Table 2.6 Explosives and Potential Wastes at B-20
Camp Stanley Storage Activity, Texas

Explosive Name	Chemical Name	Chemical Formula	Composition	Decomposition Products*	Probable Hazardous Waste Code
Amatols	50/50 Amatol	NA	NH_4NO_3 50% TNT 50%	TNT → TNB (photochemical) → DNT (aerobic) → NT (aerobic)	D003-reactive
	60/40 Amatol	NA	NH_4NO_3 60% TNT 40%	**	
	80/20 Amatol	NA	NH_4NO_3 80% TNT 20%	**	
Black powder	NA	NA	Potassium nitrate 74% Sulfur 10.4% Charcoal 15.6%	NA	D003-reactive
Composition A3	NA	NA	RDX 91% Densensitizer (wax) 9%	RDX→ nitroso derivatives → CO_2 + H_2O (anaerobic)	D003-reactive
Composition A4	NA	NA	RDX 97% Densensitizer (wax) 3%	***	D003-reactive
Composition A5	NA	NA	RDX 98.5% Stearic acid 1.5%	***	D003-reactive
Composition B	NA	NA	RDX 60% TNT 39% Wax 1%	** ***	D003-reactive
Composition B2	NA	NA	RDX 60% TNT 40%	** ***	D003-reactive
Composition B3	NA	NA	RDX 59.5% TNT 40.5%	** ***	D003-reactive
Composition B4	NA	NA	RDX 60% TNT 39.15% Calcium silicate 0.5 %	** ***	D003-reactive

Table 2.6, continued

Explosive Name	Chemical Name	Chemical Formula	Composition	Decomposition Products*	Probable Hazardous Waste Code
Composition C	NA	NA	RDX 88 3% Plasticizing agent 11.7% (non-explosive)	***	D003-reactive
Composition C2	NA	NA	RDX 78.7% Plasticizing agent 21.3% (non-explosive)	***	D003-reactive
Composition C3	NA	NA	RDX 77% Plasticizing agent 23% (non-explosive)	***	D003-reactive
Composition C4	NA	NA	RDX 91% Polyisobutylene 2.1% Motor oil 1.6% Di(2-ethylhexyl) sebacate 5.3%	***	D003-reactive
DNT	2,4 Dinitrotoluene	$(NO_2)_2C_6H_3CH_3$		DNT → NT (aerobic)	D003-reactive
Explosive D	Ammonium picrate	$C_6H_6N_4O_7$	Carbon 29.3% Hydrogen 2.4% Nitrogen 22.7% Oxygen 45.6%	NA	D003-reactive
Lead azide	Dextrinated (impure product)	$Pb(N_3)_2$	Nitrogen 28.8% Lead 71.2%	NA	D003-reactive
Lead styphnate	2,4,6 Trinitroresorcinate	$PbO_2C_6H(NO_2)_3 \cdot H_2O$	Carbon 15.4% Hydrogen 0.6% Nitrogen 9.0% Oxygen 30.8% Lead 44.2%	NA	D003-reactive
Nitroglycerin (NG)	Nitroglycerin	$C_3H_5N_3O_9$	Carbon 15.9% Hydrogen 2.2% Nitrogen 18.5% Oxygen 63.4%	NA	D003-reactive
10/90 Pentolite	NA	NA	PETN 10% TNT 90%	**	D003-reactive

Table 2.6, continued

Explosive Name	Chemical Name	Chemical Formula	Composition	Decomposition Products*	Probable Hazardous Waste Code
50/50 Pentolite	NA	NA	PETN 50% TNT 50%	**	D003-reactive
PETN	Pentaerythrite tetranitrate	$C_5H_8N_4O_{12}$	Carbon 19.0% Hydrogen 2.7% Nitrogen 17.7% Oxygen 60.8%	NA	D003-reactive
RDX (Cyclonite)	Cyclotrimethylene-trinitramine	$C_3H_6N_6O_6$	Carbon 16.3% Hydrogen 2.7% Nitrogen 37.8% Oxygen 43.2%	NA	D003-reactive
Scrap metal	--	--	--	--	--
Tetryl	2,4,6-Trinitrophenylmethyl nitramine	$C_7H_5N_5O_8$	Carbon 29.3% Hydrogen 1.7% Nitrogen 24.4% Oxygen 44.6%	RDX → nitroso derivatives → CO_2 + H_2O (anaerobic)	D003-reactive
TNT	Trinitrotoluene	$C_6H_3N_3O_7$	Carbon 31.5% Hydrogen 1.3% Nitrogen 18.3% Oxygen 48.9%	TNT → TNT (photochemical) → DNT (aerobic) → NT (aerobic)	D003-reactive

* TNT decomposes to trinitrobenzene under photochemical degradation. Under aerobic conditions, TNT degrades to monoamino-, diamino-, and hydroxylamino- DNT and to tetranitroazoxy- NT. Under anaerobic conditions, RDX biodegrades into mono-, di-, and tri-nitroso derivatives, CO_2, and water.

** See decomposition products for TNT.

*** See decomposition products for RDX.

References:

- List of explosives, chemical names and formulas provided by CSSA, December 1993, from U.S. Army reference manuals.
- EPA characteristics from 40 CFR 260 and 261 (-- refers to those wastes not characterized as hazardous waste).
- *Riegel's Handbook of Industrial Chemistry*, ed. James Kent, Van Nostrand Reinhold, 1983.
- Sax, N.I., R.J. Lewis, *Hazardous Chemicals Desk Reference*, Van Nostrand Reinhold, 1987.
- U.S. Environmental Protection Agency, "Approaches for the Remediation of Federal Facility Sites Contaminated with Explosives or Radioactive Wastes," EPA/625/R-93/013, September 1993.