Synthetic Drugs on the Streets of Florida

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SYNTHETIC DRUGS REVIEWED

- Spice/K2
- Bath Salts
- Flakka
- Molly
- Budder/Wax
The science of Synthetic drugs

- **Synthetic Cannabinoids** – marijuana alternatives, known as K2 and Spice.

- **Phenethylamines** – described as a hallucinogenic stimulant psychedelic. Methamphetamines, Amphetamines, MDMA and Ecstasy.

- **Synthetic Cathinones** – are the most common Phenethylamine. They are a synthetic form of the KHAT plant. There are 12 different kinds. The most common are:
  
  - MDPV (Bath Salts)
  - Ethylene (Molly’s Relative)
  - Methylone (Molly)
  - Butylone
  - Alpha-PVP (Flakka)
  - Mephedrone

The most common Synthetic Cathinones in Florida are Methylone (Molly), Alpha-PVP (Flakka) and Ethylene.
## Top 10 Most Frequently Identified Drugs of Total Reports from South Florida Crime Labs Reports CY 2014

<table>
<thead>
<tr>
<th>Drug</th>
<th>2014</th>
<th>% Δ vs. 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCAINE</td>
<td>8,942</td>
<td>Down 12%</td>
</tr>
<tr>
<td>Marijuana/CANNABIS</td>
<td>4,587</td>
<td>Down 13%</td>
</tr>
<tr>
<td>Synthetic CATHINONES</td>
<td>1,811</td>
<td>Up 46%</td>
</tr>
<tr>
<td>Rx OPIOIDS</td>
<td>1,744</td>
<td>Up 87%*</td>
</tr>
<tr>
<td>Rx BENZODIAZEPINES</td>
<td>1,521</td>
<td>Up 79%*</td>
</tr>
<tr>
<td>HEROIN</td>
<td>1,333</td>
<td>Up 44%</td>
</tr>
<tr>
<td>METHAMPHETAMINE</td>
<td>387</td>
<td>Up 83%</td>
</tr>
<tr>
<td>AMPHETAMINE</td>
<td>306</td>
<td>Up 410%</td>
</tr>
<tr>
<td>Synthetic CANNABINOIDS</td>
<td>228</td>
<td>Up 57%</td>
</tr>
<tr>
<td>ACETAMINOPHEN</td>
<td>213</td>
<td>Up 228%</td>
</tr>
<tr>
<td>ALL OTHER</td>
<td>5,920</td>
<td>Up 84%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>26,992</td>
<td>Up 17%</td>
</tr>
</tbody>
</table>

1Data are for January–December 2014 and include primary, secondary, and tertiary reports.

**SOURCE:** US DEA - NFLIS data retrieved March 23, 2015
THE 21ST CENTURY’S PERFECT STORM

Why the sudden emergence of synthetic drugs?

- Cheap to make in China and elsewhere
- Low cost makes it easy to market to the subculture of drug users
- International delivery services
- Easy to market worldwide via Internet
- Sold in “legal” retailers
- Highly profitable
- Very limited or no legislation and when legislation is enforced, they skirt the law
DANGERS OF SYNTHETICS

Synthetic Drugs

- Tachycardia
- Hallucinations
- Convulsions
- High Blood Pressure
- Paranoia
- Heart attacks
Spice/K2
Spice/K2: What you need to know

 Teens and young adults are experiencing the effects of K2 and similar products that are often incorrectly called "Spice." K2 is a synthetic cannabinoid that is derived from plant material and other chemicals designed to produce effects on the body similar to THC (cannabis). K2 is manufactured overseas as a synthetic form of marijuana.

- **What is it?** Plant material and other chemicals designed to produce effects on the body similar to THC (cannabis). Synthetic form of marijuana manufactured overseas.

- **How it’s marketed/sold?** Sold in head shops, gas stations, Internet. Packages designed to attract youth: pictures of Scooby Doo, happy faces, or with names such as ‘Chill-Out.’ Marketed as harmless relaxation.

K2, like other synthetic cannabinoids, is designed to mimic the psychoactive effects of marijuana, but it can produce more intense and unpredictable reactions.

