



RECOVERED CHEMICAL
MATERIEL DIRECTORATE

RECOVERED CHEMICAL WARFARE MATERIEL

MORTARS

Mortar, 4.2-in.: Dual use
Chemical Application: Cartridge, M1, M2, M2A1 (pictured)
Scheduled Chemical Fills: CG, CK, CNS, GA, H/HS, HD, HT, L, PS
Other Fills: CNB, CNC, CMC, FM, FS, HE, WP

Mortar, 4-in.: Dual use
Chemical Application: Stokes Mortar
Scheduled Chemical Fills: CG, H/HS, PG, PS
Other Fills: FS, KJ, TH, WP

Projectile, Live: Dual use
Chemical Application: MK II (M2), MK IIA1 (M2A1)
Scheduled Chemical Fills: CG, CL, NC, PS
Other Fills: BM, FM, FS, HC, PTI, TH

Mortar, 81 mm: Dual use
Chemical Application: Mortar, M57
Scheduled Chemical Fills: H/HS
Other Fills: FS, HE, WP

PROJECTILES

Projectile, 75 mm: Dual use
Chemical Application: MK II (pictured), M64
Scheduled Chemical Fills: CG, H/HS
Other Fills: BA, FM, FS, HE, WP

Projectile, 105 mm: Dual use
Chemical Application: M360 (pictured), M60
Scheduled Chemical Fills: GB, H/HS, HD, L
Other Fills: HE, WP

Projectile, 4.7-in.: Dual use
Chemical Application: Common Steel Shell, MK II
Scheduled Chemical Fills: CG, H/HS
Other Fills: BA, CA, HE, NC, PS, WP

Projectile, 155 mm: Dual use
Chemical Application: Projectile, Gas Permeant, M106 (M105) (pictured); Projectile Howitzer M121, and M121A1; Artillery Shell Common Steel Shell MK II, MK IIA1, and MK IIA1-74002; Howitzer Chemical Shell M106 and M106B1
Scheduled Chemical Fills: CG, CNS, GB, H/HS, HD, PS, VX
Other Fills: BA, CA, FM, FS, HE, NC, WP

Projectile, German: Dual use
Chemical Application: German Projectiles, 75mm, 76mm, 105mm (pictured) and 120mm
Scheduled Chemical Fills: CG, CN, GA, H/HS, HS/PO
Other Fills: None

MINES

Land Mine: Dual use
Chemical Application: Chemical Land Mine, M23; look-alike M15 Anti-Tank Mine
Scheduled Chemical Fill: VX
Other Fill: HE (M15)

Land Mine: Single use
Chemical Application: M1 Chemical Land Mine
Scheduled Chemical Fill: H/HS
Other Fill: Molasses residuum (training)

Land Mine: Single use
Chemical Application: British Land Mine
Scheduled Chemical Fills: HT
Other Fill: None

Land Mine: Single use
Chemical Application: German Land Mine, "S" Mine a.k.a. "Bouncing Betty"
Scheduled Chemical Fills: HS, HS/PO
Other Fill: None

CHEMICAL AGENT IDENTIFICATION SETS (CAIS)

Chemical Application: Toxic Gas Set (M-1), X341
Scheduled Chemical Fills: H/HS, HD
Other Fill: None

Chemical Application: Navy Sniff Set (K355)
Scheduled (dilute) Chemical Fills: H/HS, HN1, HN3, L
Other Fills: Simulated CG, CN, DM, PS

Chemical Application: X341 CAIS Bottles
Scheduled Chemical Fills: H/HS, HD
Other Fill: None

Chemical Application: Glass Ampoules for CAIS
Scheduled (dilute) Chemical Fills: CG, CK, H/HS, HN, L
Other Fills: GA (simulated)

Chemical Application: Gas Identification Set M1 K351/K352/K353/K354
Scheduled (dilute) Chemical Fills: CG, CK, H/HS, HN, L, PS
Other Fill: GA (simulated)

BOMBLETS

Bomblet: Single use (for Honest John Warhead)
Chemical Application: 3.4 lb., 4.5-in. diameter, M139 (pictured top) and M134; 0.8 lb., 3-in. diameter E136 (pictured bottom)
Scheduled Chemical Fills: GS (M139 and M134), VX (E136)
Other Fills: None

Bomblet: Single use
Chemical Application: M34 Cluster Bomb, 10 lb., M125A
Scheduled Chemical Fill: GB
Other Fill: None

CYLINDERS

Metal Cylinder: Dual use
Chemical Application: 1.5-in. diameter chemical agent storage container
Scheduled Chemical Fill: Any chemical agent
Other Fill: Any military or commercial liquid

Cylinders: Dual use
Chemical Application: M1A2 (pictured left), and M1A1 (pictured right)
Scheduled Chemical Fill: CG
Other Fills: CL, smoke mixture, tear agents

BOMBS

Bomb: Dual use
Chemical Application: 100 lb., M47, M47A2 (pictured), Navy 100 lb., MK 42
Scheduled Chemical Fills: H/HS
Other Fills: IM, NP, PWP, WP (Experimental fills at APG-EA and DPG)

Bomb: Dual use
Chemical Application: 115 lb., M70 (pictured) and M70A1; 125 lb., M113
Scheduled Chemical Fills: H/HS, L
Other Fill: WP (Experimental fills at APG-EA and DPG)

