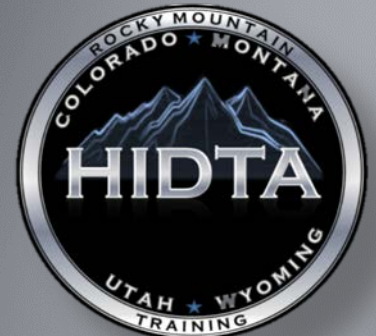


# Hash Oil Extraction Hazards

*Safety for First  
Responders*

Developed by Sgt. Pat Long, Thornton Police Department



Property of Rocky Mountain HIDTA

# Hash Oil Explosions Increasing Across U.S.

Some explosions in residences and hotels around the country are being traced back to a process using butane to extract and concentrate compounds from marijuana. The extraction method appears to be more common on the west coast; reported fires and explosions have blown out windows, walls and caused numerous burn injuries.

Depending on conditions at the scene, these explosions can be misidentified as pipe bombs (because of the extraction vessel used) or methamphetamine lab explosions. First responders, fire marshals, bomb squads and drug task force personnel should receive training to identify items used in hash oil extraction.

Butane is necessary for the process and is available over-the-counter in 8-ounce cans. The extraction process uses one whole can and multiple cans will likely be at the scene. **Butane is highly explosive, colorless, odorless and heavier than air and therefore can travel along the floor until it encounters an ignition source.**

The process also uses isopropyl or anhydrous alcohol, both flammable; extraction vessels; glass dishes; ether and coffee filters. The resulting substance is a thick yellow-orange oil called hash oil, honey oil, Butane Honey Oil (BHO) or dabs.

Initial explosions can lead to secondary explosions and fires. In states with legalized use and availability of medical marijuana, these incidents appear to be increasing. In some of these states the legality of the actual production process is still in debate.

*(Source: Seattle Times)*

InfoGram 6-13: February 7, 2013



U.S. Fire Administration  
Working for a Fire-Safe America



FEMA

# Hash Oil Video

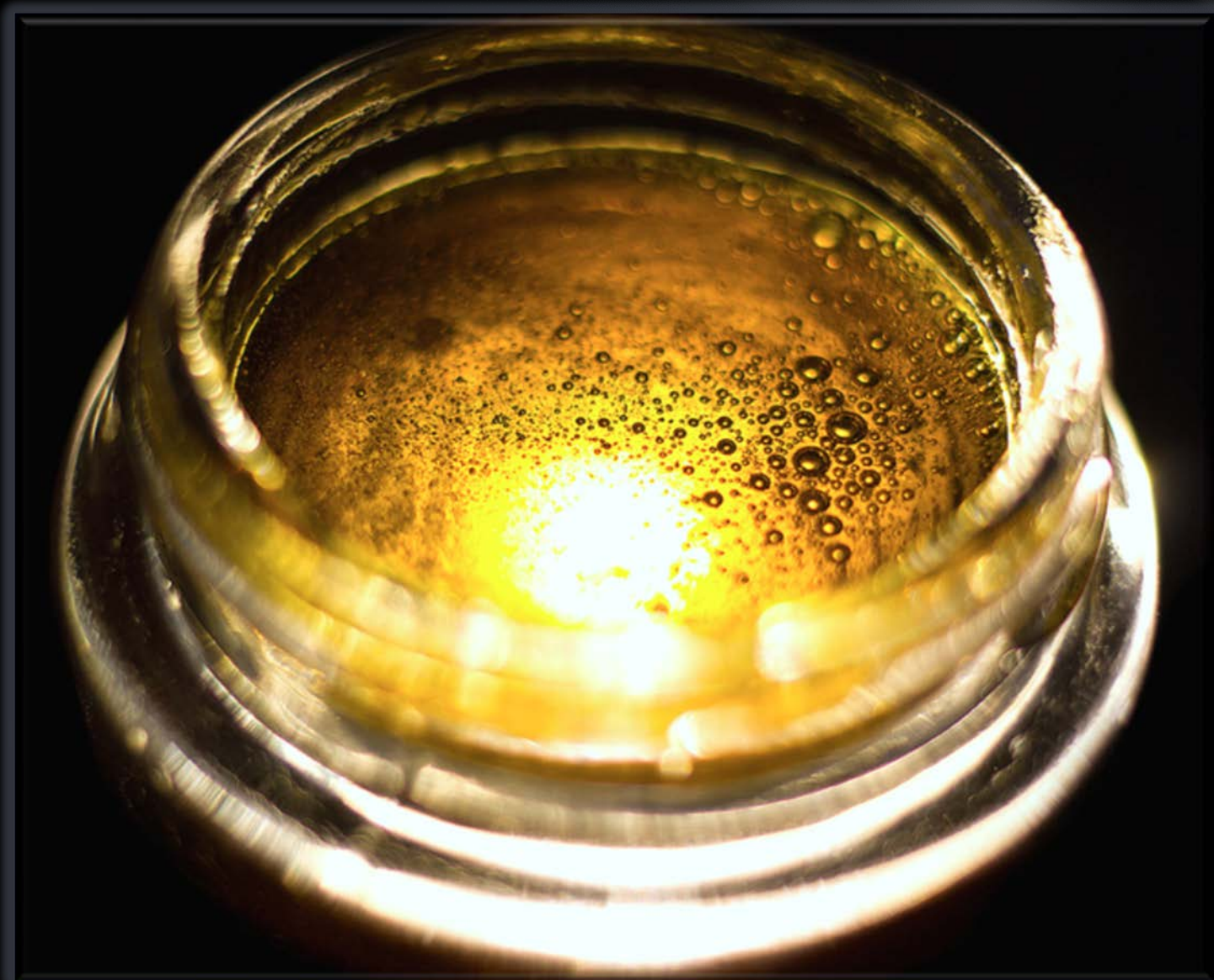
The VICE logo is located in the top right corner of the video frame. It is rendered in a stylized, white, outlined font with a slight shadow effect, set against a black background.

