyridine	Identification by IR	BP-2012(Appendix II A)	Pass / Fail (Qualitative)
		Water Content	IS 2362:1993, (RA 2010)	0.005 to 2.0%
		Assay, by Chemical method	FPTO-085, Issue date: 01/10/13	80.0 to 102.0%
		Purity	FPTO-057, Issue date: 01/10/13	0.025 to 100%
25.	3-Acetyl Pyridine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to yellow
		Identification by IR	BP-2012(Appendix II A)	Pass / Fail (Qualitative)
		Boiling Range	IS: 5298-1983, (RA 2006)	100 to 250°C
		Water Content	IS 2362:1993, (RA 2010)	0.005 to 2.0%
		Purity	FPTO-061, Issue date: 01/10/13	0.025 to 100%
		4-Acetyl pyridine	FPTO-061, Issue date: 01/10/13	0.001 to 1.0%
		2-Acetyl pyridine	FPTO-061, Issue date: 01/10/13	0.001 to 1.0%
		Toluene	FPTO-061, Issue date: 01/10/13	0.001 to 1.0%
		Total impurities	FPTO-061, Issue date: 01/10/13	0.001 to 1.0%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 14 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
26.	3,5-Dimethyl piperidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to yellow
	piperiume	Water Content	IS 2362:1993, (RA 2010)	0.005 to 2.0%
		Specific gravity	IP-2010, Page-174	0.70 to 1.0
		Purity	FPTO-060, Issue date: 01/10/13	0.025 to 100%
		a) Cis Isomer	FPTO-060, Issue date: 01/10/13	70.0 to 95.0%
		b) Trans Isomer	FPTO-060, Issue date: 01/10/13	5 to 30%
27.	3-(Amino methyl)	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to yellow
	pyridine	Moisture	IS 2362:1993, (RA 2010)	0.005 to 2.0%
		Purity	FPTO-120, Issue date: 01/10/13	0.025 to 100%
28.	3-Pyridyl acetic acid	Description	FPTO-001, Issue date: 08/05/2014	White to yellow
		Identification by HPLC	FPTO-155, Issue date: 01/10/13	Pass / Fail (Qualitative)
		Loss on drying	IP-2010, Page-139	0.05 to 2.0%
		Purity	FPTO-155, Issue date: 01/08/11	5.0 to 100%
		Assay	FPTO-155, Issue date: 01/08/11	5.0 to 100%
		Single known impurity	FPTO-155, Issue date: 01/08/11	0.001 to 1.0%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 15 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
29.	2-(Amino methyl)	Appearance	FPTO-001, Issue date: 08/05/2014	White to yellow
	pyridine	Moisture	IS 2362:1993, (RA 2010)	0.0010 to 2.0%
		Purity	FPTO-159, Issue date: 01/10/13	0.025 to 100%
30.	2,3,5 Collidine	Appearance	FPTO-001, Issue date: 08/05/2014	Clear colourless to yellow liquid
		Moisture	IS 2362:1993, (RA 2010)	0.005 to 2.0%
		Purity	FPTO-047, Issue date: 01/10/13	0.03 to 100%
		Refractive Index	IP-2010, Page-171	1.32 to 1.70
31.	5-Methyl Nicotinic Acid	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
		Moisture	IS 2362:1993 (RA 2010)	0.0050 to 2.0%
		Loss on drying	IP-2010, Page-139	0.05 to 2.0%
		Purity by HPLC	FPTO-190, Issue date: 01/10/13	5.0 to 100%
		Melting range	IP-2010, Page-140	40 to 300°C
		Assay	FPTO-197, Issue date: 01/10/13	5.0 to 100%
		Sulphated ash	BP-2012 (Appendix IX A)	0.01 to 5.0%
		Total related impurities	FPTO-190, Issue date: 01/10/13	0.10 to 2.0%
		Dinicotinic acid	FPTO-190, Issue date: 01/10/13	0.00015 to 1.0%
		Nicotinic acid	FPTO-190, Issue date: 01/10/13	0.00015 to 1.0%
		Unknown individual impurity	FPTO-190, Issue date: 01/10/13	0.005 to 1.0%

