

# CLANDESTINE DRUG LABS “METH”

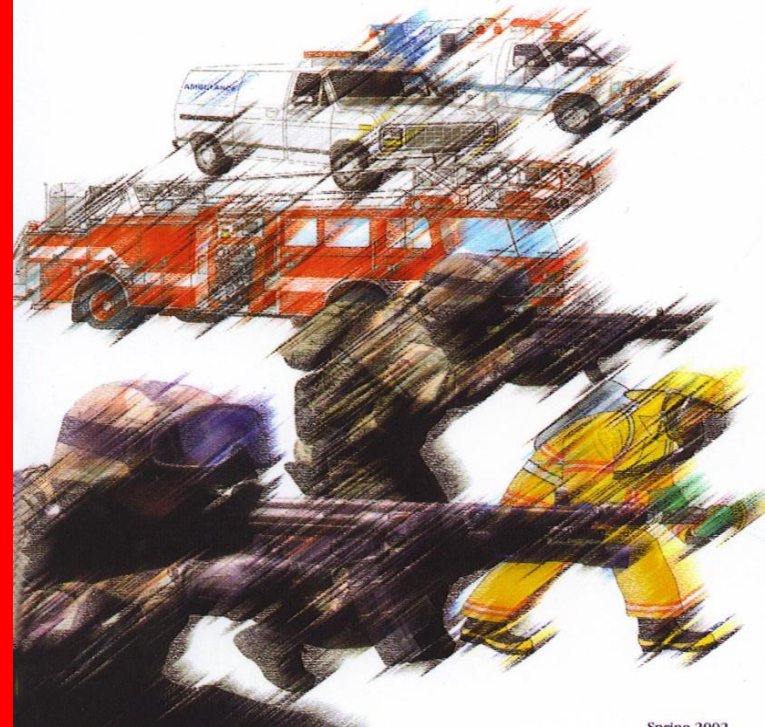


## METH LABS

### Emergency Responder



*Resource Guide*



# Meth Labs

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- From 1975 to 2001 DEA seized 13,931 Meth labs
- In 2002 LEA officers seized 250 Super labs in US.
- 66% of labs in California. Other 49 states represent 34%.
- Florida Seizures: 2002 - Meth – 127 Labs  
2003 - Meth – 136 labs.

**Alachua County – 10+ arrests @ month for Anhydrous Theft. Perps coming from as far away as Georgia.**

# FAST FACTS ABOUT METH

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**Fact:** Meth use by high school seniors more than doubled between 1990 & 1996.

**Fact:** Women are more likely to use meth than cocaine.

**Fact:** The average meth "cook" annually teaches ten others how to make meth.

**Fact:** Every pound of meth produced leaves behind five to six pounds of toxic waste.

**Fact:** Seizures of clandestine meth labs increased tenfold from 1995 to 1997.

**Fact:** Methamphetamine accounts for up to 90 percent of all drug cases in many communities.

**Fact:** Methamphetamine kills by causing heart failure, brain damage and stroke.

**Fact:** Methamphetamine-induced paranoia has led to numerous murders and suicides.

**Fact:** Methamphetamine produces hallucinations.

**Fact:** Meth users are the hardest to treat of all drug users.

**Fact:** Meth lab site cleanups can cost up to \$150,000. Average \$2,000 – \$5,000.

**Fact:** Methamphetamine is highly addictive.

**Fact:** Meth use increases risk of child abuse and neglect and domestic violence.

# Drugs You Can Make at Home

- Methamphetamine
- LSD
- Ecstasy
- GHB (“date rape drug”)
- Known as “Club Drugs”, associated with dance parties known as “Raves”
- Methamphetamine is easiest to produce, the drug most commonly found in labs

# Production of Methamphetamine

- **Relatively easy – “If you can bake cookies, you can make meth” \$ 82.00 of supplies will produce approximately \$ 700.00 worth of product.**
- **All supplies can be obtained at local stores i.e.: Wal-Mart, Sam’s, Target.**
- **Most common method uses phosphorus, ephedrine, and iodine (“red, white, blue”)**
- **Precursors mixed together, product is extracted, precipitated, then purified**
- **Purity and yield depend on quality of reagents and skill of cook**