# What is Hash Oil?

Wikipedia:

- Hash Oil is a resinous matrix of cannabinoids obtained from the Cannabis plant by solvent extraction.
- The solvent is removed after the extraction
- Final product is pliable and waxy substance similar to caramel and honey
- Hash Oil, or oils from Marijuana plants have high levels of concentrated THC
- The Oil is in liquid form and can be infused into products for easy and alternate consumption

# Hash Oil



Property of Rocky Mountain HIDTA

# Hash Oil Nicknames

Also known as:

- BHO
- Honey Oil
- Weed Oil
- Dabs
- Concentrate
- Ear wax
- Amber Glass
- Moon Rocks
- Shatter
- 710 (spells Oil upside down)



# Not a New Development

- Hash Oil extraction is not a recent development.
- Instructional literature dates back to the mid 1990's but BHO didn't become popular until around 2010 in Cannabis clubs.
- However for reasons unknown, there has been a spike in production/use & associated fires/explosions.

# Not to be Confused with “Hashish”

- Hashish (also known as Hash)
- Hash is made from resin glands, called “trichomes”, collected from the buds of the female Cannabis plant.
- Removed mechanically or falls off
- Same as “Kief”



# Consumption of Hash Oil

Usually consumed by smoking, eating or vaporizing

- **Smoking**
  - Placed on pipe by itself
  - Used to lace other drugs
- **Eating**
  - Combined with sugar or sweeteners and flavorings and made into a hard candy.
- **Vaporizing**
  - “Dabs” are placed on smoking device and a super heated titanium rod is placed onto the dab
  - Nearly 100% consumption with little residue

# Smoking



# Eating



50 mg of THC per candy



10-25 mg of THC per candy

# Vaporizing



# Hash Oil

- Hash Oil is created by breaking down the cannabis trichomes and removing concentrated THC
- Thus term “concentrate”

## Cannabis Trichomes



# THC Levels

- Marijuana “buds”
  - Up to 30% (15% to 25% Average)
- Hash Oil
  - Can exceed 85%
- It takes approximately one ounce of marijuana to make six grams of Hash Oil

# Amount of Oil Produced

- Five pounds of marijuana equals 120-140 grams of BHO. This could have a value of \$3,500 for 140 grams
- One gram could go for the \$25/gram or \$45/gram
- Disclaimer: This price of course depends on the strain that was used and the purity level gained from the extraction.

