



**US Army Corps
of Engineers®**
Alaska District



Amaknak Formerly Used Defense Site
Unexploded Ordinance and Chemical Agent
Recognize, Retreat, Report Safety Training

12:00-2:00 PM
Monday, August 30, 2021

Join by Phone:
Teleconference Call: (844) 800-2712
Access Code: 199 212 1820#

For more information, please contact Ms. Rena Flint, FUDS Project Manager, by phone at (907) 753-2680 office, (907) 201-3108 cell, or by email at Rena.B.Flint@usace.army.mil.

Please visit <https://www.poa.usace.army.mil/Library/reports-and-Studies>, under the “Documents Available for Review” section, under the Environmental Cleanup section.

Or please contact, USACE- Alaska District Public Affairs Office, by phone at (907) 753-2520, or by email at Public.affairs3@usace.army.mil.

In addition to training Open to Community, UXO/CWM 3Rs Safety Training will be available to the Department of Public Safety (Aug 31) and the Amaknak FUDS Restoration Advisory Board (Aug 20). To join another meeting, please reach out to Ms. Rena Flint.

Introduction to found Military Munitions and the 3 R's of Explosive Safety

- Brian D McComas
- Ordnance and Explosives Safety Specialist (OESS)
- CEHNC - OES



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Why Are We Here

- The former Amaknak Military Facilities were used from 1911 to 1952.



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Why Are We Here

- An area known as Captain's Dock Chem Agent Disposal, has been identified through historical research and site visits as having potential chemical hazards.

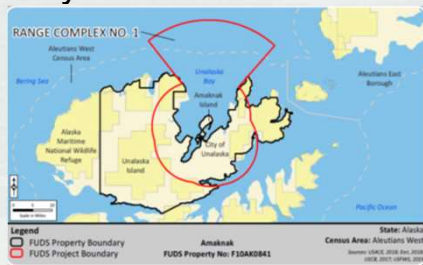


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Why Are We Here

- The Naval Facility assisted in the air defense of the harbor and operated an Anti-Aircraft Training Center (AATC) with firing ranges located on the Northwest side of Mount Ballyhoo on Amaknak Island.



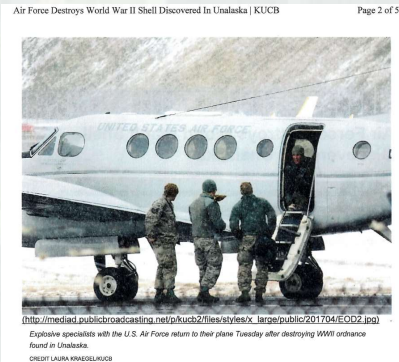
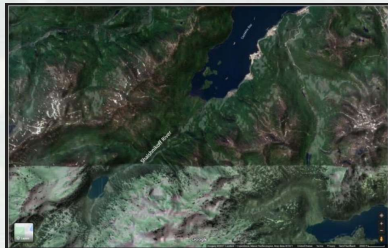
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Local EOD Response

2017 EOD Respond to a projectile found by a hiker

2019 EOD responded to a surface grenade.



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What to Do if You Encounter Munitions

● **Recognize** that munitions are dangerous.

Munitions may:

- not look like a bullet or bomb.
- look harmless, but they are dangerous.
- be shiny or rusty.
- be clean or dirty.

Regardless of whether a munition has been moved, it may still explode. In fact, used munitions can be more dangerous than new.



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● Recognize
● Retreat
● Report

What to Do if You Encounter Munitions

● **Retreat**

- Do not approach, touch, move, or disturb, but carefully leave area the same way you entered.
- In remote surroundings, mark general area where you encountered a munition, so local authorities can locate. DO NOT go closer to munition when marking area.

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● Recognize
● Retreat
● Report


What to Do if You Encounter Munitions

● **Report** what you saw and where you saw it.

- Call 911
- Authorities will clear area, and trained Explosives Ordnance Disposal (EOD) personnel will dispose of item.

Call
authorities



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Injury's underscore importance of 3R safety message



Munitions are not always easily identifiable and should always be considered dangerous, regardless of their age, condition or location.



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- Culebra Puerto Rico: Current Formerly Used Defense Site (FUDS) Flamenco Beach, a young girl received burns.
- Oklahoma: In 2007 a young man was injured while digging for crystals on a former military installation.
- McGregor Range in New Mexico: Two women injured by an Unexploded Ordnance item while searching for scrap metal on an active range.