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 16 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
32.	Cetyl pyridinium	Appearance	FPTO-001, Issue date: 08/05/2014	White to pale yellow
	Chloride monohydrate	Identification by IR	USP-34, <197K>	Pass / Fail (Qualitative)
		Identification by UV	USP-34, <197U>	Pass / Fail (Qualitative)
		Moisture	USP-34, <921>	0.005 to 6.0%
		Melting range	IP-2010, Page-140	40 to 200°C
		Pyridine	FPTO-267, Issue date: 01/10/13	0.5 to 120 ppm
		Heavy metals	USP-34, Method II <231>	Pass / Fail (Qualitative)
		Residue on ignition	IP-2010, Page-140	0.010 to 5.0%
		Acidity	USP-34, Page-2275	Pass / Fail
		Assay by chemical method	USP-34, Page-2275	80.0 to 102%
		Appearance of 1% solution in water	Ph.Eur 7.0, Page-1649	Pass / Fail (Qualitative)
		Appearance of 40% soln in PEG	FPTO-268, Issue date: 01/10/13	Pass / Fail (Qualitative)

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 17 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
33.	2,4 6 Collidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Water content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-046, Issue date: 01/10/13	0.03 to 100%
		Refractive index	IP-2010, Page-171	1.32 to 1.70
		Identification(By IR)	BP-2012(Appendix II A)	Pass / Fail (Qualitative)
34.	2,3-Lutidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless pale yellow
		Water content	IS 2362:1993, (RA 2010)	0.005 to 2.0%
		Purity	FPTO-042, Issue date: 16/09/11	0.098 to 100%
35.	2,4-Lutidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to pale yellow
		Water content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-072, Issue date: 01/10/13	0.098 to 100%
36.	2,5-Lutidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to yellow
		Water content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-073, Issue date: 01/10/13	0.39 to 100%
		Specific gravity	IP-2010, Page-174	0.80 to 1.0

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 18 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
37.	2,6 Lutidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to yellow liquid
		Water content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-041, Issue date: 01/10/13	0.23 to 100%
		Identification(By IR)	BP-2012(Appendix II A)	Pass / Fail (Qualitative)
		Colour	IS 8768-1988, (RA 2006)	5 to 200 HU
		Solubility	USP-34, Page-994	Pass / Fail
38.	3,4 Lutidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to yellow
		Water content	IS 2362:1993, (RA 2010)	0.0050 to 2.0%
		Purity	FPTO-044, Issue date: 01/10/13	0.20 to 100%
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Weight / ml	IP-2010, Page-174	0.800 to 1.100
		Refractive Index	IP-2010, Page-171	1.32 to 1.70

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 19 of 21

Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3,5-Lutidine	Appearance	FPTO-001, Issue date: 08/05/2014	Colourless to yellow
	Water content	IS 2362:1993, (RA 2010)	0.005 to 2.0%
	Purity	FPTO-043, Issue date: 16/09/11	0.19 to 100%
2,3,5- Trichloropyridine	Appearance	FPTO-001, Issue date: 08/05/2014	Pale yellow to Light brown
	Water content	IS 2362:1993, (RA 2010)	0.0010 to 2.0%
	Identification(by GC)	FPTO-169, Issue date: 01/10/13	Pass / Fail (Qualitative)
	Purity by GC	FPTO-169, Issue date: 01/10/13	0.025 to 99.99%
	3,5-Di chloro pyridine-2-ol	FPTO-169, Issue date: 01/10/13	0.0025 to 2.0%
	2,5-Di chloro pyridine	FPTO-169, Issue date: 01/10/13	0.0025 to 2.0%
	2,3-Di chloro pyridine	FPTO-169, Issue date: 01/10/13	0.0025 to 2.0%
	2,3-Di chloro-N-N-DMAP	FPTO-169, Issue date: 01/10/13	0.0025 to 3.0%
	Additional organic by product	FPTO-169, Issue date: 01/10/13	0.01 to 2.0%
	any single impurity	FPTO-169, Issue date: 01/10/13	0.01 to 2.0%
	Content of Toluene	FPTO-169, Issue date: 01/10/13	0.0025 to 2.0%
	Material of Test  3,5-Lutidine  2,3,5-	Material of Test  Appearance Water content Purity  Appearance Water content Identification(by GC)  Purity by GC 3,5-Di chloro pyridine-2-ol 2,5-Di chloro pyridine 2,3-Di chloro pyridine 2,3-Di chloro-N-N-DMAP Additional organic by product any single impurity	Material of Test         against which tests are performed           3,5-Lutidine         Appearance         FPTO-001, Issue date: 08/05/2014           Water content         IS 2362:1993, (RA 2010)           Purity         FPTO-043, Issue date: 16/09/11           2,3,5-Trichloropyridine         Appearance         FPTO-001, Issue date: 08/05/2014           Water content         IS 2362:1993, (RA 2010)           Identification(by GC)         FPTO-169, Issue date: 01/10/13           Purity by GC         FPTO-169, Issue date: 01/10/13           2,5-Di chloro pyridine         FPTO-169, Issue date: 01/10/13           2,3-Di chloro pyridine         FPTO-169, Issue date: 01/10/13           2,3-Di chloro-N-N-DMAP         FPTO-169, Issue date: 01/10/13           Additional organic by product         FPTO-169, Issue date: 01/10/13           any single impurity         FPTO-169, Issue date: 01/10/13