# CHEMICALS

**Ephedrine** (Cold Tablets)

**Pseudoephedrine** (Cold Tablets)

**Acetone**

**Alcohol** (Isopropyl or Rubbing)

**Toluene** (Brake Cleaner)

**Ether** (Engine Starter)

**Sulfuric Acid** (Drain Cleaner)

**Methanol/Alcohol** (Gasoline Additives)

**Salt** (Table/Rock)

**Lithium** (Batteries)

**Anhydrous Ammonia** (Farm Fertilizer)

**Sodium Hydroxide** (Lye)

**Red Phosphorus** (Matches/Road Flares)

**Muriatic Acid**

**Iodine** (Teat Dip or Flakes/Crystal)

**Trichloroethane** (Gun Scrubber)

**Sodium Metal**

**MSM** (Cutting Agent)



Any brand of cold tablets containing Ephedrine or Pseudoephedrine



# EQUIPMENT

Pyrex or Corning Dishes

☠  
Jugs

☠  
Bottles

☠  
Funnels

☠  
Coffee Filters

☠  
Thermometer

☠  
Cheesecloth

☠  
Blender

☠  
Rubber Tubing/Gloves

☠  
Paper Towels

☠  
Gas Can

☠  
Tape/Clamps

☠  
Hotplate

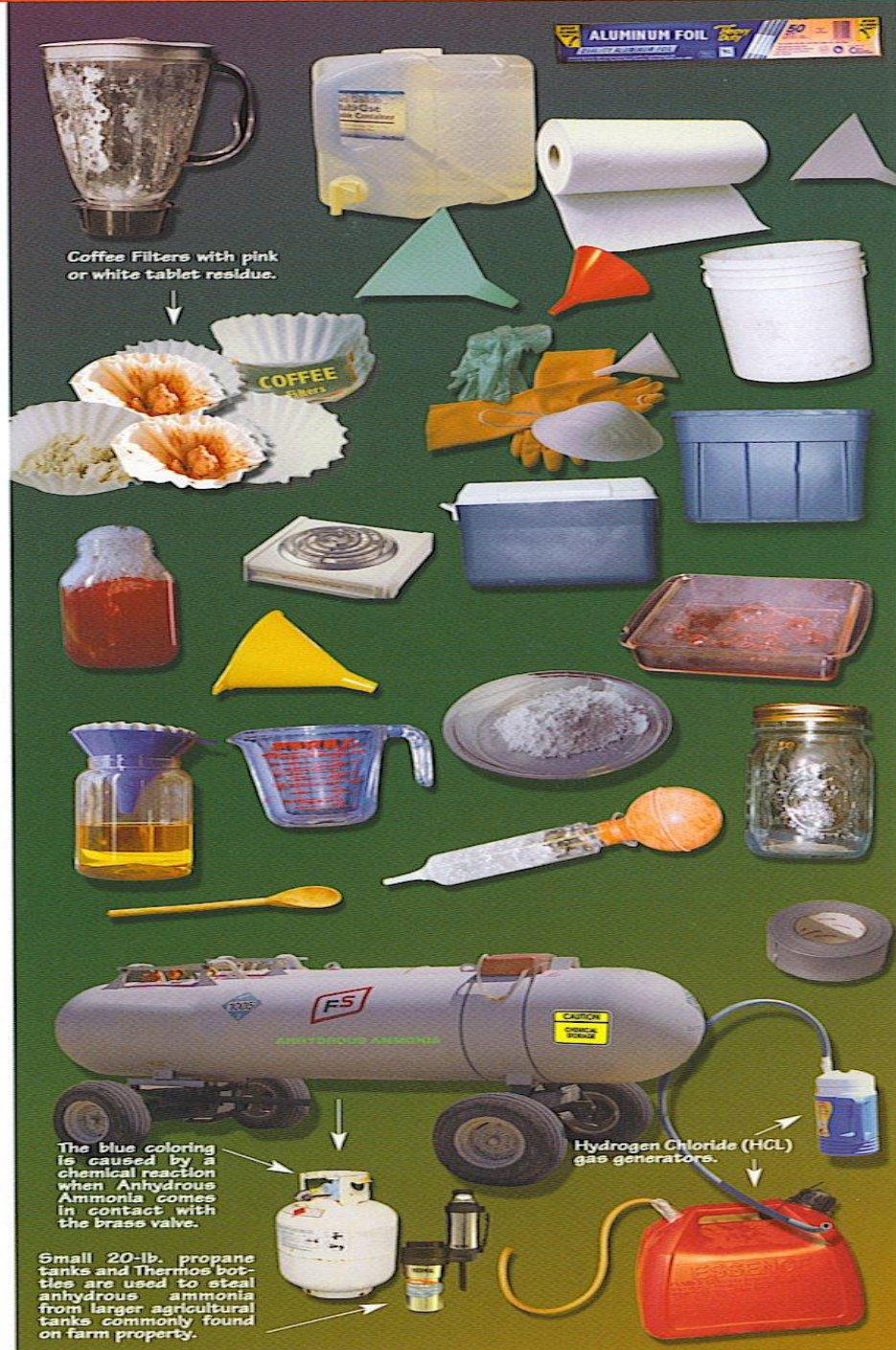
☠  
Strainer

☠  
Aluminum Foil

☠  
Propane Cylinder (20-lb)

☠  
Books "How To Make Methamphetamine"

☠  
Internet Documents/Notes











## Household Chemicals:

Flammable and poisonous chemicals like Acetone, brake cleaner, camping fuel, Ether, gasoline additives, Iodine, mineral spirits, paint thinner, propane, red phosphorous, and various acids are commonly found.





## **Containers:**

Unmarked jars or containers filled with dangerous toxic lab waste is always present at a dumpsite requiring professional Hazmat removal. Never open or smell an unknown chemical.





## **HCL Generator:**

Clearly the most dangerous item found at a lab dump site is the Hydrogen Chloride (HCL) gas generator. This is an acid-gas conversion device containing Sulfuric or Muriatic Acid which will burn the skin severely if touched. Any plastic or metal containers with tubing attached should be avoided at all costs.

# HCL Gas Generators

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**(Sulfuric Acid + Rock Salt = HCL)**

- **Gas cans.**
- **Fire Extinguishers.**
- **Propane Tanks.**
- **Pressure Sprayers.**





### **Coffee filters:**

Reddish-brown stained coffee filters are good indicators of a clandestine meth lab. Don't touch these filters. They are chemically contaminated and may cause skin or respiratory damage.





