What is in a Meth Lab?

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ACMT / BIA
Meth Lab Working Group
NaC₂H₃O₂

Sodium Acetate

Nacho...
Objectives

- Be familiar with the most common synthetic methods used in illicit methamphetamine manufacture
- Describe the impact and consequences of precursor regulation
Common Synthetic Methods

- Red Phosphorus / Hydroiodic Acid Reduction
- Liquid Ammonia / Alkali Metal Reduction (Nazi Method)
- “One Pot Method”
- The P2P method

Rapidly becoming the #1 method in the US today

The method that results in most of the Meth in the US today (Made in Mexico)
Meth Lab Seizures Reported to El Paso Intelligence Center 2000-2011
General Synthetic Phases

- Extraction of ephedrine / pseudoephedrine
- The “cook”
- Drying
- Packaging & distribution
Better Living
Through Chemistry
PROZAC  DEXEDRINE
OXYCONTIN
РИТАЛИН  MDMA
ROHYPNOLE
METHAMPHETAMINE
Sympathomimetic

Phenylethylamine

Ephedrine (Pseudoephedrine)
Phenylethylamine

Epinephrine
Methamphetamine

Phenylethylamine

Amphetamine
3,4-Methylenedioxy Methamphetamine (MDMA)
Folks often don’t isolate the pseudoephedrine.
# Red P / HI Method

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Use</th>
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<tbody>
<tr>
<td>Ephedrine</td>
<td>Bronchodilator / Stimulant</td>
</tr>
<tr>
<td>Pseudoephedrine</td>
<td>Decongestant</td>
</tr>
<tr>
<td>Red Phosphorus</td>
<td>Matchbook Strikers / Flares</td>
</tr>
<tr>
<td>Iodine Crystals</td>
<td>Water Purification</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>Drain Cleaner</td>
</tr>
<tr>
<td>Organic Solvent</td>
<td>Acetone (Hardware Solvent)</td>
</tr>
<tr>
<td></td>
<td>Ether (Starting Fluid)</td>
</tr>
<tr>
<td></td>
<td>Toluene (Hardware Solvent)</td>
</tr>
<tr>
<td>Acid Gas</td>
<td>Salt + various acids</td>
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</table>
Red Phosphorus Isolation
Starting fluid (ether) or Coleman fuel

Phosphine Gas

Heat made. Can splatter

Make acid gas

Methamphetamine HCl

Red P / I₂ Method
The “Death Bag” to capture the phosphine gas

Photo: North Metro Task Force
Nazi Method

- Germany WW II - **Pervitin** & **Isophan** were two of the name brand methamphetamine products that were used by the military.
- In 1940, 35 million tablets were shipped to the military between April – July
- But when supplies ran short, created a method that could be done locally; thus, the The Nazi Method
- Note – all countries used meth to varied degrees in the military during WW II
## Liquid NH$_3$ / Metal Method (Nazi Method)

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<tr>
<td>Liquid Ammonia</td>
<td>Fertilizer</td>
</tr>
<tr>
<td>Lithium</td>
<td>Batteries</td>
</tr>
<tr>
<td>Organic Solvent</td>
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Is a “Cold Cook” because no heat is needed

Get lithium from battery (Burns, fire)

Get A. Ammonia. Very caustic

(Pseudo)ephedrine

Water & Organic Solvent

Remove Organic Solvent Layer

Filter over Epsom Salts

(Pseudo)ephedrine, Lithium & Anhydrous Ammonia

Nazi Method

Methamphetamine HCl

Filtering product

Make acid gas

HCl Gas
The ‘Nazi Method’
The ‘Nazi Method’

Figure 1

- Pressure Vent
- Cathode collector
- Spring Contact
- Lithium anode
- Separator
- FeS₂ cathode
- Can

Energizer brand lithium battery image
The ‘One Pot’ or ‘Shake and Bake’ Method’

- Is rapidly becoming the #1 method in the USA to make Meth.
- Can do anywhere
- Can do while on the move
- Only makes small amounts – maybe 2-3 grams per “cook”
- Product is less pure
One Pot Method

- In a 2-Liter bottle; place pseudoephedrine, ammonium nitrate, organic solvent, and lithium
- Add a capful of Lye to the bottle.
- Add water to the bottle; it will begin to “roll.”
- Swirl bottle; don’t shake.
- Take cap off every few minutes to release pressure (Ammonia release!). Add lye occasionally to keep it “rolling”; vent periodically. Repeat for 1-2 hours
- Create an acid gas from another bottle to salt out Meth
- Filter the fluid; dry out the filtrate, you have your meth
One Pot Method

Ammonium Nitrate

- Fertilizer
- Used to make bombs
- Also in the contents of many, but not all, cold packs
One Pot Method
The P2P Method – the TOTAL # 1

- Done in Mexico and most meth is coming from Mexico. Partially done because the cartels can’t get pseudoephedrine, either
- Used to be big in the 1970s and 1980s; done by motorcycle gangs and bathtub chemists
- Rarely done in the USA.
- Does NOT use pseudoepedrine
- Is less pure (contains some of the less potent version of meth)
Methamphetamine Movement
2008-2009
Phenyl-2-Propanone (Phenyacetone) + methylamine \[ \text{Al / Hg} \] \rightarrow \text{methamphetamine}

**REA means agent is DEA Restricted**

- Phenylacetic Acid
- Acetic Anhydride
- Nitromethane OR Formaldehyde + Ammonium Chloride OR Methyl Iodide + Hexamine

Methylamine
This was a Meth Lab...
And this was a Meth Lab...
And *this* was a Meth Lab...
And *this* was a Meth Lab...
And this was a Meth Lab...