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Military ordnance is designed to destroy property and kill or maim people.



Regardless of its age, explosive ordnance retains its lethality



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Unexploded Ordnance (UXO)

- **Military munitions** that have been:
- **primed, fuzed, armed,** or otherwise prepared for action, and have been
- **fired, dropped, launched, projected or placed** in such a manner as to **constitute a hazard** to operations, installation, personnel, or material and
- **remain unexploded** either by malfunction, design, or any other cause. It should be noted that DMM although never fired or armed could in fact become UXO when subjected to abnormal Environments.

[Military Munitions Rule 40 CFR 266.201]



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Discarded Military Munitions (DMM)

- Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal.



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Live Military Munitions

- These items are used to kill, maim , area denial, destroy property etc.
- They have in most cases three explosive components:
 - 1. Initiating Explosives
 - 2. Booster (optional)
 - 3. Main Charge or Chemical Agent



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Practice Munitions

- Practice munitions are used to simulate service ammunition.
- In practice munitions, the main charge is replaced by inert fill.
- Practice munitions normally contain a spotting charge. (Still Dangerous)



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Training (Drill) Munitions

- Training munitions are used to allow gunners to practice loading and firing the weapons systems
- Training ammunition is inert.



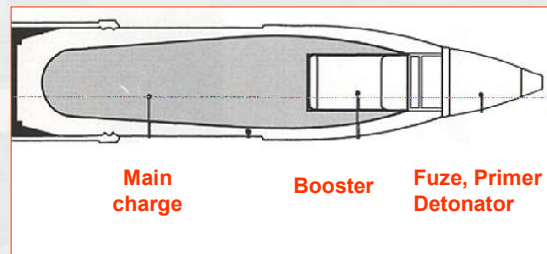
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General Components of Military Munitions

The Explosive Train

The detonation of a munition is the result of the functioning of the explosive train.



Least Sensitive ← Most Sensitive

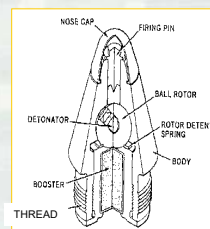


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Munition Fuze

- The brain of the ordnance.
- Must be able to:
 - ▶ Arm at the appropriate time
 - ▶ Initiate the detonation at the appropriate time
- The fuze is the most critical part of a munition because it is the most sensitive to outside influence (heat, movement, etc.), and it initiates the detonation.



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Munitions Delivery Systems

- Fired, Launched or Projected
 - ▶ Projectiles, mortars, rifle grenades, rockets, missiles
- Dropped
 - ▶ Bombs and Dispensers
- Placed
 - ▶ Landmines, naval mines
- Thrown
 - ▶ Hand grenades



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Causes of UXO

- User error
- Improper fuze setting
- Malfunctioning of fuze
- Effects of an Abnormal Environment (kickout)

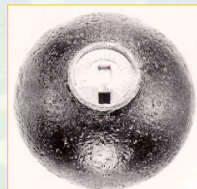


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Munitions Remain Sensitive Over Time

- Fuze mechanisms can remain sensitive as they age.
- Some explosives degrade and form shock-sensitive salts over time.
- Some chemical fills do not significantly degrade over time.
- Some propellants become more sensitive over time due to loss of stabilizing agents.



Civil War Era



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Recognizing Hazards

A person's ability to recognize Military Munitions is the first and most important step in reducing the risk posed by explosive/chemical hazards



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Types of Military Munitions

- Grenades
- Rockets
- Projectiles/Mortars
- Guided missiles
- Bombs
- Submunitions/Improved Conventional Munitions (ICM)
- Mines
- Small arms ammunition



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Grenades: Hand-Thrown

- High explosive
- Chemical
- Illumination
- Screening
- Practice



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Grenades: Rifle Grenades

- High Explosive/HEAT
- Chemical
- Illumination
- Screening
- Practice



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Rockets

- High Explosive/HEAT
- Chemical
- Illumination
- Screening
- Practice

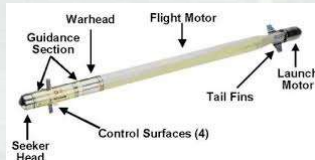


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Guided Missiles

- High Explosive/HEAT
- Chemical
- Special Applications
- Practice



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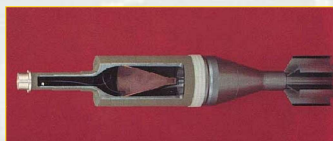
Projectiles