Bomb: Dual use
Chemical Application: Bomb 25 lb., 30 lb., M1 (pictured), M46, M46A2
Scheduled Chemical Fill: H/HS
Other Fill: WP (Experimental fills at APG-EA and DPG)

Bomb: Single use
Chemical Application: 500 lb., AN-M78, M78, 1,000 lb.
Scheduled Chemical Fills: AC, CG, CK
Other Fill: None

Bomb: Dual use
Chemical Application: German 250 kg. (pictured)/500 kg. bombs
Scheduled Chemical Fills: CG, CN, DM, GA, HE, H/HS
Other Fill: None

ROCKETS

Rocket, Traktor: Dual use
Chemical Application: German Chemical Rocket, Type 41
Scheduled Chemical Fills: GA, H/HS, HN, L, PD
Other Fills: DA Arsenol, Smoke mixture (fuming sulphuric acid)

Rocket Shipping and Firing Tube, M441: Single use
Chemical Application: Used for the Rocket, 115 mm, M55, M65, M61
Scheduled Chemical Fill: N/A
Other Fill: N/A

Rocket, 7.2-in.: Single use
Chemical Application: M25 (pictured), M27
Scheduled Chemical Fills: CG, CK
Other Fill: None

GRENADES

Grenade: Single use
Chemical Application: Gas Grenade
Scheduled Chemical Fills: None
Other Fills: CN, DM, Smoke

CONTAINERS, DRUMS

Container: Dual use
Chemical Application: Sample Bottle
Scheduled Chemical Fill: Any liquid chemical agent
Other Fill: Any military or commercial liquid

Container: Dual use
Chemical Application: WWII Commercial 55-gallon drum
Scheduled Chemical Fills: CNB, CNS, FS, L
Other Fills: Any military or commercial liquid, molasses residuum (training)

Container: Dual use
Chemical Application: Ton Container: D-Type, E-Type
Scheduled Chemical Fill: Any chemical agent
Other Fill: Any military or commercial liquid

Metal Container: Dual use
Chemical Application: Department of Transportation Bottles
Scheduled Chemical Fill: Any chemical agent
Other Fill: Any military or commercial liquid

Container (Bottle): Dual use
Chemical Application: Container (Bottle)
Scheduled Chemical Fill: None
Other Fill: CN Pellets

SPRAY TANKS

Spray Tank: Dual use
Chemical Application: M16, M33A1 (pictured), M33, E16R1
Scheduled Chemical Fills: CNS, H/HS, L
Other Fills: CNB, CNC, FM, FS

Spray Tank: Dual use
Chemical Application: M20, 50-gallon
Scheduled Chemical Fills: CNS, H/HS, L
Other Fills: CNB, FS

FILL NOMENCLATURE		
AC/HCN*	Hydrogen Cyanide	Blood
BA	Bromoacetone	Lachrymator
BM	Berger mixture	Smoke
BZ*	3-quinuclidinyl benzilate	Incapacitating (Hallucinogen)
CA	Bromobenzyl cyanide	Lachrymator
CG*	Phosgene	Choking
CK*	Cyanogen chloride	Blood
CL	Chlorine	Choking
CN	Chloroacetophene	Lachrymator
CNB	10% CN + 45% Benzene + 45% Carbontetrachloride	Lachrymator
CNC	70% CN + 30% Chloroform	Lachrymator/irritant
CNS*	23% CN + 38.4% PS + 38.4% Chloroform	Lachrymator/irritant
DA	Diphenylchlorarsine	Vomiting
DF*	Methylphosphonyldifluoride	Binary precursor for GB
DM	Adamsite	Vomiting
FM	Titanium Tetrachloride	Smoke
FS	Sulfur Trioxide and Chlorosulfonic Acid	Smoke
GA*	Tabun (non-persistent)	Nerve agent
GB*	Sarin (non-persistent)	Nerve agent
GD*	Soman (non-persistent)	Nerve agent
H/HS*	Levinstein Mustard	Blister
HC	Zinc Oxide and Hexachloroethane	Smoke
HD*	Distilled mustard	Blister
HE	Various explosive compounds	High explosive
HN1,2,3*	Nitrogen mustard	Blister
HT*	60% H + 40% bis (2 chloroethyl Thioethyl) Ether	Blister
IM	Incendiary Mixture	Incendiary
KJ	Stannic Chloride	Smoke
L*	Lewisite	Blister
NC*	Chloropicrin and Stannic Chloride	Irritant
NP	Napalm	Incendiary
OPA	Isopropyl Amine + Isopropyl alcohol	Binary Compound for GB
PD	Phenyldichloroarsine	Blister
PG	Chloropicrin/phosgene mixture	Irritant/lachrymator
PS	Chloropicrin	Irritant/lachrymator/vomiting
PTI	Magnesium paste based incendiary mixture	Incendiary
PWP	Plasticized White Phosphorus	Smoke/incendiary
QL*	O-Ethyl O-2-diisopropylamino ethylmethylphosphonite	Binary precursor for VX
TH	Thermite	Smoke/incendiary
VX*	Nerve agent (persistent)	Nerve agent
WP	White Phosphorus	Smoke/incendiary

* Denotes chemical compounds that are listed in the Chemical Weapons Convention.

Recovered Chemical Warfare Materiel Poster/September 21, 2015

KEY MOST COMMON RECOVERED CHEMICAL WARFARE MATERIEL