## **Cold Medicines:**

Pseudoephedrine is the required ingredient needed to make meth, commonly found in over-the-counter cold medicines. Multiple packages or bottles are commonly found at a lab dump site.

A-3839ND (4/00)



**PACIFIC BELL**

A Pacific Telestar Company



The Post Office  
will not deliver  
mail without

Formula -  
Bronchial-Dilator-ALERT

25-grams - EPHEDRINE



BUREAU OF NARCOTIC ENFORCEMENT

CASE NUMBER 44-0032

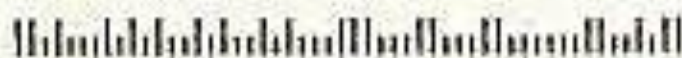
EVIDENCE NUMBER R-15

SUBJECT

RAMOS, JESUS

DATE 6-21-64

AGENCY FEDERAL



# First Component: Red P

- Refers to red phosphorus
- Brownish-red powder
- Can burn or explode under the right conditions
- Extracted from matchbook striker plates or road flares



# Red Phosphorus (“Red”)



# Extraction of Red Phosphorus





# Second Component: White

- Refers to ephedrine or pseudo ephedrine
- White or off-white powder (sometimes pink if extracted from cold pills)
- Mild stimulant, extracted from the ephedra plant
- May be extracted from cold pills or obtained as pure tablets



# Ephedrine (“White”)





# Extraction of Ephedrine



# Third Component: Blue

- Refers to iodine crystals
- Blue-gray in appearance, almost like lead pellets
- May be obtained pure or extracted from disinfectant solution
- Used as a disinfectant in livestock operations
- Leaves distinctive, yellow-blue or brown stains on surfaces



# Iodine (“Blue”)



# Iodine Contamination





# What Does a Lab Look Like?





# What Does a Lab Look Like?



# What Does a Lab Look Like?





# What Does a Mobile Lab Look Like?



# What Does a Mobile Lab Look Like?





# Purification of Meth

- Sodium hydroxide (lye) added to reaction to change acidity
- Organic solvent (kerosene, ether) added to extract product
- Hydrochloric acid added to precipitate drug
- Drug is removed, purified with acetone, then dried

# Corrosive Materials





# Corrosive Materials



# Finished Product





# Other Ways to Cook Meth

## “Nazi” or “Cold cook” method

- Uses ephedrine, Anhydrous ammonia, and sodium or lithium metal (from batteries)
- Fast, efficient
- Requires supplies of anhydrous ammonia.

