

Propellant

(For Guns & Howitzers Ammunition)

S. No.	Description of propellants	Type shape and major characteristics	Applicable ammunition	Applicable specification
1.	HN7/14 (Chinese design)	Single base 14 perforated rosette grains	Cartridges for 37mm. anti-air craft machine gun	WJ-17-67 W (Chinese)
2.	P-1 (M-26)	Double base 7 perforated cylindrical grains	Cartridge 106mm.	PAK.AMMO-75 (POF) MIL-P-46235 A (MU)
3.	NQ/M.054	Triple base 7 perforated cylindrical grains	105mm. HE tank gun ammunition	P-323 A(e) U.K.
4.	NQ/M.046	Triple base 7 perforated cylindrical grains	100mm. tank gun APFSDS ammunition & 105mm. tank gun APFSDS ammunition	P-323 A(e) U.K.
5.	Prop MI 4/1&9/7	Single base with DNT, single & 7 perforated grains	Charges for 105mm. HOW M67	PAK.AMMO.98
6.	4/1 & 9/7	Single base single & 7 perforated grains	122mm. charges	WJ-17-67 W (Chinese)
7.	12/1 & 9/7	Single base single & 7 perforated grains	130mm. S.R. gun charges	WB-005 PFI WJ-17-67 W (Chinese)
8.	Prop 3-23/1-37	Double base solventless, single perforated	130mm. L.R gun charges	WJ-18-64 W (Chinese)
9.a	Prop M1 SP (0.0157 inch)	Single base with DNT, single & 7 perforated grains with flash reducing agent	155mm. HOW for charges M3A1 (green bag)	MIL-STD-652 D(AR) MIL-P-60416
9.b	Prop M1 MP (0.0336 inch)	Single base with DNT, 7 perforated grains with flash reducing agent	155mm. HOW for charges M4A2 (white bag)	MIL-STD-652 D MIL-P-60397 B(AR)
10.a	Prop M1 SP (0.0171 inch)	Single base with DNT, single perforated	203mm. HOW for charges M1 (green bag)	MIL-STD-652 D(AR) MIL-P-46698
10.b	Prop M1 MP (0.043 inch)	Single base with DNT, multi- perforated	203mm. HOW for charges M2 (white bag)	MIL-STD-652 D(AR) MIL-P-46699(AR)
11.	Propellant for FOR 100/105mm. HESH	Single base with DNT, 7 perforated	Charges for 100 and 105mm. HESH	P-328
12.	Propellant 3-18/1-26 for 100mm. HE	Double base solventless single perforated	100mm. HE	WJ-18-67W (Chinese)
13.	Propellant 19/1-25 & 16/19	Single base, Single hole sticks of 250mm. length & 19 hole hexagonal Grains	125mm. APFSDS	WMD-603 AJT.
14.	Propellant 16/1-35 & 14/19	Single base, Single hole sticks of 350mm. length & 19 hole hexagonal Grains	125mm. HE	WMD-603 AJT.
15.	Propellant 4/1 & 9/7	Single Base, Single hole grain & 7 hole grain.	122 MM HOW D-30	WJ-17-67W