# Hash Oil Manufacturing

Methods of extraction:

- **Solvent Reduced:** Made by soaking plant material for a certain amount of time in the chemical of choice, usually acetone or alcohol based solvent.
- **Butane Hash Oil (BHO):** Made by passing butane gas through a tube filled with Cannabis plant matter.
- **CO<sub>2</sub> in tank under pressure:** Made just like the butane process but CO<sub>2</sub> is much colder and safer.



# B.H.O. Manufacturing

The most common form of Hash Oil is “Butane Hash Oil” or “BHO”

- Made by passing butane gas through a tube or “extractor” filled with Cannabis plant matter.
- Liquid butane runs through the Cannabis plant matter, acting as a solvent it strips the resins from the Cannabis.
- As liquid butane passes through container the resin runs out the bottom with the butane.

# Manufacturing Process Video



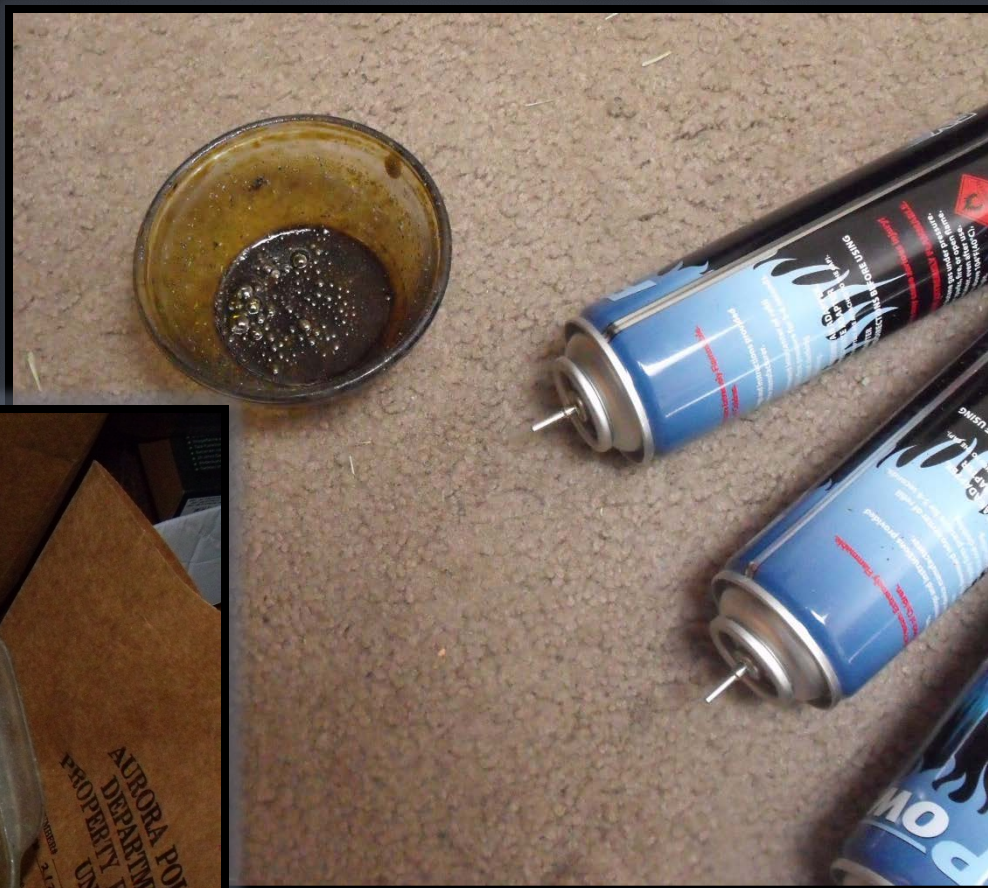
# Extraction Tubes



# Butane Canisters



# Pyrex Dishes



# Items for Extraction

*Tools of the trade*



*Extraction process*



# We have a Winner!

g news and trends

## How to make hash oil, explode your house and blow off your hand in 3 easy steps

Lisa Brenner with AP | March 12th, 2013, 1:48pm



David McNew/Getty Images

DIY drug making is not as safe as it sounds.