## “P-2-P” or “Biker” method

- Combines phenyl-2-propanone and methylamine
- Very slow, difficult
- Older, “obsolete” method
- May be used by some cooks

# Public Health Concerns

- Houses with clandestine labs are often dirty, in poor condition
- Floors, walls, ceilings may be contaminated with chemical residues; contamination may be spread throughout the house by occupants
- Chemical wastes may be stored or dumped on the property



# Unsanitary Conditions



# Solid Waste Left on Premises





# Basic Rules of Toxicology

- “Dose makes the poison”
- Long-term exposure to low doses may eventually produce same symptoms as short-term exposure to high doses
- The fact that something is toxic does not necessarily mean it is a hazard to health

# Acute vs. Chronic exposure

- **Acute:** Exposure which occurs over a short time. High doses usually required to cause an effect
- **Chronic:** Exposure which occurs over the space of months to years, usually involves lower amounts of toxicant.



# How Dangerous Are Meth Labs?

It all depends on:

- Who you are
- Where you are
- What you are doing
- When you are doing it
- How long you are doing it
- How much chemical is present

# Hazard Depends on Situation

- Contamination in most former meth labs is restricted to low levels of meth residue
- Houses are not considered hazardous waste sites under EPA or State hazardous waste regulations
- “Cooking” meth in a house exposes a person to different hazards than occupying the house afterwards



# Chemical Hazards of Production

- Toxic gases are produced that can cause death or injury (phosphine is the most deadly)
- Flammable chemicals are used in process
- Caustic chemicals such as hydrochloric and sulfuric acids are used for extraction
- Chemicals may condense on surfaces
- There are unknown hazards from meth by-products

# Hazardous by-Products

- Produced during reaction, may occur with or without heating
- Major by-products are phosphine gas and hydriotic acid
- Other by-products may be present, depending on purity of reagents

# Phosphine Gas

- Chemical formula:  $\text{PH}_3$
- Toxicity: High
- Flammability: Extreme
- Reactivity: Very Low
- Primary route of toxicity is by inhalation
- Causes lung edema, asphyxia
- Heavier than air, collects in low places
- Waste gas vented into “death bags”



# “Death Bag”



# Potential for Exposure

- Phosphine is always a gas at room temperature
- Complete ventilation of house over period of several days will eliminate most residue
- Primarily a hazard for first responders
- Not considered to be a long-term hazard for occupants
- One sniff will kill.
- Can convert to yellow phosphorus & ignite spontaneously.

# Iodine/Hydriotic Acid

- **Chemical Formula:**  
 $I_2/HI$
- **Toxicity: High**
- **Flammability: Very Low**
- **Reactivity: Moderate (oxidizer)**
- **Upper respiratory tract/mucous membrane irritant**
- **Corrosive, oxidizer**
- **Stains surfaces easily**
- **Volatile (crystals can emit vapors)**
- **Vapor can be fatal in very low concentrations**
- **Dissolves flesh in seconds**



# Potential for Exposure

- Contamination is often easily detected, due to distinctive smell and obvious stains on surfaces
- Stains can persist for years and “bleed through” paint, creating vapor
- Vapor can be removed by venting the house; inadequate ventilation can cause buildup to toxic levels
- Residue reacts with spray starch
- Stained items/surfaces may be discarded

# Flammable Materials

- Organic solvents used for extraction of drug from reaction mixture
- Common solvents are methanol, ethanol, isopropanol, acetone, kerosene, chloroform, ether
- Red phosphorus is a primary reagent of the reaction





# Red Phosphorus

- **Chemical Formula:** P
- **Toxicity:** Low (unless contaminated with yellow phosphorus)
- **Flammability:** Low
- **Reactivity:** Low
- **Extracted from matchbook striker plates, road flares**
- **Primary reagent of meth production**
- **Will convert to yellow (white) phosphorus when heated**

# Potential for Exposure

- All organic solvents are volatile
- Most have a distinctive smell, odor threshold is usually well below toxic levels
- Most of the residue will evaporate after removing the source and ventilating the structure for several days (length of time depends on the outside temperature)

