

**Laboratory** Premier Explosives Quality Control Laboratory, Peddakanduku Village,  
Yadagirigutta Mandal, Nalgonda District, Telangana

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

**Discipline** Chemical Testing

**Issue Date** 22.08.2014

**Certificate Number** T-1723

**Valid Until** 21.08.2016

**Last Amended on** -

**Page** 1 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
<b>I. EXPLOSIVES &amp; PYROTECHNICS</b>				
<b>Explosives chemicals and allied materials</b>				
1.	<b>Acetone</b> LWI : 101	Relative Density	IS 229: 1993 Annex A	(0.700 to 0.90) at 27 °C
		Distillation Range	IS 229: 1993 Annex E	48 °C to 65 °C
		Residue on Evaporation	IS 82: 1973 (RA 2001) (CI No. 8.1)	(0.0002 g to 0.1 g) /100ml
		Acidity (as CH <sub>3</sub> COOH)	IS 170 2004 Annex C	0.0003 % by mass to 0.1 % by mass
2.	<b>Aluminum Powder</b> LWI : 102	Matter soluble in ether	IS 438: 2006 Annex B	0.01 % by mass to 2.0 % by mass
		Free metallic aluminum	LWI No.102, Rev No.01, Date:01.12.2009	80 % by mass to 99 % by mass
3.	<b>Aluminum Strip Delay (1.2X144 mm)</b> LWI : 103	Aluminum	LWI No.103, Rev No.01, Date:01.12.2009	90 % by mass to 100 % by mass
4.	<b>Aluminum Strip Normal (0.7X113 mm)</b> LWI : 103	Aluminum	LWI No.103, Rev No.01, Date:01.12.2009	90 % by mass to 100 % by mass
5.	<b>Antimony tri Sulphide (ATS)</b> LWI : 104	Antimony (as Sb)	IS 5731: 1970 ( CI.No: 4 , Appendix A -5) (RA 1978)	40 % by mass to 80 % by mass
		Moisture/volatile matter	IS 5731: 1970 (CI.No: 4 , Appendix A-2) (RA 1978)	0.01% by mass to 0.3 % by mass

**Iti Saxena**  
Convenor

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**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 2 of 15

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6.	<b>Ammonium Thiocyanate</b> LWI : 105	Assay (as NH <sub>4</sub> SCN)	LWI No.105, Rev No.01, Date:01.12.2009	50 % by mass to 99 % by mass
		Water insoluble matter	IS 708: 1987 (Appendix A -5)	0.005 % by mass to 0.05 % by mass
		pH	IS 11603: 1986 (CL. No. 4, Appendix A - 2 )	(4.0 to 14.0) of 5% aqueous solution
7.	<b>Butyl acetate</b> LWI : 106	Residue on evaporation	IS 229: 1993 (Annex B)	(0.0006 g to 0.1 g) /100 ml
		Acidity (as acetic acid)	IS 229: 1993 (Annex – C)	0.01 % by mass to 0.1 % by mass
		Ester content (as butyl acetate)	IS 230: 1972 (Appendix A) (RA 1979)	50 % by mass to 99 % by mass
		Distillation range: Initial boiling point Dry point	IS 229: 1993 (Annex-E)	100 °C to 140 °C
		Relative density at 27 °C	IS 229: 1993 (Annex-A)	0.700 to 0.900
8.	<b>Denatured Spirit</b> LWI : 107	Relative Density at 27 °C	IS 229: 1993 (Annex-A)	0.700 to 0.900
		Distillation Range	IS 229: 1993 (Annex-E)	70 °C to 90 °C
		Residue on Evaporation	IS 229: 1993 (Annex-B)	(0.1 g to 0.1 g)/100 ml
		Acidity (as CH <sub>3</sub> COOH)	IS 170: 2004 (Annex-C)	0.0002 % by mass to 0.1 % by mass