# Manufacturing Process Explosion Video





# Hash Oil Extraction House Fire



# Excerpts from House Fire Report

## Excerpt 1:

February 2<sup>nd</sup> 2013 at 22:57 hrs Tacoma Police and Fire Departments responded to 606 East 34<sup>th</sup> Street for a house fire. Upon arrival neighbors said they overheard a man yell "Oh Shit" and then heard "fireworks or lots of loud popping noises" and the fire erupted. No persons were found at the house when units arrived

# Located at Fire Scene

Excerpt 2:

Officers reported "I would estimate the number of used butane cans to be in the hundreds. I counted 11 boxes that contained 12 cans each. Those were the boxes that still had empty cans in them. There were numerous more broken down."

# First In Fire Crews

## Excerpt 3:

E-11 arrived at 606 E 34<sup>th</sup> and found an aprox. 25' x 30' 2 story wood frame residential structure with fire venting on the C side, both floors. There was an enclosed porch type room w/ a shed roof on the C side that was fully involved with extension vertically into the shed roof and into the second floor of the structure. We made entry on the C side and attacked the fire. **At no time did we encounter a closed exterior door.** I do not know if the door was open or destroyed. After knocking down the fire in that area, we checked the rest of the first floor. **We found a small propane torch sitting on a counter in the middle room of the first floor, which was venting gas.** We turned it off. We opened the entry door for the crews on side A, and then went on to **the second floor, which was heavily involved.** The second floor appeared to be divided into a front, middle, and back room. The stairs came up into the back (C side) room. **We knocked the fire down in that room, and had to stop briefly to wait a longer hoseline. While waiting, the middle and front rooms flashed over.** We were able to partially extinguish that area, and when more hose became available, we advanced and knocked down the rest of the fire.

# Fire Investigators Report

Excerpt 4:

