Laboratory	**Quality Control Laboratory, Ordnance Factory Nalanda, Rajgir, Distt. Nalanda, Bihar**			
Accreditation Standard	**ISO/IEC 17025: 2005**			
Discipline	**Chemical Testing**	**Issue Date**	**24.10.2016**	
Certificate Number	**T-3162**	**Valid Until**	**23.10.2018**	
Last Amended on	**09.12.2016**	**Page**	**1 of 3**	

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 AND FINE CHEMICALS**			
1.	**Oleum**	Total acidity as H_2SO_4	IS 1089: 1986 (RA 2003)	99 % to 109 %
		Free SO_3		19 % to 28 %
		Residue on Ignition		Upto 0.20 %
		Iron Content (as Fe)		Qualitative Upto 0.05 %
		Chlorides (as Cl)		Qualitative Upto 0.002 %
		Density @ 15^0C	IS 3104 (Part II): 1982 (RA2008)	1.840 to 1.945
2.	**Sulphuric Acid**	Total acidity as H_2SO_4	IS 266: 1993 (RA 2003)	90.0 % to 99.99 %
		Residue on Ignition		Upto 0.2 %
		Iron Content (as Fe)		Qualitative Upto 0.05 %
		Chlorides (as Cl)		Qualitative Upto 0.0035 %
		Density @ 15^0C	IS 3104 (Part II): 1982 (RA2008)	1.820 to 1.844
3.	**Nitric Acid (including Weak Nitric Acid)**	Total acidity as HNO_3	IS 264: 2005 (RA 2008)	45.0 % to 99.99 %
		Residue on Ignition		Upto 0.1 %

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	Nitric Acid (including Weak Nitric Acid)	Sulphates as SO_4	IS 264: 2005 (RA 2008)	Qualitative Upto 0.2 %
		Nitrous acid, as HNO_2		Qualitative Upto 0.2 %
		Density @ 15^0C	IS 3104 (Part II): 1982 (RA2008)	1.280 to 1.524
4.	**Sodium Hydroxide**	Sodium Hydroxide	IS 252: 1991 (RA 1996)	45 % to 99.5 %
		Sodium Carbonate		Upto 2.0 %
		Iron Content as Fe		Qualitative Upto 350 mg/l
5.	**Nitrocellulose**	Pulping Fineness	JSS 1376 – 10 – 2011,	70 ml to 120 ml
		Nitrogen Content		11.6 % to 14.0 %
		Abel Heat Stability test		10 minutes to 20 minutes
		B & J Stability Test		1.62 mgN_2/g NC
		Mineral Matter/ Ash Content		Upto 0.8%
		Alkalinity as $CaCO_3$		0.1 % to 0.5 %
		Viscosity (Ostwald – Bohme Method)		3.2 to 4.2
		Viscosity (Hoppler Method)		25 CPS to 50 CPS
		Acetone Insolubility		0.1 % to 1.0 %

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Last Amended on	**09.12.2016**	**Page**	**3 of 3**	

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6.	**Combustible Cartridge Components (including Case, Ignitor Tube, Propellant Reducing Disc)**	Volatile Matter	SOP/OFN/QC (Lab.)/CCC/008 Issue No. 01 dt. 20.05.2016	Upto 4.0
		Carbamite / Ethyl Centralite Content		1.8 % to 3.0 %
		Nitrocellulose Content		51.0 % to 79.0 %
		Ash/TiO_2 Content		8.0 % to 12 %
		Methyl Violet Stability Test @ 134.5^0C Complete discolouration to Salmon Pink Emission of Brown Fumes		Qualitative Not within 40 minutes Qualitative Not within 60 minutes

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