



# Drug Lab Dump Site Hazards

2026 Michigan Highway Maintenance Conference

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# Drug labs in Michigan

- Meth labs are the most common drug lab that law enforcement responds to in Michigan, although the number of labs has been dropping rapidly over the last five years.
  - With the help of YouTube and your local Wal-Mart, anyone can become a home chemist.
  - Michigan has historically ranked in the top five states in the US for meth labs.
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# The History of meth

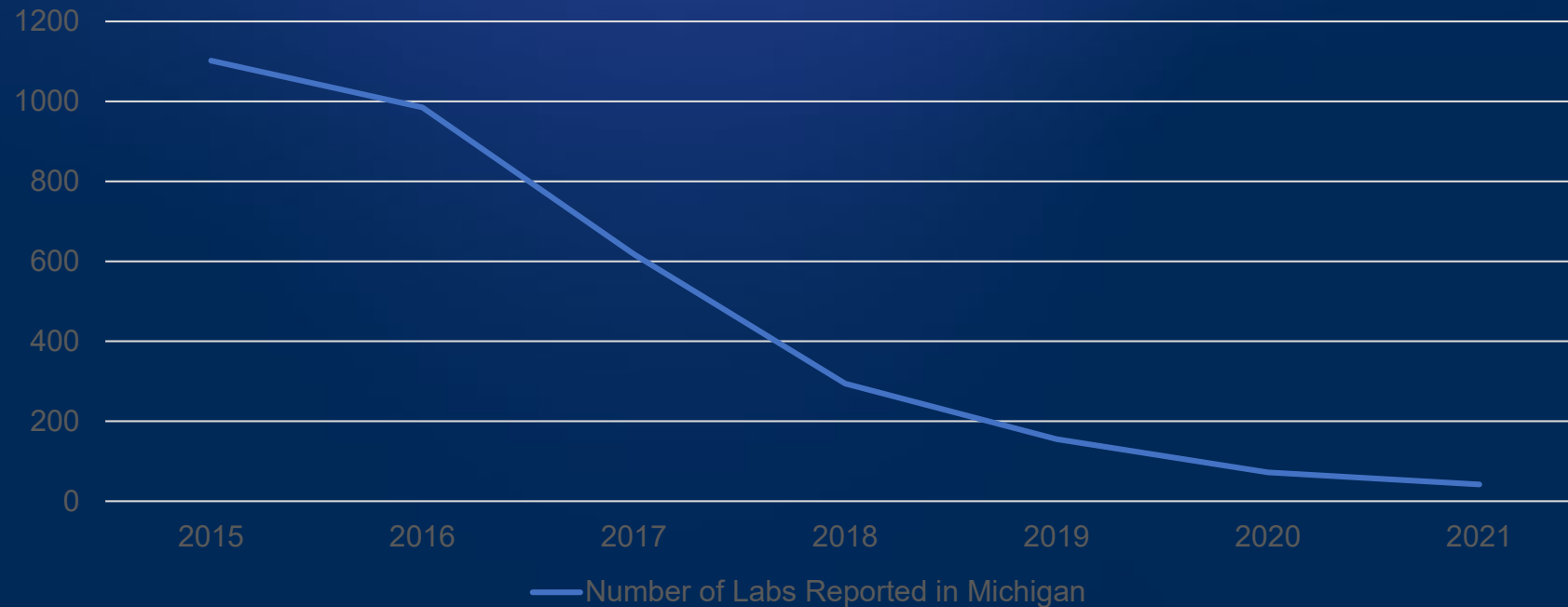
- Methamphetamine was first synthesized in 1893 by the famed Japanese chemist Nagai Nagayoshi.
- Strangely enough, Nagayoshi also invented some of the world's first herbicides.






## Number of Labs Reported in Michigan

- Due to the availability of crystal meth manufactured in large Mexican cartel labs, lab numbers have been on the decline in Michigan and across the United States.