It's important to understand that K2 and similar products can cause serious health issues, including severe side effects and dependence. If you suspect someone you know is using K2 or another synthetic cannabinoid, it's crucial to encourage them to seek help immediately.
**Spice/K2: What you need to know**

- **How it is used?** Smoked inside traditional cigarettes or marijuana cigarettes, smoked in a pipe, or e-cigarette. Sometimes even prepared as an “herbal infused drink.”

- **Street names:** Fake weed, Skunk, Yucatan Fire, Moon Rocks, Scooby Snax.

- **Usage effects:** Relaxation and/or elevated mood

- **Usage DANGERS:** Far more dangerous than cannabis!
Spice/K₂: Dangers

- Tachycardia
- Hypertension
- Hallucinations
- Paranoia
- Convulsions
- Delirium
Synthetic Cannabinoids Crime Lab Cases in Florida: 2010-2014

Source: Analysis of US DEA - National Forensic Laboratory System Data
BUDDER, SHATTER, HONEY OIL

SHATTER

BUDDER

HONEY OIL
BUDDER, Shatter, Honey Oil: What you need to know

- **What is it?** High-potency substances made from the marijuana plant through extraction.
  - Shatter is purist, most potent form of marijuana. May contain up to 90% THC.
  - Hash oils have more THC than regular marijuana - btw 30-90%.

- **What it looks like:** A gooey, sticky liquid or wax-like substance, almost like a paste.
BUDDER, Shatter, Honey Oil: What you need to know

- **How it's made:** soaking the plant material in a chemical solvent, usually butane, to extract the most potent forms of THC.

- **How it's used:** most often “vaped” or “dabbed.” This results in a very intense high. A small amount, the size of a Tic-Tac, can be the equivalent to one joint.
BUDDER, Shatter, Honey Oil: What you need to know

❖ Dangerous Side effects:
  - Hallucinations
  - Anxiety
  - Paranoia
  - Psychosis
  - Heart palpitations/arrhythmia
Ecstasy and Molly
MOLLY

- MDMA (3,4-methylenedioxymethamphetamine)
  - Supposedly “PURER” form of ECSTASY
  - Club drug, raves, concerts
  - Relaxation, clarity
  - Heightened sensory perception
  - “Love drug” - for becoming more social
  - Most comes from China, Mexico or Canada
MOLLY

- Clinical effects
  - Anxiety - “freak out”
  - Dilation of pupils, light sensitivity
  - Nausea
  - Muscle tension and spasm and bruxism
  - Hyperthermia due to muscle tension and use during physical activity
  - Leads to rhabdomyolysis and cardiovascular collapse
  - Hyponatremia from excessive water intake and sweating – can lead to seizures
MOLLY GUEST STAR
ECSTASY...MOLLY...
MOLLY??????

- Molly is often adulterated with other drugs and is actually most likely methylone or mephedrone or ethylone now.

- Other forms of “SPEED”
  - Caffeine
  - Ketamine
  - Dextromethorphan
  - Fentanyl
  - Spice

This is what makes it dangerous... they have no idea what they are taking or the right dose.
Drug Cousins

**MDPV** (a.k.a. Bath Salts)

**Methylylone** (a.k.a. Molly, formerly MDMA)

**Ethylone** (relative of Molly-no street name)

**Methamphetamine**

**Alpha-PVP** (a.k.a. Flakka)
Number of National Crime Lab Reports for MDMA and Synthetic Cathinones: USA 2004-2013

Source: US DEA - National Forensic Laboratory Information System (NFLIS) 2014 Annual Data
Number of Crime Lab Cases of Synthetic Cathinones (sold as “ecstasy,” “Molly,” or “Flakka”) in 2014: USA, South Florida, and State of Florida

<table>
<thead>
<tr>
<th>Synthetic Cathinone</th>
<th>USA</th>
<th>South Florida*</th>
<th>Florida</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylone</td>
<td>3,872</td>
<td>471</td>
<td>1,110</td>
</tr>
<tr>
<td>alpha-PVP</td>
<td>2,720</td>
<td>576</td>
<td>672</td>
</tr>
<tr>
<td>Ethylone</td>
<td>3,862</td>
<td>659</td>
<td>1,396</td>
</tr>
<tr>
<td>Total</td>
<td>10,454</td>
<td>1,706</td>
<td>3,178</td>
</tr>
</tbody>
</table>

* South Florida Data includes Miami-Dade, Broward, and Palm Beach Counties

Bath salts

Images of various bath salts and synthetic drugs.
Bath Salts: What you need to know

- **What is it?** Created in 1920s. MDPV - related to cathinones, amphetamine-like stimulants found in khat plant. Similar to methamphetamine.