High Explosive
Practice

Chemical
Training/Drill

Illumination

Screening
HEAT



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Mortars

- High Explosive
- Chemical
- Illumination
- Screening
- Practice
- Drill



4.2 inch High Explosive and Illumination Mortars



Source: ITC



81mm M82A2/M889A2 HE
81mm M813 SMK
81mm M853A1 VT Illum
81mm M816 IR Illum
81mm M879 Training



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Bombs

- High Explosive
- Chemical
- Illumination
- Practice
- Special Applications



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Submunitions/Improved Conventional Munitions



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Landmines



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Small Arms Ammunition (SAA)

- .50 caliber and smaller ammunition
- Typically do not contain explosive hazards.
- Pose no significant explosive hazard.
- Refer to this as SAA.



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Explosive Hazards and Safety Considerations

- Explosive Hazards
- Chemical Hazards
- What to do if you find a Military Munition



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Basic Considerations

- Unknown explosives, consider it to be the most **hazardous type**, **hazardous features** and **hazardous condition**



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High Explosives (HE)

- Heat, shock, friction
- Sunlight, Sensitivity
- Proper container
- Gloves, wash hand
- Protective gear for smoke and fumes
- DO NOT TOUCH!!**



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Fragmentation (Frag)

- Is the break-up of the munition case during detonation or debris at detonation site that takes flight after detonation.
- Primary, Secondary
- Safe Distance
- DO NOT TOUCH!!



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Electromagnetic Radiation (EMR)

- Consists of wave of electrical energy at radio transmission frequencies.
- Keep radio transmissions at safe distance
- Do not turn on or off power lines



Figure 1-2. Never transmit near a UXO.



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Static

- Properly Ground
- Wear non-conducting clothing
- DO NOT TOUCH!!

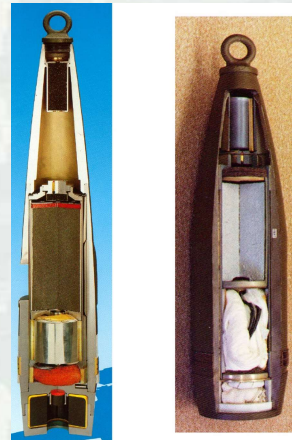


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Ejection

- Leave from a 45-degree angle from rear
- Stay clear of all ejection hazards
- DO NOT TOUCH!!

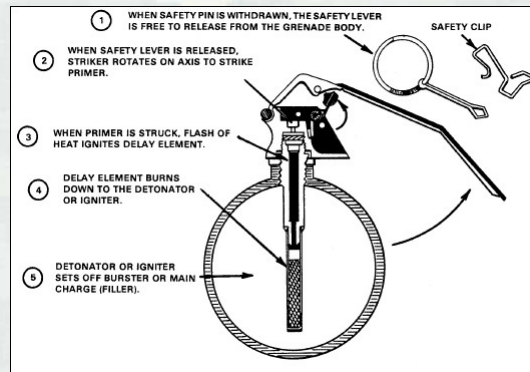
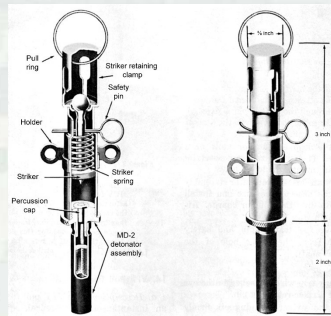


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Cocked Striker (CS)

- Do not drop jar or strike UXO
- DO NOT TOUCH!!

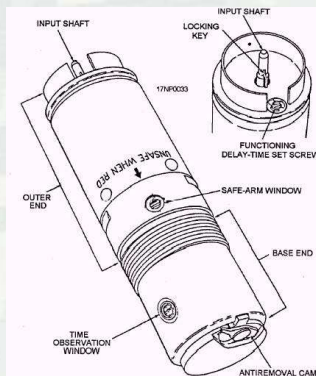


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Clockwork (CW)

- Do not reset or reinsert any safing devices
- DO NOT TOUCH!!



