Course Objectives

This course is designed to give public service employees (DOT, DPW, Public Utilities) to recognize the hazards involved in locating an actual lab or discarded waste from a clandestine drug lab in particular, a methamphetamine lab.

Why Study Clandestine Labs?

While first responders are frequently first on the scene at clandestine drug labs (mainly meth labs), public service workers frequently locate discarded hazardous waste chemicals.

Of all the clandestine laboratories seized in the U.S. in the last ten years, 80% to 98.9% produced Methamphetamine. source: DEA

What is a Clandestine Laboratory?

An illicit operation consisting of a sufficient combination of apparatus and chemicals that either has been or could be used in the manufacture or synthesis of controlled substances.
Labs can Manufacture:

- MDMA (Ecstasy)
- Phencyclidine (PCP)
- Methamphetamine
- Mushrooms
- P2P Amphetamine

To date, over 97% of all clandestine drug labs found in New York State were producing methamphetamine.

What is methamphetamine?

- “Meth” is a very potent, long-lasting and addictive synthetic central nervous system (CNS) stimulant.
- Meth can be smoked, inhaled (snorted), injected or taken orally.

How methamphetamine works?

- Increases heart rate, blood pressure, body temperature, breathing rate, and alertness.
- Dilates pupils and produces euphoria and a sense of increased energy and tremors.
- Meth is one of the most addictive drugs.
- Rehab generally not successful.

Meth Production Types

- HI Red P or Red P Method — The red phosphorus method of meth production, using red phosphorus as a key ingredient.
- Nazi or Birch Method — A production method employed by the Germans during World War II that uses lithium and anhydrous ammonia as key ingredients. Some public officials prefer to call it the anhydrous ammonia method.
- The “One Pot” or “Shake & Bake” Method – One vessel (i.e. two liter bottle) that cooks a “mixed stew” combining multiple stages in one container.

HI Red P or Red P Method

- Chemicals needed:
  Ephedrine or pseudo, red phosphorus, hydriodic acid (iodine crystals), sodium hydroxide, organic solvents (ether or acetone), and hydrogen chloride gas (sulfuric acid and salt)

Ephedrine Reduction - HI Method

- Hazards
  - Red Phosphorus
  - Sodium Hydroxide
  - Hydrogen Chloride Gas
  - Multiple Acids
    - Hydriodic
    - Sulfuric
    - Hydrochloric
**Nazi or Birch Method**
- Ephedrine or pseudo, anhydrous ammonia, sodium or lithium metal, sodium hydroxide, organic solvents (ether, camping fuel, acetone), and hydrogen chloride gas (sulfuric acid and salt)

**Ephedrine Reduction - Birch**
- Hazards
  - Anhydrous Ammonia - Corrosive and toxic gas, irritant to eyes, nose, and throat. Can cause frostbite and burn skin. May be fatal if inhaled.
  - Sodium and Lithium Metal - water and air reactive. Corrosive, flammable solid.
  - Sodium Hydroxide - Causes severe eye and skin burns. Respiratory tract irritant, corrosive.

**Chemical Hazards - Acids**
- Hydriodic Acid
  - The red phosphorous process uses hydriodic acid which is made from iodine crystals in red phosphorous. Iodine is very corrosive to tissue.
  - Some hydriodic acid may be released to the air.
  - This reaction generates phosphine, a very toxic gas with low warning characteristics.

**Chemical Hazards - Acids**
- Sulfuric Acid
  - Acid in car batteries, a strong corrosive liquid, destructive to both tissue and metals.
  - The sulfuric acid used by most cooks is sold under trade marks such as Liquid Fire™.

**Chemical Hazards - Bases**
- Hydrochloric Acid
  - The acid is also called muriatic acid.
  - The gas generator is made from combining sulfuric acid and salt.
  - Hydrogen chloride gas or the acid fumes are very irritating, causing tearing and choking.

**Hydrogen Chloride (HCl)**
- IDLH: 50 ppm
- Corrosive/Poisonous Gas
- Highly water soluble
- Hydrochloric Acid (i.e. Muriatic Acid)
- Colorless, slightly yellow
- Highly toxic - may be fatal if inhaled, swallowed or absorbed thru skin
- Pungent, irritating
- Vapor Density 1.27 (NIOSH) - heavier than air

**Chemical Hazards - Bases**
- Tissue destruction, severe chemical burns.
- Reaction with water will generate extreme heat.
- Reacts violently with acids.
- Destruction of incompatible materials.