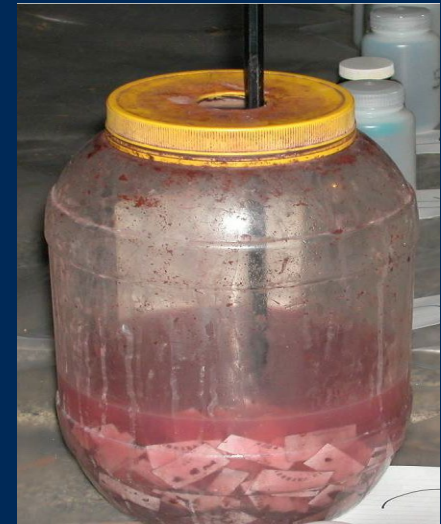


# Types of clandestine labs

- Extraction
  - Synthesis
  - Conversion
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# Extraction labs

- Pseudo extraction for meth cook
- THC extraction for BHO lab
- DMT extraction
- Red Phosphorus



# Synthesis labs

- Methamphetamine
- MDMA
- LSD
- Fentanyl



# Conversion labs

- Meth recrystallization labs
- Crack cocaine from powder



# Cutting labs or Pill Mills



# Cooking meth in the United States

- There are three generally recognized methods of synthesizing meth that we see in Michigan and the United States.
- Red Phosphorus method (70's biker dope)
- Ammonia method (Nazi or Birch method)
- One Pot method ("shake-n-bake" or bottle dope)
- All three methods produce meth but have different chemistry and hazards.

# Pseudoephedrine

- Pseudoephedrine is the precursor for meth labs found in the United States
- Pseudoephedrine is chemically very similar to methamphetamine and can be easily converted by drug cooks
- Pseudo is no longer an over-the-counter purchase and sales are tracked, making it a bit more challenging for the cooks

# Both Ammonia and One Pot meth cooks use similar ingredients

- Anhydrous Ammonia
- Ephedrine or Pseudoephedrine
- Water reactive metal/Lithium
- Water
- Solvents such as camp fuel, white gas or ether
- Sulfuric Acid
- Salt
- Aluminum Foil
- Ammonium Nitrate
- Drain cleaner/Sodium Hydroxide
- Coffee Filters
- Plastic bottles and tubing
- Tools such as piper cutters, pliers
- Funnels
- Glass dishes and pans
- Acetone

# Clandestine meth labs in Michigan

- Ammonia Method



- One-Pot Method



# Advantages of the Ammonia method

- Quick
  - Easy
  - Cheap
  - Readily available ingredients
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# Disadvantages of Ammonia method

- Availability of ammonia is regional (rural communities)
- Limit of production capacity
- Use of liquid ammonia is very dangerous...





**Ammonia will corrode the brass fittings as well as the walls of a propane tank**





**Per MSP policy, compressed gas cylinders suspected to contain ammonia require a bomb squad and HAZMAT contractor.**



# Metal Sources for the Ammonia Cook

- Lithium
- Sodium
- Potassium

**Lithium metal is usually stripped from batteries**



# Sodium metal is water reactive as well



# Potassium is highly reactive



# One Pot meth lab method



# Advantages of the One Pot method

- The reaction is carried out in one container and can be concealed
- No stealing anhydrous ammonia
- Less smell draws less attention from your neighbors
- All components are commercially available
- Reaction vessels can be thrown out once the cook is done leaving little evidence of manufacturing

# Disadvantages of the One Pot Cook

- The cooking process takes a bit longer and requires monitoring
- Small production capacity
- Failing to follow the recipe can lead to failures
- One pots are unpredictable, highly flammable and dangerous...



# One Pots often fail causing catastrophic flash fire events



# Meth Lab Dump Sites

- Meth cooks often discard their trash and lab waste by tossing it in ditches when driving down the road.
- The majority of dump sites are reported to law enforcement during the spring after the winter snows have thawed.
- Abandoned lab waste is generally not still reactive, but the chemicals can still pose a threat to the public.
- “Dry” One Pots have been known to catch fire well after the cook when remaining lithium metal is exposed to water.







# HCL Gas Generators

- Makeshift HCL gas generators are used in both the Ammonia and One Pot method in the final steps of the cook.
- Common household ingredients are combined in bottles to produce Hydrogen Chloride gas, which is forced through plastic tubing out of the top of the bottle.
- Hydrochloric Acid is very irritating and can burn your eyes, throat and lungs.