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

Discipline **Chemical Testing** Issue Date 23.04.2014

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 20 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
41.	2-Pyridine	Appearance	FPTO-001, Issue date: 08/05/2014	Grey to dark brownish
	Carboxaldehyde	Water content	IS 2362:1993, (RA 2010)	0.005 to 2.0%
		Solubility	USP-34, Page-994	Pass / Fail (Qualitative)
		Density	IP-2010, Page-174	1.0 to 1.5
		Refractive Index	IP-2010, Page-171	1.32 to 1.70
		Acidity	FPTO-170, Issue date: 01/10/13	0.05 to 2.0%
		Purity	FPTO-161, Issue date: 01/10/13	0.025 to 100%
		Assay	FPTO-222, Issue date: 01/10/13	80.0 to 102%
		4-Pyridinecarboxaldehyde	FPTO-161, Issue date: 01/10/13	0.0025 to 1.0%
		3-Pyridinecarboxaldehyde	FPTO-161, Issue date: 01/10/13	0.0025 to 1.0%
42.	Azacyclonol	Appearance	FPTO-001, Issue date: 08/05/2014	White to off white crystalline powder
		Identification (By IR)	BP-2012(Appendix II A)	Pass / Fail (Qualitative)
		Melting range	IP-2010, Page-140	40 to 200°C
		Purity	FPTO-148, Issue date: 01/10/13	0.0025 to 100%
		Assay	FPTO-150, Issue date: 01/10/13	80.0 to 105.0%

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

Discipline Issue Date 23.04.2014 **Chemical Testing** 

**Certificate Number** T-1752 Valid Until 22.04.2016

Last Amended on Page 21 of 21

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Azacyclonol	Residual solvent		
		Methanol	FPTO-256, Issue date: 01/10/13	0.001 to 0.5%
		Toluene	FPTO-256, Issue date: 01/10/13	10 to 1000 ppm
		Iso propyl alcohol	FPTO-256, Issue date: 01/10/13	0.001 to 0.2%
43.	5-Chloro-2,3-difluoro pyridine	Appearance	FPTO-001, Issue date: 08/05/2014	Clear colorless to yellowish liquid
	(CDFP)	Identification	FPTO-272, Issue date: 01/10/13	Pass / Fail (Qualitative)
		Chromatographic Purity	FPTO-272, Issue date: 01/10/13	2 to 100%
		Organic by products		
		3-Chloro-2,5-Difluoro pyridine	FPTO-272, Issue date: 01/10/13	0.10 to 15.0%
		Additional organic Byproducts	FPTO-272, Issue date: 01/10/13	0.10 to 15.0%
		No. of additional organic byproducts ≤1.0%	FPTO-272, Issue date: 01/10/13	0.01 to 1.0%
		Solvent as methyl benzene	FPTO-272, Issue date: 01/10/13	0.05 to 10.0%
		Additives contents of fluoride	FPTO-273, Issue date: 01/10/13	5.0 to 1000 ppm