**Examples**

<table>
<thead>
<tr>
<th>Sodium Hydroxide</th>
<th>Anhydrous Ammonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drano Crystals</td>
<td>Red Devil Lye</td>
</tr>
</tbody>
</table>
Organic Solvents

- Camping Fuel
- Acetone
- Ether
- Xylene

**CAUTIONS:**
- Volatile
- Flammable

Chemical Hazards - Flammables

- Gases generated to form flammable/explosive mixtures in air.
- Inhalation of toxic vapors considerably higher than their IDLH.
- Dangerous reactions with oxidizing chemicals including nitrates, chlorates, perchlorates.

<table>
<thead>
<tr>
<th>Acetone</th>
<th>Acetonitrile</th>
<th>Benzene</th>
<th>Ethanol</th>
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<tbody>
<tr>
<td>Ethyl Ether</td>
<td>Hexane</td>
<td>Isopropanol</td>
<td>Methanol</td>
</tr>
<tr>
<td>Methyl Ethyl Ketone</td>
<td>Pentane</td>
<td>Toluene</td>
<td>Xylene</td>
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</table>

Anhydrous Ammonia \((\text{NH}_3)\)

IDLH: 300 ppm

- Liquefied compressed gas
- Gas is colorless, pungent and an irritant
- Highly water soluble
- DOT labeled as non-flammable gas however will burn under certain conditions
  - LEL 16%
  - Vapor density 0.6 (Cameo)

Anhydrous Ammonia Hazards

Several vessels containing anhydrous ammonia can expel the gas in vehicles. Occupants can be injured or eventually die.

Ammonia Gas

- Ammonium Nitrate + Caustic Soda + Water = Ammonia Gas

- Ammonia gas is generated at the bottom of the vessel.
Lithium Metal (Li)
- Air & Water reactive
- Flammable
- DANGEROUS WHEN WET
- UNUSUALLY reactive with water
- Referred as “White Fire”

Additional Apparatus & Chemicals

One Pot” Method
Advantages:
- One vessel
- No tablet extraction
- Less ammonia
- Cook is quick
- All ingredients are easily available

The “One Pot” or “Shake & Bake” Method
Chemicals Needed:
- Pseudo ephedrine tablets, ammonium nitrate (or ammonium sulfate), solvent (camping fuel), lithium strips, sodium hydroxide, water

“One Pot” Method
Hazards
- Ammonia Gas - Corrosive and toxic gas, irritant to eyes, nose, and throat. Can cause frostbite and burn skin. May be fatal if inhaled.
- Sodium and Lithium Metal - water and air reactive. Corrosive, flammable solid.
- Sodium Hydroxide - Causes severe eye and skin burns. Respiratory tract irritant, corrosive.
**Sodium Hydroxide (NaOH)**  
IDLH: 10 mg/cu m

- Highly water soluble
- Strong base
- Highly Corrosive
- Liquefactive necrosis

**Emerging Problem**

- Since 2006, substitutions from original method begin to emerge
- Smaller reaction vessels
  - 32 oz plastic bottles
  - 1 & 2 liter plastic bottles
  - Glass jars
  - Multiple bottles
  - Camp fuel used in place of starting fluid (ethyl ether)

**“Combat Methamphetamine Epidemic Act of 2005 (CMEA)”**

- Daily Sales Limit – 3.6 grams per sale, per day per purchaser
  - 120 mg. Pseudoephedrine HCL = 36 tablets
  - 60 mg. Pseudoephedrine HCL = 73 tablets
  - 30 mg. Pseudoephedrine HCL = 146 tablets

- Monthly Sales Limit: 9 grams per person
- Photo Identification required
- Log Book required by retailers

**Recent Trends**

- Smurfing Pills:
  - Essential Precursor
  - Black market value
  - $30 to $40 dollar initial (legal) purchase can yield $150-$200 return by meth cooks

**Locations... Labs can be anywhere**

**Potential Indicators**
Dump Site Concerns

Clan Lab Carcinogens

- ACETALDEHYDE
- ACETAMIDE
- ALLYL CHLORIDE
- BENZENE
- BENZYL CHLORIDE
- CARBON DISULFIDE
- CARBON TETRACHLORIDE
- CHLOROFORM
- ETHANOL
- LEAD ACETATE
- PERCHLOROETHYLENE
- RANNEY NICKEL
- o-TOLUIDENE
- VINYL CHLORIDE

CANCER = UNCONTROLLED CELL GROWTH

Meth Addiction Stages

- **Low Intensity** - Recreational use, usually to keep oneself going or for a good time (parties).
- **Binge** - Usually smoked or injected. Broken down into several stages that includes terminology such as rush, high, binge, tweeking, crash, and withdrawal.
- **High Intensity** - Hard core users often called “speed freaks” focusing on preventing themselves from crashing while on meth.