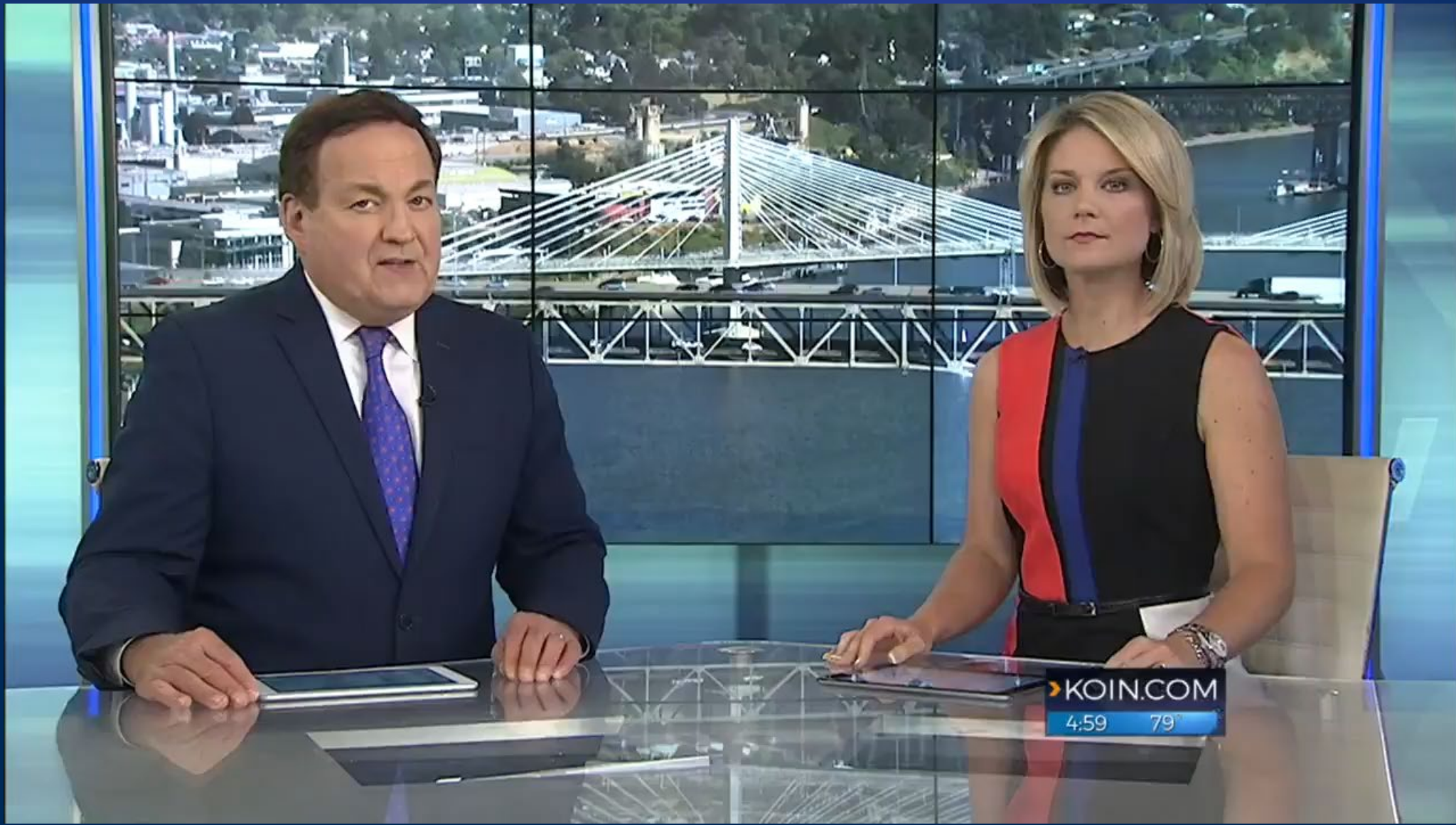






# BHO extraction labs

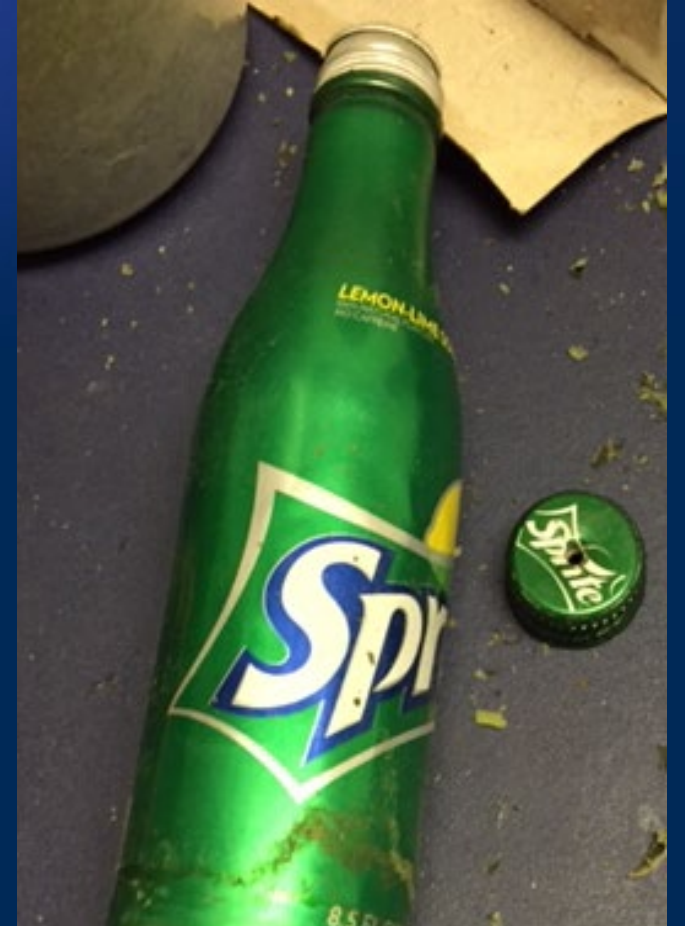