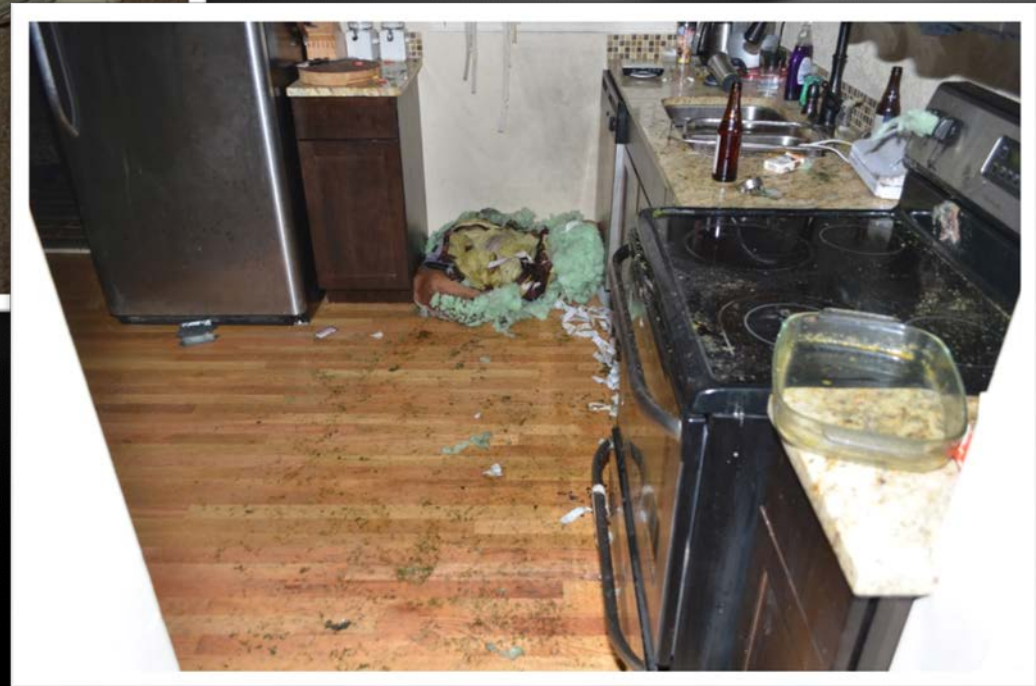
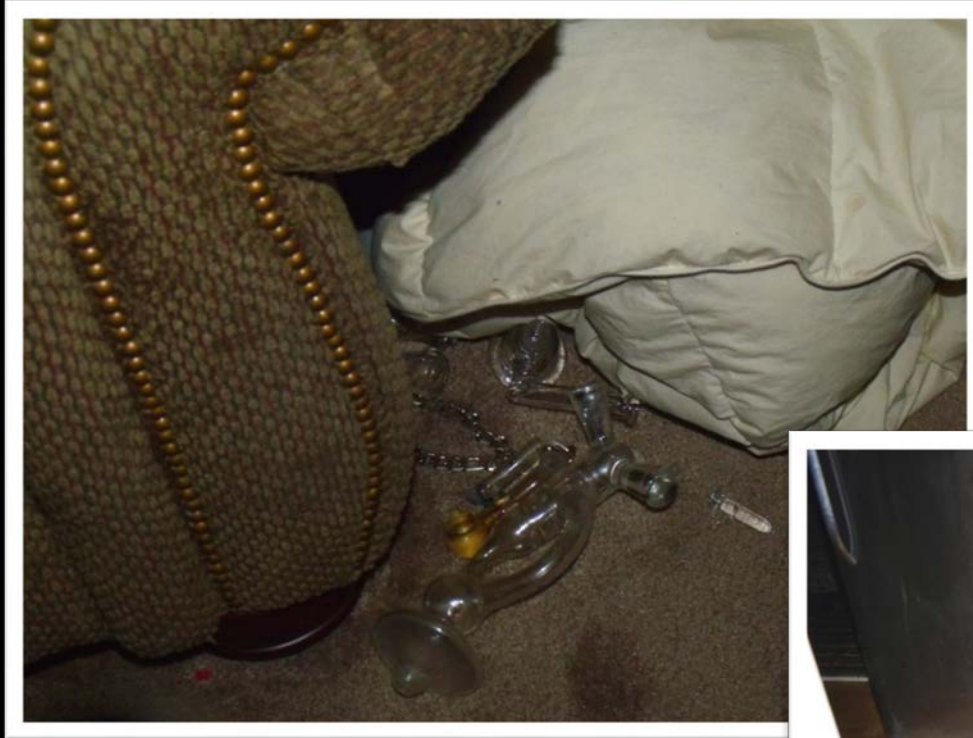
I also found hundreds of small butane cans. I found plastic PVC piping shaped in the form of a large pipe bomb that was packed with marijuana.

it is possible that the fire was caused by trying to extract Hash Oil out of Cannabis with a propane torch with the use of the plastic pipe that I found in the area of the most significant burn.

# Criminal Investigations

- Document scene through photographs
- Interview cooks, witnesses, and conduct neighborhood canvas
- Collect material evidence
  - Full or empty butane canisters
  - Extraction tubes
  - Marijuana and product
  - Fingerprints
- Digital evidence
  - Computers
  - Ipads
  - Cell phones
  - Other digital media