# Corrosive Materials

- Change pH of reaction mixture, which in turn changes solubility of methamphetamine
- Include sulfuric and hydrochloric acids and sodium hydroxide
- Used to precipitate drug from reaction mixture
- Can pose a significant contact hazard if residue is not removed or neutralized

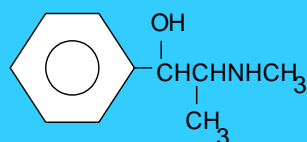


# Potential for Exposure

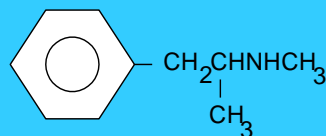
- Strong acids react immediately when spilled, little residue remains after reaction
- Sodium hydroxide powder can remain on surfaces after spills, cause contact burns
- Residues can be easily removed or neutralized by soap and water solution

# Methamphetamine

- Toxicity: Moderate
- Flammability: Low
- Reactivity: Very Low
- Powerful CNS stimulant
- Highly addictive
- Usually smoked or injected
- “High” lasts longer than cocaine
- Prescribed for weight loss, ADD-type behaviors



EPHEDRINE



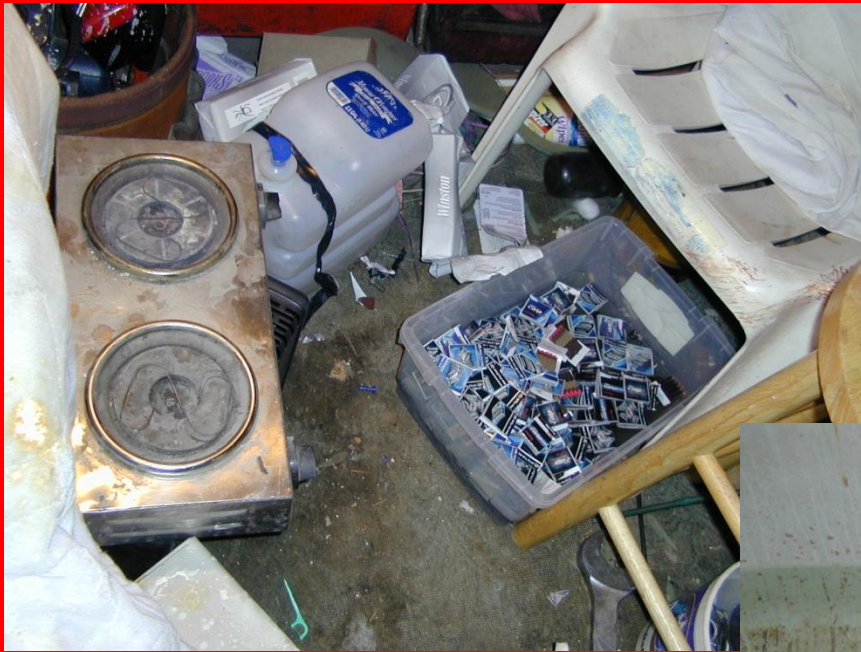
METHAMPHETAMINE

# Potential for Exposure

- Meth is not volatile at normal temperatures; does not evaporate
- Vapor/fumes form during production and smoking, can condense on walls, ceilings
- Dust forms while drying and processing product
- Reaction mixture may “boil over” and splash on walls, floors, ceiling
- Residue levels may be close to prescribed dosage, can remain for years afterward



# Lab Setup and Glassware



# Lessons Learned

- Meth and iodine vapor can migrate throughout a structure, and significantly contaminate surfaces in rooms not used for cooking
- High levels of meth residue may be present without obvious signs of contamination
- Iodine can “bleed” through paint months or years after initial contamination
- Proper decontamination of property can remove almost all chemical residues

# Personnel Safety !!

- Get out. EMS / Transport if any effects.
- Do Not touch anything! Do Not turn anything on or off!
- Evacuate Area (upwind).
- Secure Area.
- Do Not touch or smell any containers/equipment to check/verify contents.
- Decontaminate if exposed or in doubt.
- Always wash hands and face.
- Call/Request LEA - DEA, SO, PD, Hazmat!!

**DEA**



# Personnel Safety !!

- Meth users are extremely paranoid. They have been known to go up to 15 days without sleep.
- They are very dangerous, violent, aggressive, belligerent.
- If mixed with alcohol or other depressants, can intensify danger to self or others.
- Known to set traps, take hostages, engage in violent acts, utilize weapons without provocation.



















