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Types of Flares

- ▶ Red Hand-held Flare (day and night)
- ▶ Parachute Flare (day and night)
- ▶ Red Meteor (day and night)
- ▶ Orange Smoke Signal (hand-held/day only)
- ▶ Floating Orange Smoke Signal (day only)

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What makes flares hazardous?

- ▶ The ingredients vary, but often based on strontium nitrate, potassium nitrate, or potassium perchlorate, mixed with a fuel such as charcoal, sulfur, sawdust, aluminum, magnesium, or a suitable polymeric resin.
- ▶ Contain many ingredients that can pose risks to human health/environment with potassium chlorate being of most concern.
- ▶ Frequent exposure to potassium chlorate can cause problems with breathing and can start to affect your thyroid, white blood cells and kidneys
- ▶ A single improperly disposed of flare can contaminate up to 240,000 gallons in a drinking water source with perchlorates.

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Why are flares problematic waste?

Outlets for disposal are very limited

- ▶ Flares are considered class 1 explosives and there are only 4 permitted explosive incinerators in the US
- ▶ Only a few transporters in the SE US are licensed and permitted to haul explosives.

*Explosives can not be transported with other hazardous waste

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Cost of disposal

- ▶ Prices vary but the average price of flare disposal can cost between \$8-\$10 per pound with a \$3,000 minimum pick up
- ▶ There is also a transport fee of \$2500 - \$3500 in addition to the disposal fee

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Munitions Incinerators

General Dynamics Ordnance and Tactical Services

Corporate Headquarters:

- ▶ 100 Carillon Parkway St. Petersburg, FL 33716
- ▶ Main Number: (727) 578-8100

Clean Harbors

- ▶ 7001 Kilo Avenue Bartow, FL 33830
- ▶ Phone Number: 863-533-6111

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Improper disposal

- ▶ Throwing flares into the trash
- ▶ Tossing flares into the ocean or any body of water

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Alternatives to pyrotechnic flares

▶ Electronic Flares (E-Flares)

Pros

- ▶ Reusable and operate with batteries
- ▶ Last longer than pyrotechnic flares
- ▶ No risk of getting injured while using one

Cons

- ▶ Only can be used at night

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What does Pasco County HHW do with flares?

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- ▶ Flares are buried in the ash of the lined ash cell
- ▶ PPE is worn (eye protection, gloves and safety vest)
- ▶ Excavator operator digs a hole in the ash, flares are put into the hole and then ash is put back on top burying the flares
- ▶ The ash is caustic so it erodes the flares



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How can we guide people with flare disposal?

- ▶ Contact your local sheriffs office or fire department
- ▶ Contact the local Coast Guard
- ▶ Contact your local HHW facility

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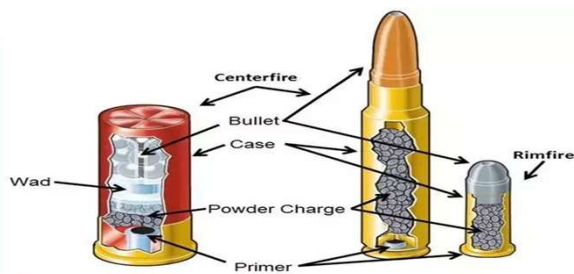
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What's inside an ammo cartridge

- ▶ A cartridge is made up of a bullet, casing, gunpowder, and a primer. The primer is located on the bottom of the casing, the gunpowder is inside the casing, and the bullet is sticking out the other end of the casing.
- ▶ The bullet is typically made of lead but could be another type of metal or cased in another type of metal. The casing is generally made from brass but could also be steel.



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What makes ammunition hazardous?

- ▶ Contains metals such as lead, nickel, copper and zinc
- ▶ Can contaminate the ground or drinking water with heavy metals (especially lead)
- ▶ Gun powder is flammable

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Why is ammunition problematic waste?

Just like flares, outlets for disposal are limited

- ▶ Ammunition is also considered a class 1 explosive
- ▶ Cost of disposal will be around the same as flares

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Improper disposal of ammunition



Garbage

Throwing ammunition in the trash is dangerous and illegal



Burning

Small Components may be expelled



Bury

Burying ammo can lead to problems in the water and soil. Bullets are made of lead which can seep into the soil.

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Alternatives for ammunition



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What does Pasco County HHW do with Ammunition?

- ▶ Just like flares, they are buried in lined ash cell



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How can we guide people with ammo disposal?

- ▶ Contact your local gun range
- ▶ Contact local law enforcement
- ▶ Contact your local HHW facility

*some counties may have a burn box used to destroy ammunition



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