Recognition of the Meth User

Health Issues

- **Weight loss**
- **Sweating**
- **Body Odor**
- **STD's**
- **Bad Teeth or TOOTH**
- **Open sores (Speed Bumps)**

“Meth Mouth”
Physical Abnormalities

The Faces of Meth
**Clan Lab / Waste Site Threats**
- The Human Factor and the ripple effect
- Chemicals
- Weapons/Booby Traps
- Apparatus/Material
- Sharps

**The Human Factor**

Tweeker:

A term referring to a person who is under the influence or even addicted to meth. They may have been up for days, even weeks at a time displaying signs of talking allot, pacing around and fidgeting. Without warning, their mood can swing from defenseless to enraged violence.

**Tweeker’s Behavior**
- Irritability
- Anxiousness
- Can hear voices
- Paranoid delusions
- Aggressive behavior

**Safety Tips for Approaching a “Tweeker”**
- Keep a social distance
- Do not shine bright lights at him
- Slow your speech
  - Lower the pitch in your voice
- Slow your movements
- Keep your hands visible
- Keep the “Tweeker” talking
- If you are in a uniform, you may be mistaken as law enforcement

**Casualties of Meth Use**
- Meth addicts jeopardize their employment.
- The Tweeker isolates themselves around the drug.
- Family and friends become secondary concerns.
- The neglect and potential abuse of the children.
- The unlawful disposal of toxic waste materials.

**Weapons/Booby Traps**
- Could you see a trip wire across this path at 7 am?
- Booby traps could vary – some are left behind for others to discover!
- Guns and knives require action, the booby trap is always waiting for you!
**Sharps**

- Needles, razor blades, and other sharps can be contaminated with corrosives, toxins, HIV, and hepatitis.
- Warning: Consider all surfaces to be contaminated and use standard precautions.
- Some agencies use medical waste companies to dispose of sharps.

**Protective Actions**

- Once identified as a lab or hazardous waste dump site, what should you do?
- What are your Procedures or Policies?
- Do you know your available resources?
  - How long until they get to your location?
- How safe is the environment? Should you be wearing appropriate PPE?
- Who do you contact?

**Discovery of a Clandestine Lab**

Assure that policies and procedures are in place to notify:

- Local Law Enforcement
- State Police - CCSERT
- Contaminated Crime Scene Emergency Response Team
- DEA Clan Laboratory Enforcement Team

**Integration of Resources**

- The use of the Incident Command Structure
- Unified Command
  - Potential Victims - EMS
  - Coordination of Haz Mat/Decon Resources – Fire Dept
  - Crime Scene & Suspect concerns – Law Enforcement

Assure properly trained personnel are enroute!
**Response Concerns:**
- Scene Safety is the responsibility of the investigating agency
- Agency provides armed uniformed officer
- Site Preservation
- Restrict on-site/off site movement & communications
- No email, social media, texts, or photos of scene
- Restrict cell phone use and/or recording devices
- Supervisor communicates with crew(s)
- Maintain Crime Scene awareness & security
- See something, SAY something!

**Course Summary**
- Drug labs can be found everywhere.
- Know who to contact.
- Know what to do after discovery.
- Know what to do if contaminated.
- Document all of your actions.
- Interagency cooperation is the key.

**Supporting Agency Numbers**

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<tr>
<th>Agency</th>
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<tbody>
<tr>
<td>New York State Police</td>
<td>518-457-6811</td>
</tr>
<tr>
<td>New York State Office of Fire Protection &amp; Control (Request Haz Mat Bureau)</td>
<td>518-474-6746</td>
</tr>
<tr>
<td>New York State Office of Children &amp; Family Services Child Abuse and Maltreatment Register</td>
<td>(800) 342-3720</td>
</tr>
<tr>
<td>New York State Department of Environmental Conservation Spill Response</td>
<td>(800) 457-7362</td>
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**Program Cooperation**

This Clandestine Drug Lab Awareness program was a technical program brought to you by the New York State Police and the Office of Fire Prevention & Control.

Any question, comments or concerns about this program can be brought to the attention of:

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