Woman clears Wal-Mart with purse 'meth lab'

One woman's attempt at multi-tasking ended with a Wal-Mart store being evacuated after she was allegedly caught shoplifting while cooking meth in her purse. Store security and police say they discovered the "one pot" batch of methamphetamine in a soda bottle in the woman's possession. They evacuated the crowded South County Wal-Mart store in St. Louis County, Miss., due to the volatile chemicals involved. No one was injured, and the woman and her male companion were arrested. "There are lots of one-pot cooks," said St. Louis County police Lt. Mark Cox. "But taking it into Wal-Mart is very unusual."

http://now.msn.com/now/0607-meth-evacuation
June 8, 2012

related links
- Janitor finds meth lab in Wal-Mart bathroom
25% of known Meth-labs were discovered because of explosion or fire


And *this* WAS a Meth Lab!
Precursor Laws

- Combat Methamphetamine Epidemic Act (CMEA) – 2006
- Virtually all states have some form of law
- Substances may only be sold by a pharmacist/pharmacy tech and a log must be signed
- Pseudoephedrine - behind counter, To buy ≥18 y/o
- Maximum allowed purchase amounts
- Responsibility to remain under the limit is on the **BUYER** not the retailer
Precursor Laws

- Oregon and Mississippi require a prescription for the purchase of pseudoephedrine.
- Some states have statewide electronic tracking of purchases – including TN, KY, and OK.

Regulation has led to ‘smurfing’.
Precursor Laws – Results are Mixed...

- Oregon – had 467 seizures in 2004 then 12 in 2009
- TN – had 1497 seizures in 2004 then 589 in 2009
- KY – Seizures have ↑ since the program started
- OK – Seizures ↓ in first 2 years but ↑ since
- Meth Lab Seizures (DEA Statistics)
  - 2003: 17,356
  - 2007: 6,233
  - 2009: 10,064

2004 - the final full year before implementation of the prescription only law
Estimated Number of Past 30-Day Meth Users and Clandestine Meth Lab Incidents:

2004-2009

Lab Clean-up Contacts

- Local Fire / Hazardous Materials Law enforcement agencies
  - will contact entities trained in dismantling and disposal of lab equipment
  - may be government or private contractors
- DEA (Usually during regular business hours)
- If the proper resources cannot be reached, the controlling law enforcement agency has the responsibility of safely containing the area until the arrival of trained personnel
  - May or may not initiate a hazmat team response
Most current synthetic methods involve the conversion of ephedrine or pseudoephedrine to methamphetamine

Precursor regulation had an impact on the number of meth labs in the US

Initial contact should be local law enforcement who should contact appropriate state, federal and private agencies
Questions
Figure 11. Methamphetamine Price and Purity Data

All Methamphetamine Purchases
Domestic STRIDE Data
January 2007- September 2010

STRIDE is a database of drug exhibits sent to DEA laboratories from the DEA, FBI, CBP, ICE, USCG, and Washington MPD. STRIDE is not a representative sample of drugs available in the United States, but reflects all evidence submitted to DEA laboratories for analysis. STRIDE data are not collected to reflect national market trends. Nonetheless, STRIDE data reflect the best information currently available on changes in methamphetamine price and purity.

From July 2007 through September 2010, the price per pure gram of Methamphetamine decreased 60.9%, from $270.10 to $105.49, while the purity increased 114.1%, from 39% to 83%.
Figure 13. Reported Methamphetamine Laboratory Seizures in the United States, by Capacity, 2005–2010*

<table>
<thead>
<tr>
<th>Year</th>
<th>Total ≤ 2 oz.</th>
<th>Total &gt; 2 oz.</th>
<th>Total &gt; 2 oz.</th>
<th>Total 6,768</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1,284</td>
<td>4,735</td>
<td>5,019</td>
<td>6,019</td>
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<tr>
<td>2006</td>
<td>601</td>
<td>3,382</td>
<td>5,083</td>
<td>6,083</td>
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<tr>
<td>2007</td>
<td>585</td>
<td>2,516</td>
<td>5,091</td>
<td>6,091</td>
</tr>
<tr>
<td>2008</td>
<td>736</td>
<td>3,234</td>
<td>5,070</td>
<td>6,070</td>
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<tr>
<td>2009</td>
<td>961</td>
<td>5,071</td>
<td>6,032</td>
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<tr>
<td>2010</td>
<td>1,030</td>
<td>5,738</td>
<td></td>
<td>6,768</td>
</tr>
</tbody>
</table>

Source: Drug Enforcement Administration, National Seizure System.
*Data as of July 7, 2011.