- **Where is it made?** Primarily China.

- **What it looks like?** Typically found as white or brown crystals, in powder form or in capsules.

- **How it’s marketed/sold?** Sold over the Internet for $20-$25 – listed as “research chemical powder.”
Bath Salts:
What you need to know

- **How it is used?** Taken orally, snorted, smoked, injected.

- **Street names:** Ivory Wave, Bloom, Cloud Nine, Vanilla Sky, Moon Dust, White Lightning, Scarface.

- **Usage effects:** Last about one hour depending on dosage amount.
  - Alertness
  - Increased Sex Drive
  - Restlessness
  - Euphoria
  - Talkativeness
  - Restlessness
  - Excitement
Bath Salts: What you need to know

- **Usage DANGERS:**
  - Extreme Agitation
  - Chest Pains
  - High Blood Pressure
  - Extreme Paranoia
  - Violent/Erratic Behavior
  - Elevated Body Temperature
  - Limb Twitching
  - Delusional Parasitosis
  - **EXCITED DELIRIUM**
  - Hallucinations and Delusions
  - Suicidal Thoughts
  - Seizures
  - Severe Insomnia
FLAKKA (AKA gravel, flock)
FLAKKA: What is it?

What is it? The latest street version of Bath Salts. It is a synthetic compound consisting of **Alpha-PVP**.

Alpha-PVP (Flakka)  
MDPV (Bath Salts)
FLAKKA

- α-Pyrrolidinopentiophenone
- Alpha-PVP
- Acts similarly to MDPV (ORIGINAL BATH SALT), another norepinephrine-dopamine reuptake inhibitor
- DOPAMINE → agitation, paranoia, ^HR, ^temperature
Where is it made? Made in labs overseas (primarily China) and shipped in large containers or mailed in small packages by delivery services.
FLAKKA: WHAT IT LOOKS LIKE

- Typically white crystalline substance resembling rock candy or in powder form. Has been found in other colors as well.
How it’s marketed/sold?
Sold over the Internet.

How much does it cost?
Minimal cost: from $2-$50 per dose on street. $1500-$2500 per kilo.
FLAKKA: Methods of use?

- **How it is used?** Can be injected, smoked in an e-cigarette or a joint, or poured into capsules and ingested.
FLAKKA – Why Use It?

- Stimulant used to heighten senses: euphoria, increased alertness, improved concentration and focus
- Lower doses cause euphoria, increased motor activity
- Higher doses cause **EXCITED DELIRIUM** and psychomotor agitation
FLAKKA Use Symptoms

- Agitation and altered mental status
- Tachycardia and hypertension
- Dilated pupils
- Hot/warm skin and sweating
- Hyperthermia
- Motor agitation: twitching, shaking, or seizures
FLAKKA:  
Excited Delirium Syndrome

- One of the most dangerous side effects of the drug Flakka and other synthetics is a group of symptoms called **Excited Delirium** also sometimes described as the “Superman Effect.”
FLAKKA: *Excited delirium* Video
FLAKKA: *Excited delirium* Video
The Dangers of SYNTHETICS

- Severe hallucinations
- Hyperthermia
- Psychosis
- Anxiety
- Incoherent speech
- Agitation/shivering
- Aggressive behavior
- Rapid heart beat
- Extreme paranoia
- Kidney failure
- Seizures
- Death

- **Excited Delirium** – A MEDICAL EMERGENCY!
SYNTHETICS - Complications

- Heart attack
- Stroke
- Dehydration
- Rhabdomyolysis
- Renal failure
SYNTHETICS Treatment