Explosives

S.No.	Type of Explosive	Specification	Melting Point	Utilisation
1.	TNT	DEF - STAN 07-4/1(a) MIL - T - 248A	80.2°C 80.4°C	Manufactured in the form of flakes suitable for filling shells, bombs and for preparation of different compositions with RDX
2.	RDX	DEF STAN 07-23/ISSUE-1 MIL-R 398C	204°C	Crystalline product used for manufacture of plastic explosive like PE-3A, PE-4, C4 and compo A&B
3.	RDX/TNT 60:40 COMPO B	CS 5446 MIL-C-401 (E)	-	Manufactured in the form of flakes and biscuit. Used in the filling of shells and bombs
4.	RDX/WAX/AL 71:9:20	DEF-STAN 07-31/I		Filling of shells
5.	PE - 3A	CS 2436 A(a)	-	Demolition works
6.	Composition C4	PAK-EXPLO-46		Demolition works
7.	HMX	MIL-H 45444 B	277°C	Crystalline white products. Its composition with TNT are Used in filling of shells and bombs
8.	PETN	DEF STAN 07-08/1	139-142°C	Crystalline products used in the manufacture of detonators and plastic explosives
9.	Plasticized PETN	PAK EXPLO 31	-	Filling of plastic hand grenades
10.	Tetryl	CS 1079 I(a)	129.1°C	Manufactured in granular form. Pressed Tetryl pellets are used in different primers, detonators, fuzes bombs & shells
11.	Picrite (Nitro-Guanidine)	DEF.STAN 07-12/1	-	Manufactured in the form of fine white powder with surface area of 18000-22000 CM ² . Major constituent of triple base propellant
12.	Black powder G-7 G-12 G-20 GP-Mealed Sulphurless/G.P Sulphurless/M.P	CS5110B CS 5072 (a)		Suitable for use in various primers and pyro compositions
13.	Styphnic acid	DEF-STAN 07-50/1	176-181°C	Lead salt of this acid is used in the preparation of composition for different ammunition
14.	Di-Nitro-Resorcinol	DEF STAN 13-43 (b)	146-148.5°C	Lead salts of D.N.R. are used in the preparation of detonators and initiatory compositions
15.	Mercury Fulminate	CS 2223 (a)		Used in the filling of caps and detonators

Propellants

Mortar Bombs and Rockets

S. No.	Description Mortar Bombs	Types shapes and major characteristics	Applicable weapons	Applicable specification
1.	Propellant for 60mm. Mortar	Strips 10-2.5/33 perforated rings 10-24/48 separation disk 11x46/100	60mm. Mortar gun	WJ-19-67W (Chinese)
2.	Propellant for 81mm. Mortar	Ballistite GB Pa (1.5) Ballistite) GB Pa (2.5	81mm. Mortar Gun	Hotchkiss Brandt No. 922103, 922104
3.	Propellant for 120mm. Mortar	Ballistite GB Pa (2.5) Ballistite GB Pa (8)	120mm. Mortar Gun	Hotchkiss Brandt No. IU-922104, IU-922105
Rockets				
1.	Propellant for 122mm. Rocket	Types SQ-2, extruded solventless double base, single perforated cylindrical grains with ends inhibition	6m - 21 Field MBRL	WE 1017 JTW (Chinese)
2.	Propellant for 40mm. anti-tank rocket assisted HEAT projectile type 69	Double base solventless expelling and booster charges	RPG-7 Launcher	WE 131 JTW (Chinese)
3.	Propellant for cartridge RG 7.62 x 51mm. P2A1	Double base smokeless powder Ballistite-3.5	G3A3 Rifle	PAK-AMMO-123
4.	Propellant for 73mm. FSRA HEAT round SPG-9	Double base solventless expelling and booster charges	SPG-9 Launcher	PAK-AMMO-124, 125

Propellants

For Small Arms Ammunition

S. No.	Description	Type shape and major characteristics	Applicable ammunition	Applicable specification
1.	NC-1055	Single base, Single perforated grains, deterrent coated	7.62 x 51mm. Ball NATO & 7.62 x 51mm. Tracer	BNK-632 (Bofors) PAK-AMMO 86 (c) (P.O.F) MIL-P-3984 G (USA)
2.	NC-1111	Single base, square flakes	12 bore cartridge	T M-826 (Bofors)
3.	P-2	Single base, cylindrical grains	Ball 9mm. for MP5A2 sub machine gun	PAK-AMMO-117 (POF)
4.	HN 4/7	Single base, 7 perforated cylindrical grains	12.7 x 108mm. Ball (type 54)	WJ 16-67W (Chinese)
5.	HN 5/7 Glazed (Chinese design)	Single base, 7 perforated cylindrical grains	Practice, API & HEI cartridges for 30mm. aircraft gun ammunition	WJ 17-67 (Chinese)
6.	P-3	Single base, cylindrical grains	7.62 x 51mm. Blank	PAK-AMMO, 122 POF MIL-C-46933A (MU)