# Items Found on Scene

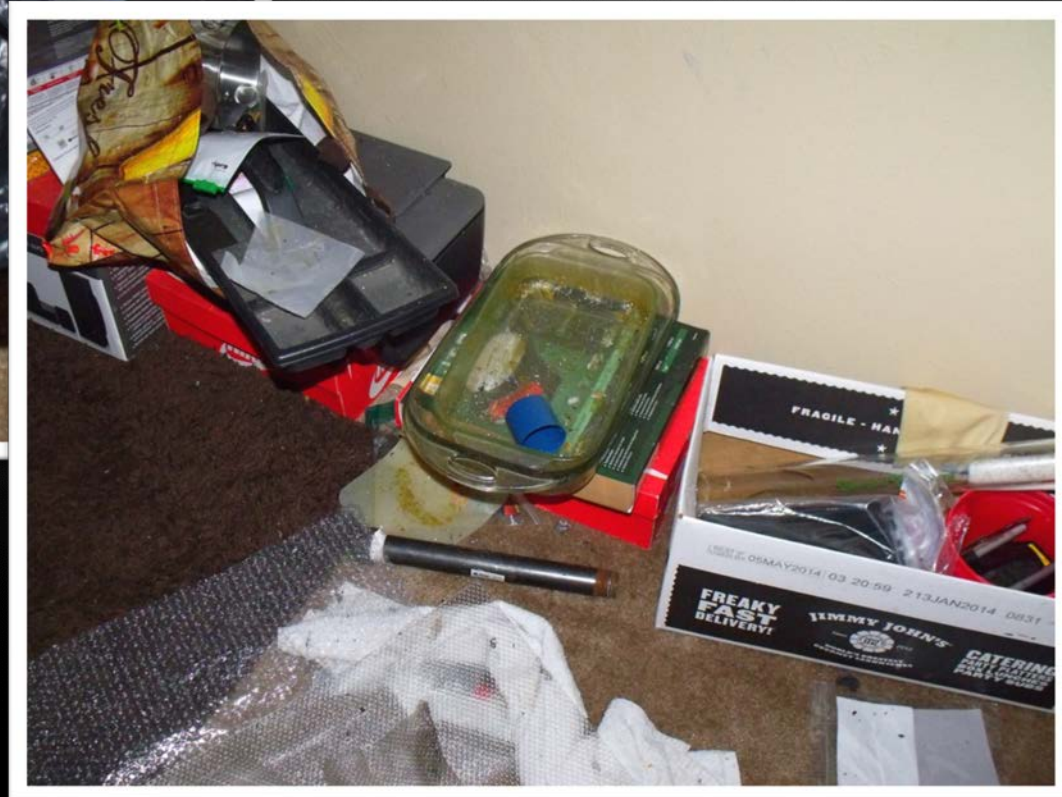


# Items Found on Scene





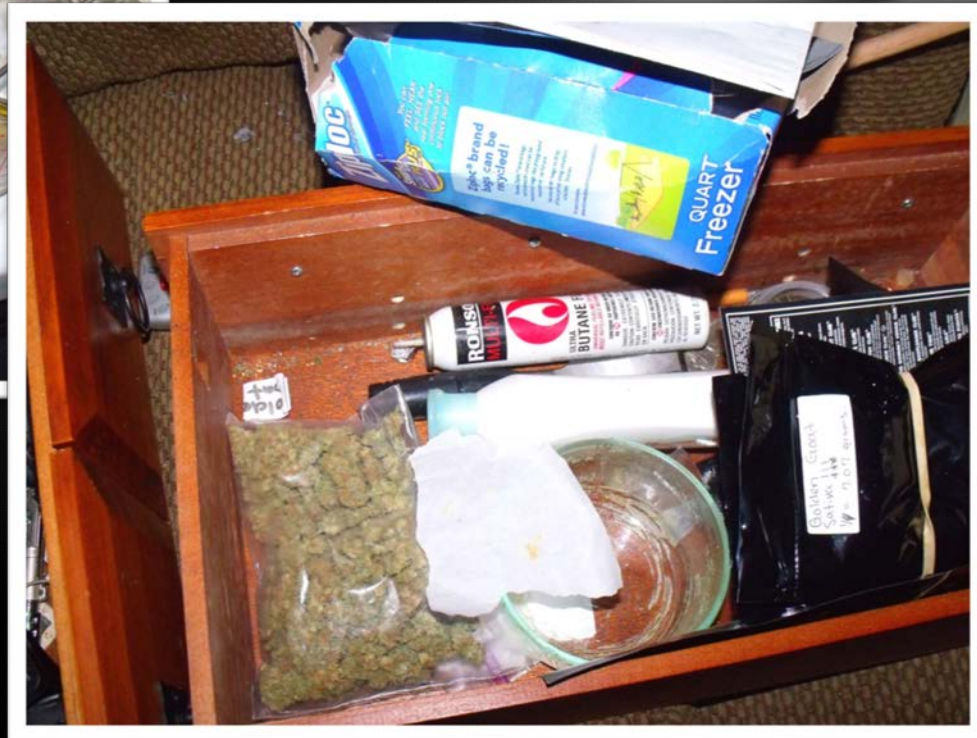
# Items Found on Scene



# Items Found on Scene



# Items Found on Scene



# Some Potentially Associated Charges

## Colorado Revised Statute

### 18-4-102. First degree arson

(1) A person who knowingly sets fire to, burns, causes to be burned, or by the use of any explosive damages or destroys, or causes to be damaged or destroyed, any building or occupied structure of another without his consent.