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

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 3 of 15

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9.	<b>Barium Chromate</b> LWI : 109	Barium Chromate	IS 7602: 1975 (CI No.4, Annex A-9)	80 % by mass to 99 % by mass
		Volatile matter/moisture	IS 7886: 1997 (CI No. 4, Annex A-2)	0.002 % by mass to 0.3 % by mass
	<b>Barium Chromate</b> LWI : 109	Matter soluble in water	IS 7886: 1997 (CI No., Annex A-3)	0.008 % by mass to 0.1 % by mass
10.	<b>Charcoal</b> LWI : 110	Carbon	JSS 6810-144: 2003 Appendix-B	80 % to 90 % by mass
		Moisture/Volatile matter	JSS 6810-144 : 2003 Appendix-A	0.1% by mass to 15.0 % by mass
		Ash content	IS 13522: 1992 Annex A-4 (RA 2005)	1.0 %% by mass to 15.0 % by mass
11.	<b>Di -Penta Erythritol</b> LWI : 111	Moisture	IS 7619: 1987 Appendix A-4	0.05 % by mass to 0.1% by mass
		Melting point	IS 5762: 1970 ( CI.No-5)	195 °C to 225 °C
12.	<b>Hydrochloric Acid</b> LWI : 112	Total acidity (as HCl)	IS 265: 1993 (RA 1995) (CI No.4.2, Annex- B)	10 % by mass to 37 % by mass
		Specific gravity at 20 ° C	IS 82: 1973 (RA 2001) (CI No. 6.3.1)	1.0 to 1.20
13.	<b>Isopropyl Alcohol</b> LWI : 113	Relative Density at 27 <sup>0</sup> C	IS 229: 1993 (Annex-A)	0.700 to 0.900
		Distillation	IS 229: 1993 ( Annex-E)	70 °C to 90 °C

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**Discipline** Chemical Testing

**Issue Date** 22.08.2014

**Certificate Number** T-1723

**Valid Until** 21.08.2016

**Last Amended on** -

**Page** 4 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Isopropyl Alcohol</b> LWI : 113	Residue on evaporation	IS 2631: 1976 ( CI No. 4, Appendix A-1)	(0.0007g to 0.1 g) /100ml
		Acidity (as acetic acid)	IS 229: 1993 (Annex-C)	0.0002 % by mass to 0.1 % by mass
<b>14.</b>	<b>Lead Nitrate</b> LWI : 114	Moisture	MIL-L-20549B: 12 Jan 1983, CI No. 4.2.4.3	0.02 % by mass to 0.3 % by mass
		Free Nitric acid	MIL-L-20549B: 12 Jan 1983, CI No. 4.2.4.5	0.001% by mass to 0.1% by mass
		Assay	MIL-L-20549B: 12 Jan 1983, CI No. 4.2.4.2	50 % by mass to 100 % by mass
		Water insoluble matter	MIL-L-20549B: 12 Jan 1983, CI No. 4.2.4.4	0.003% by mass to 0.5 % by mass
<b>15.</b>	<b>Lead Oxide or Red Lead</b> LWI : 115	Moisture/Volatile matter	IS 8063: 1976 (RA 1984) (CI No.4, A-2)	0.005 % by mass to 0.1 % by mass
		Matter soluble in water	IS 8063: 1976 (RA 1984) (CI No.4, A-3)	0.03 % by mass to 0.5 % by mass
		Assay (as Pb <sub>3</sub> O <sub>4</sub> )	IS 8063: 1976 (RA 1984) (CI No.4, A-6)	50 % by mass to 99 % by mass
<b>16.</b>	<b>Lead Chromate</b> LWI : 118	Volatile matter	IS 7602: 1975 (CI No. 4, Appendix A-2)	0.01% by mass to 0.5 % by mass
		Matter soluble in water	IS 7602: 1975 (CI No. 4, Appendix A-3)	0.02 % by mass to 0.5 % by mass