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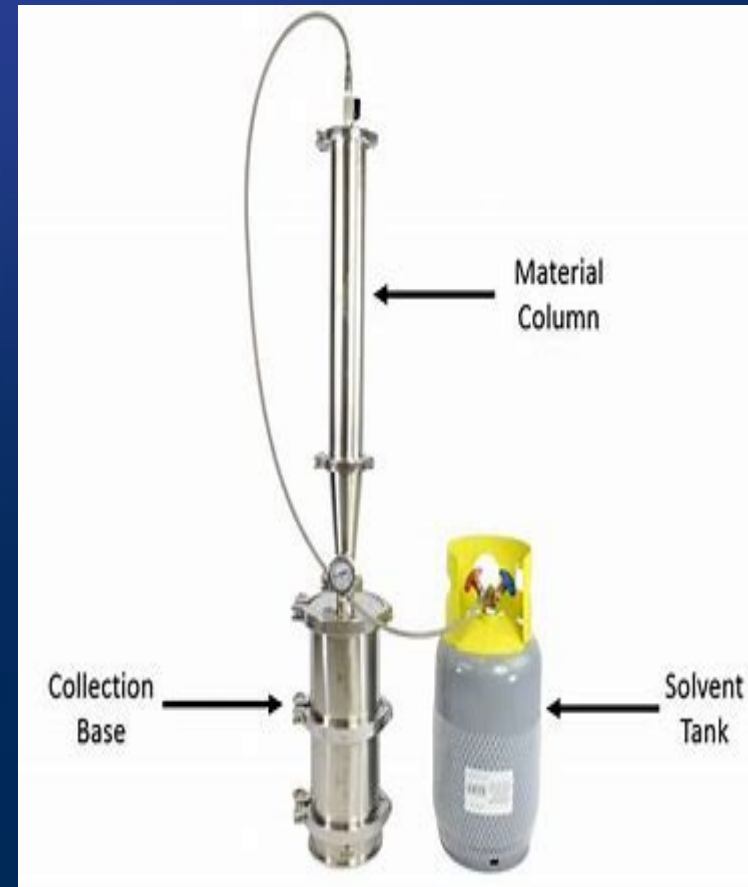
# Open Loop BHO Extractor Tubes