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White Phosphorus (WP)

- Can lay dormant due to being covered with dirt, mud, or sand.
- Do not crush or break WP residue. This will cause the WP to ignite.
- WP only needs air to burn.
- **DO NOT TOUCH!!**



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Chemical

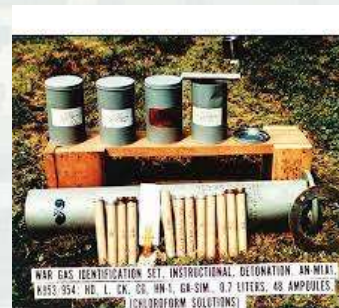
- Always be aware of Chemical Hazard.
- Odor – Fruity / Nutty etc.
- CS/Riot control agents – Stay upwind of suspected Chemical munitions.
- **DO NOT TOUCH!!**



IWM



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Navy Mine Simulators and Flares

- The flare will ignite if the battery is exposed to moisture
- Stay up wind of Flares – The smoke can be toxic
- Flares can produce intense heat after ignition
- Do not touch!!



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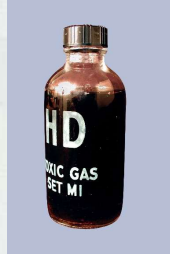
The U.S. Army used Chemical Agent Identification Sets (CAIS) from 1928 to 1969 to train soldiers and sailors in the safe handling, identification, and decontamination of chemical warfare agents. The Army produced the identification sets in large quantities and various configurations, distributing the items over a broad area.



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Appearance



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Chemical Agent Identification Sets(CAIS)



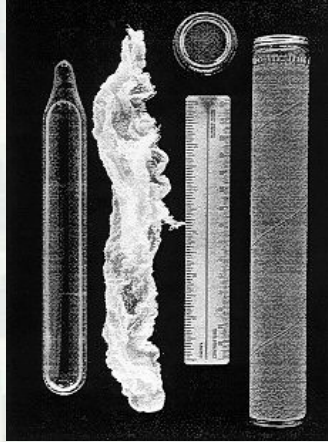
K 941/942 3.5 oz
HD Mustard Bottle



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CAIS Defined



**K951/952 Ampoule and
Packing Material**



PIG

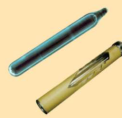


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Agents of CAIS

- Mustard (H, HD, HS)
- Lewisite (L)
- Phosgene (CG)
- Chloropicrin (PS)
- Chloroform



Glass ampoules and vials.

Could contain:

- 5% lewisite in chloroform
- Pure phosgene
- GA-simulant
- 5% sulfur mustard in chloroform 10% nitrogen mustard in chloroform Pure cyanogen chloride
- 50% chloropicrin in chloroform



Glass bottles.

Could contain:

- Pure sulfur mustard
- Lewisite on charcoal
- Chloropicrin on charcoal
- Solid chloroacetophenone
- Sulfur mustard on charcoal
- Nitrogen mustard on charcoal
- Solid triphosgene
- Solid adamsite



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If you discover or think you may have discovered a CAIS, contact your local emergency or law enforcement personnel. *Do not touch or move these items* as they may contain small amounts of chemical agent. The chemical agent that CAIS may contain, even if solidified, can cause serious injury.



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The most basic rule!

- If you didn't drop it, don't pick it up!

Remember:

- Do not investigate found military munitions
- Not all hazards are obvious, don't assume anything is safe.



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Recognize
 Retreat
 Report

In Summary

Recognize - when you may have encountered a munition and that munitions are dangerous.

Retreat - do not approach, touch, move or disturb it, but carefully leave the area.

Report - call 911 and advise the police of what you saw and where you saw it.

www.denix.osd.mil/UXO/

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Local Items

Deaccessioned Items			07/08/2021
Item	1996.004.001 ~ Ordnance		
Deacc date	06/01/2021	Type D	
Catdate	06/29/2009		
Accession#	1996.004		
Source	[REDACTED]		
Other#		Earlydate 1940	
Oldno		Latedate 1945	
Disposal Date	06/02/2021	Disposal Method Destroyed	
Authorized by	Karen Macke		
Reason	The item represents an unacceptable hazard to personnel, or to other collections. Was advised by US Army EOD team to destroy object, as it contains live munitions. Further information and justification can be found in Deaccession File.		
Description	Trench Art Brass Shell Casing. "Dutch Harbor" stamped/embossed into 20MM Casing.		
Collection	History		
Title			
Creator			
Condition	Current value min	Current value max	
Cond notes			
Subjects	Classes		
Notes			

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Possible MK 1 Dummy Concrete filled



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Small Arms/Projectile casings



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Bomb



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Projectiles



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Questions

Follow the 3Rs of Explosives Safety

Recognize

when you may have encountered a munition and that munitions are dangerous.

Retreat

do not approach, touch, move or disturb it, but carefully leave the area.

Report

call 911 and advise the police of what you saw and where you saw it.



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