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**Issue Date** 22.08.2014

**Certificate Number** T-1723

**Valid Until** 21.08.2016

**Last Amended on** -

**Page** 5 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Lead Chromate</b> LWI : 118	Chromate (as PbCrO <sub>4</sub> )	IS 7602: 1975 (CI No. 4, Appendix A-7)	50 % by mass to 99 % by mass
17.	<b>Lead Tubes</b> LWI : 119	Antimony	LWI No.119, Rev No.01 Date:01.12.2009	0.1 % by mass to 5.0 % by mass
18.	<b>Nitric Acid</b> LWI : 121	Total acidity (as HNO <sub>3</sub> )	IS 264: 2005 (Annex –A)	50 % by mass to 100 % by mass
		Nitrous acid (as HNO <sub>2</sub> )	IS 264: 2005 (Annex –F)	0.01 % by mass to 0.5 % by mass
		Specific gravity at 20 °C	IS 82: 1973 (RA 2001) (CI No: 6.3.1)	0.70 to 1.90
19.	<b>Potassium Chlorate</b> LWI : 122	pH value	IS 708: 1987 (Appendix A-3)	4.0 to 9.0
		Moisture	IS 708: 1970 (RA 1987) (Appendix A- 4)	0.005 % by mass to 0.1 % by mass
		Matter insoluble in water	IS 708: 1970 (RA 1987) (Appendix A -5)	0.0005 % by mass to 0.1 % by mass
		Potassium chlorate (as KClO <sub>3</sub> )	LWI No.122 Rev No.02,Date:26.09.2011	90 % by mass to 100 % by mass
20.	<b>Penta Erythritol Nitration Grade</b> LWI : 123	Penta erythritol (Mono PE content)	IS 10977: 1984 (RA 2005) Appendix-5	90 % by mass to 100 % by mass
		Melting point	IS 5762: 1970 (CI.No-5)	235 °C to 275 °C
		Moisture content at 105 °C	IS 10977: 1984 (RA 2005) (Appendix A-3)	0.02 % to 0.5 %

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

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 6 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
21.	<b>Caustic soda , Pure &amp; Technical LWI : 127</b>	Sodium carbonate (as Na <sub>2</sub> CO <sub>3</sub> )	IS 252: 1991 (RA 2003) (Annex A-3)	0.1% by mass to 10.0 % by mass
		Sodium Hydroxide (as NaOH)	IS 252: 1991 (Annex A-4) (RA 2003)	70 % by mass to 100 % by mass
		Matter insoluble in water	IS 252: 1991 (Annex A-12)	0.002 % by mass to 0.5 % by mass
22.	<b>Sodium Nitrite LWI : 128</b>	Assay (as Na NO <sub>2</sub> )	IS 879: 1981 (RA 1999) (Appendix A-3)	90 % by mass to 100% by mass
		Moisture/ volatile matter	IS 879: 1981 (RA 1999) (Appendix A-2)	0.02 % by mass to 5.0 % by mass
		Matter insoluble in water	IS 879: 1981 (RA 1999) (Appendix A-4)	0.004 % by mass to 0.5 % by mass
23.	<b>Sulphuric Acid LWI : 129</b>	Total acidity (as H <sub>2</sub> SO <sub>4</sub> )	IS 266: 1993 (Appendix A-2)	90 % by mass to 100% by mass
		Specific gravity at 20 °C	IS 82: 1973 (RA 2001) (CI No. 6.3.1)	1.70 to 1.85
		Residue on ignition	IS 266: 1993 (Appendix A - 3 )	0.01 % by mass to 0.2 % by mass
24.	<b>Tri Chloro Ethylene LWI : 130</b>	Relative density at 27 °C	IS 229: 1993 (Annex - A)	1.30 to 1.60
		Distillation Range Degrees Celsius 94 ml Min to be collected at	IS 245: 1988 (RA 2005) (Appendix A - 4)	75 to 95

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

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 7 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Tri Chloro Ethylene</b> <b>LWI : 130</b>	Residue on evaporation	IS 245: 1988 (RA 2005) (Appendix A-3)	(0.001g to 0.5 g)/100ml
		Alkalinity (as Na <sub>2</sub> CO <sub>3</sub> )	IS 245: 1988 (RA 2005) (Appendix A-5)	0.001% by mass to 0.1 % by mass
25.	<b>Ammonium perchlorate</b> <b>LWI : 251</b>	Purity	Method No. 9.1.1 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	95 % by mass to 100 % by mass
		Chlorides as Ammonium chloride	Method No. 9.1.2 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.001 % by mass to 1.0 % by mass
		Chlorates as Sodium chlorate	Method No. 9.1.3 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.005 % by mass to 0.5 % by mass
		Sulphates as Ammonium sulphate	Method No. 9.1.4 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.01% by mass to 0.5 % by mass
		Water insoluble matter	Method No. APPENDIX- RM/1/VII of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01. &ASL/1250/SPSC/SSD/226/ HPDAISY-II MOTOR;Revision:00;Issue- 01,Dated:22.09.2011	0.005 % by mass to 1.0 % by mass