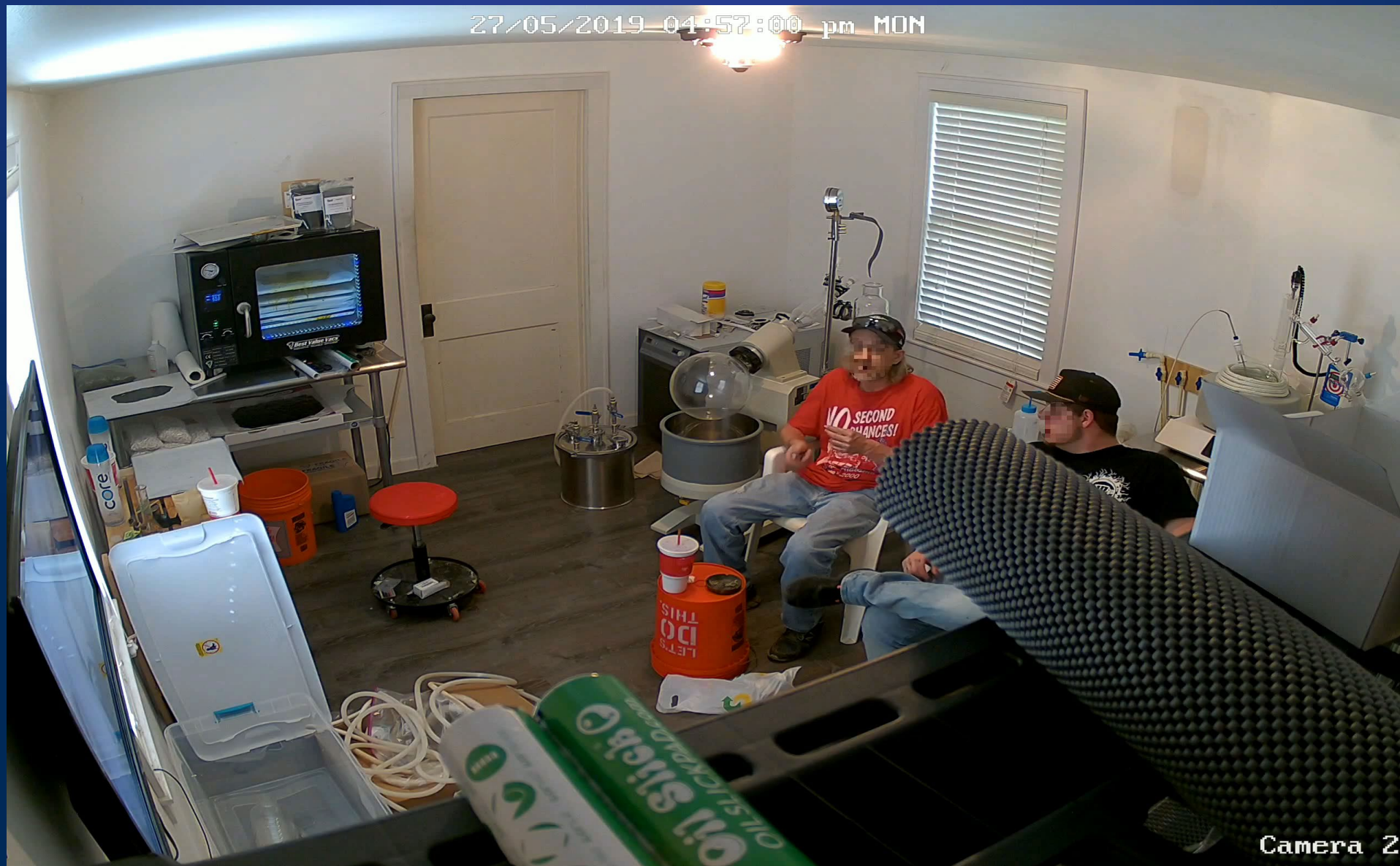
# Butane canisters



# Closed Loop Extraction Systems



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# BHO explosion in Warren Michigan



# Warren Michigan BHO explosion 2015

- 19 year old attempting a THC extraction using butane.
- Butane is heavier than air and settled down near the floor.
- Compressor on the refrigerator kicked on and ignited the butane causing an explosion and fire.
- The refrigerator door shot through a wall and was found 35 feet into the backyard.
- The explosion ruptured the propane gas line as well, which contributed to the fire.

# BHO extraction dump sites



# Biggest hazards for MDOT workers

- Flammability of One Pot labs
  - Ammonia gas leaking from unauthorized containers
  - Glass reaction vessels that can fail and shoot shards of glass everywhere
  - Strong acids and bases can quickly cause chemical burns and serious tissue damage
  - Damaged or cracked lithium batteries create fire hazards
  - Butane waste or compressed gas cylinders can be very flammable
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# What to do if you find a suspected lab dumpsite

- Try to identify what you have found from a safe distance (Upwind, Uphill, Upstream) and take photos with your phone if you can.
- Contact law enforcement to report the potential drug lab dumpsite.
- MSP Operations is staffed 24/7 and can be contacted to initiate a clan lab response

**MSP Operations**  
**800-525-5555 or 989-732-5141**

# MSP Clandestine Lab Investigations Unit

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**Questions?**