# Associated Charges Continued

## Colorado Revised Statute

### 18-4-105. Fourth degree arson

(1) A person who knowingly or recklessly starts or maintains a fire or causes an explosion, on his own property or that of another, and by doing so places another in danger of death or serious bodily injury or places any building or occupied structure of another in danger of damage.

# Hazards

- Butane is odorless, colorless, and heavier than air
- It will seep into low lying areas. If the fire starts on an upper floor, crews need to be aware of possible gas on lower floors.
- Butane canisters are pressurized and compressed highly flammable gas.
- This means it is literally a hand sized fire grenade capable of severe injury and death.
- Most scenes have “hundreds” of cans!

# Secondary Hazards

Along with grow operations there is an inherent risk of protective and security improvised explosive devices. Since Hash Oil extraction tubes look like pipe bombs Public Safety personnel might take on the assumption that it is only an extraction tube but in reality it is a pipe bomb for the drug operators security.



# Results





# Results



# Results



# House Explosion



# Explosion Images



# Explosion Images



# Explosion Images



# Secondary Hazards (continued)

- If found in conjunction with a grow operation be aware of improvised electrical systems (“hot wires” in the fire scene hooked up to outside/stolen power sources)
- Be aware it is possibly related to criminal activity and the victims/witnesses might be involved in a criminal enterprise and won’t cooperate or may even pose an on scene threat



# Secondary Hazards (continued)

- Be aware that the off gassing and smoke venting from the fire is not only toxic but also contains unregulated THC.
- Though it might sound funny, it is very dangerous and hazardous.
- There may also be other carcinogens at higher levels due to materials involved.
- “Grow Ops” might have fertilizers and if a commercial candy operation is on fire the candy is highly concentrated with THC .





# Structure Fire



**Image 1: The rental property is located on the east side of East 131<sup>st</sup> Place and faces to the west.**

# Structure Fire



Image 2: The **area of origin** was at the west wall of the main floor kitchen where the refrigerator was located.

# Structure Fire



**Image 3: The significant damage to the refrigerator and the remote location, from the appliance, where the doors were found, was supportive of a very low order explosion originating in the appliance.**

# Structure Fire



Image 4: The framing components of the wall showed **framing nails** for the wall studs, sole plate and top plate bent over toward the **west**. The **water line** was also displaced to the west.

# Structure Fire



Image 5: The investigation produced approximately 13 **butane containers** from the kitchen area.

# Structure Fire



Image 6: A ruptured butane container was found approximately 13 feet from the exterior southeast side of the structure.

# BHO Vehicle Explosion





# News Coverage Video



STUDIO  
**11LA**  
5:17 PM 74°

**@JEFFMICHAELNEWS**



LONG BEACH CLEAR, 81°

5 PM

AM CURRENTS

# Arriving on Scene of Active Lab

- Evacuate
- Call fire department
- Ventilate
- Turn off gas and electricity

# Scene Safety After Explosion

The following should be completed prior to entering building where a suspected BHO lab has exploded.

- Provide aid
- Call fire department or HAZMAT (depending on local protocols)
- Turn off gas
- Turn off electricity
- Ventilate structure

# Reminders for Criminal Investigations

A combination of the following items may indicate a BHO lab:

- Marijuana
- Extraction tubes
- Butane cans or propane
- Coffee filters
- Pyrex dishes

# Final Thoughts

- If you locate items believed to be related to Hash Oil extractions treat the scene as a hazardous environment (go by your local protocols).
- Be aware of butane canisters that have become compromised due to heat and are still under pressure and treat them as explosives

# Questions?

# Contact Information

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