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

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 8 of 15

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	<b>Ammonium perchlorate</b> LWI : 251	Moisture (total)	Method No. 9.1.8 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.02 % by mass to 1.0 % by mass
		Moisture (Surface)	Method No. 9.1.8 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.01% by mass to 1.0 % by mass
		pH	Method No. 9.1.7 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	3 to 8
26.	<b>Activated copper chromite (ACR)</b> LWI : 254	Copper	Method No. 9.11.1 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	25 % by mass to 40 % by mass
		Chromium	Method No. 9.11.2 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	25 % by mass to 40 % by mass
		Barium	Method No. 9.11.3 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	4 % by mass to 12 % by mass
		Volatile matter at 105°C for 2 hours	Method No. 9.11.4 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.01% by mass to 5% by mass



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

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 9 of 15

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	<b>Activated copper chromite (ACR)</b> <b>LWI : 254</b>	Density (Specific gravity) at 30°C	Method No. 9.11.5 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	3 gm/cc to 6 gm/cc
		pH of 20% aqueous suspension	Method No. 9.11.6 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	4 to 10
27.	<b>Aluminium powder</b> <b>LWI : 252</b>	Appearance	IS 438: 2006 Clause No. 3.1.b	Qualitative
		Volatile Matter	IS 438: 2006 Annex- C	0.01 % by mass to 1.0 % by mass
		Apparent density	IS 438: 2006 Annex- L	0.8 g/ml to 1.5 g/ml
28.	<b>Antimony trioxide</b> <b>LWI : 255</b>	Appearance	HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01 HEMRL/TRIM/PROP/IM/17, Clause 3	Qualitative
		Volatile matter	Method No. APPENDIX-IM/17/I of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.02 % by mass to 1.0 % by mass
		Alkalinity/Acidity	Method No. APPENDIX-IM/17/II of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.001 % by mass to 1.0 % by mass

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

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 10 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Antimony trioxide</b> LWI : 255	Purity expressed as Sb <sub>2</sub> O <sub>3</sub>	Method No. APPENDIX-IM/17/III of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	95 % by mass to 100 % by mass
29.	<b>n-Butane diol (n-BDO)</b> LWI : 256	Specific gravity at 20/25/ 30°C	Method No. 9.5.2 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	1.000 g/cc to 1.250 g/cc
		Hydroxyl value	Method No. 9.5.1 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	1000 mg KOH/g to 1300 mg KOH/g
		Moisture	Method No. 9.1.8 (TP/AP/8.0) of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.02 % by mass to 1.0 % by mass
		Refractive index at 20/25/30 °C	Method No. APPENDIX-RM/5/V of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	1.400 to 1.600
30.	<b>Dioctyl adipate (DOA)</b> LWI : 260	Specific gravity at 20/30°C	Method No. 9.7.3 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.900 to 1.000

**Laboratory** Premier Explosives Quality Control Laboratory, Peddakanduku Village,  
Yadagirigutta Mandal, Nalgonda District, Telangana

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

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 11 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Diethyl adipate (DOA)</b> <b>LWI : 260</b>	Saponification No.	Method No. 9.7.1 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	250 to 350
<b>31</b>	<b>Diethyl adipate (DOA)</b> <b>LWI : 260</b>	Acid Value	Method No. 9.7.2 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.01 mg KOH /g to 1.0 mg KOH /g
		Volatile matter	Method No. 9.7.5 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.05 % by mass to 1.0 % by mass
		Moisture	Method No. 9.7.4 (TP/AP/8.0 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.02 % by mass to 1.0 % by mass
		Refractive Index at 20/25/30 ° C	Method No. APPENDIX-RM/5/V of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 Date of Rev. 17.05.2010, copy-01	1.400 to 1.600
<b>32.</b>	<b>Ferric acetyl acetate (FeAA)</b> <b>LWI : 261</b>	Iron content	Method No. APPENDIX-RM/9/I of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	12 % by mass to 20 % by mass

**Laboratory** Premier Explosives Quality Control Laboratory, Peddakanduku Village,  
Yadagirigutta Mandal, Nalgonda District, Telangana

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

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 12 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Ferric acetyl acetate (FeAA)</b> LWI : 261	Volatile Matter	Method No. APPENDIX-RM/9/II of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.01 % by mass to 1.0 % by mass
		Melting point	IS 5762: 1970 (Cl.No-5)	160 °C to 200 °C
33.	<b>Hydroxy terminated poly butadiene (HTPB)</b> LWI : 263	Hydroxyl value	Method No. 9.6.1 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006 &ASL/1250/SPSC/SSD/226/HPDAISY-II MOTOR;Revision:00;Issue-01, Dated:22.09.2011	35 mg KOH/g to 55 mg KOH/g
		Acid Value No.	Method No. 9.6.2 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.02 mg KOH/g to 2.0 mg KOH/g
		Moisture	Method No. TP/HTPB/ 5.0 (TP/AP/8.0) of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.03% mg KOH/g to 1.0 % by mass
		Specific gravity at 23/25/30°C	Method No. 9.6.4 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.800 to 1.000

**Laboratory** Premier Explosives Quality Control Laboratory, Peddakanduku Village,  
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**Accreditation Standard** ISO/IEC 17025: 2005

**Discipline** Chemical Testing **Issue Date** 22.08.2014

**Certificate Number** T-1723 **Valid Until** 21.08.2016

**Last Amended on** - **Page** 13 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Hydroxy terminated poly butadiene (HTPB)</b> LWI : 263	Volatile matter	Method No. 9.6.3 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.01% mg KOH/g to 1.0 % by mass
34.	<b>Iron oxide (Ferric oxide)</b> LWI : 262	Moisture	Method No. APPENDIX-RM/3/I of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.01 % mg KOH/g to 2.0 % by mass
		Calcination loss (on dry basis)	IS 44: 1991	0.01 % by mass to 0.02 2.0 % by mass
35.	<b>Iron oxide (Ferric oxide)</b> LWI : 262	Acidity as sulphuric acid	Method No. APPENDIX-RM/3/IV of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.003 % by mass to 1.0 % by mass
		Matter insoluble in 6N HCl	Method No. APPENDIX-RM/3/V of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.01 % by mass to 2.0 % by mass
36.	<b>Lecithin</b> LWI : 264	Moisture	Method No. APPENDIX-RM/8/I of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.1 % by mass to 2.0 % by mass

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**Issue Date** 22.08.2014

**Certificate Number** T-1723

**Valid Until** 21.08.2016

**Last Amended on** -

**Page** 14 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Lecithin</b> LWI : 264	Acid Value	IS 5055: 1996, ANNEX F	20 mg KOH/g to 40 mg KOH/g
37.	<b>Mat-O-Bond</b> LWI : 265	Acid Value	Method No. APPENDIX- RM/7/II of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	2 mg KOH/g to 30 mg KOH/g
		Volatile matter	Method No. APPENDIX- RM/7/III of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.1 % by mass to 10 % by mass
		Moisture	Method No. APPENDIX- RM/7/IV of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	0.05 % by mass to 2.0 % by mass
38.	<b>Pyrogallol</b> LWI : 268	Melting point	IS 5762: 1970 (Cl.No-5)	120 °C to 140 °C
39.	<b>Phenyl beta- naphthyl amine</b> (PBNA) LWI : 266	Melting point	IS 5762: 1970 (Cl.No-5)	90 °C to 120 °C
40.	<b>Toluene diisocyanate</b> (TDI) LWI : 269	Assay	Method No. 9.3.1 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00 ; dated:20.11.2006	95.0 % by mass to 100 % by mass

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**Certificate Number** T-1723 **Valid Until** 21.08.2016

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

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Toluene diisocyanate (TDI) LWI : 269</b>	Specific gravity at 25/30°C	Method No. 9.3.2 of (DRDL/DR&QA/ASTRA/08 Issue No. 01, Rev No.00; dated:20.11.2006	1.15 to 1.30
		Refractive index 25/30°C	Method No. APPENDIX-RM/6/IV of HEMRL/SRP/PIN/MQAP/3, Issue No. 3 , Date of Rev. 17.05.2010, copy-01	1.500 to 1.600
41	<b>Trimethylol Propane LWI : 270</b>	Hydroxyl value	Method No. 9.2.2 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	1000 mg KOH/g to 1300 mg KOH/g
		Acid value	Method No. 9.2.3 of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00; dated:20.11.2006	0.07 mg KOH/g to 1.0 mg KOH/g
		Moisture	Method No. 9.2.4 (TP/AP/8.0)of (DRDL/DR&QA/ASTRA/081 Issue No. 01, Rev No.00	0.02% by mass to 1.0 % by mass
42.	<b>Nickel Nitrate LWI : 131</b>	Nickel content	LWI No.131, Rev No.00, Date:28.08.2012	15 % by mass to 25 % by mass
43.	<b>Hydrazine Hydrate LWI : 132</b>	Hydrazine content	LWI No.132, Rev No.00, Date:28.08.2012	40 % by mass to 60 % by mass

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