- Supportive Care
  - Fluids, monitor, oxygen
  - Reduce hyperthermia
  - ICU if needed

- Benzodiazepines (Ativan, Versed, Valium)
- Antipsychotics (Haldol)
- Ketamine
SYNTHETICS Treatment

- Benzodiazepines
  - Ativan 1-2 mg IV/ 2-4mg IM
  - Versed 1-2 mg IV/ 5 mg IM
  - Valium 5mg IV/ 10 mg IM

- Antipsychotics
  - Haldol 5-10mg IM
  - Geodon 10-20mg IM

- Ketamine 4-5mg/kg IM

Benzo dose may be repeated
SYNTHETICS Treatment

- Anti-seizure medications
- Beta-blockers may be indicated
- Cool patient if hyperthermic
- Baker Act if necessary/applicable

- MOST OF THESE DRUGS ARE NOT FOUND IN ROUTINE TOXICOLOGY SCREENS
FUTURE NAMES TO KNOW

NBOME

KRATOM

ACETYL FENTANYL

FOXY METHOXY
NBOME/SMILES

- “N-bomb” or “Nbome” refers to any of three closely related synthetic hallucinogens (25I-NBOMe, 25C-NBOMe, and 25B-NBOMe) sold as legal substitutes for LSD or mescaline.

- Also called “legal acid,” “smiles,” or “25I.”

- Found as powders, liquids, soaked into blotter paper (like LSD), or laced on something edible.
Chemicals act on serotonin receptors in the brain like other hallucinogens, but are considerably more powerful.

Extremely small amounts can cause seizures, heart attack, arrested breathing, and death.

Same treatment as other synthetics.
Kratom
Kratom: What you need to know

- **What is it?** A leaf from a tropical tree indigenous to Southeast Asia. Used as a stimulant by laborers and farmers.

- **Where is it made?** Primarily manufactured in Asia

- **What it looks like?** Typically found as a tea, whole or crushed leaves, encapsulated powder, extract resin.

- **How it’s marketed/sold?** Sold legally in herb shops in powder or leaf form or sold in specialty tea shops.

- **How it is used?** Mainly abused as a tea. Leaves can also be chewed or ingested in pill form.
Kratom: What you need to know

- **Usage effects**: Effects occur within 5-10 minutes and last for 2-5 hours.
  - Stimulant effects
  - Increased Energy
  - Increased Social Behavior
  - Aggression
  - Jerky movement of limbs
  - Increased Alertnessness
  - Talkativeness
  - Hostility
  - Achy muscles and bones
Kratom: What you need to know

- **Usage DANGERS:**
  - Nervousness and Tremors
  - Hallucinations and Delusions
  - Severe Nausea/Vomiting
  - Visual Impairment
  - Respiratory Depression
  - Lethargy
  - Paranoia/Confusion/Psychosis
  - Aggressive/Combative Behavior

- **Medical treatment, like other synthetics:** supportive care.
Synthetic Fentanyl

- Acetyl fentanyl/desmethyl fentanyl
- 52 deaths in U.S. between 2013-2015, increasing each year
- In tablets, powder, or on blotter paper
- Not just a FL problem: Seizures reported in 9 other states, and top 10 drugs found in Boston, and Baltimore, Cincinnati area
Foxy Methoxy

WHAT IS IT?

- 5-methoxy-N, N-diisopropyltryptamine (5-MeO-DIPT)
- Red or purple pills embossed with alien head or spider stamp
- Taken orally, smoked, or snorted
- Used in conjunction with Ecstasy, in club scene
- Enhances visual and auditory distortions
- Disinhibition, euphoria, empathy
Foxy Methoxy

WHAT YOU SHOULD KNOW ABOUT IT

- Hallucinogenic drug in the tryptamine family, similar to “mushrooms” or acid with other cathinone-like effects
- Nausea, vomiting, diarrhea
- Causes muscle tension and jaw clenching
- Hypertension, tachycardia, mydriasis
- Can lead to rhabdomyolysis
Foxy Methoxy

WHAT CAN YOU DO ABOUT IT?

- Supportive care
- Pay close attention to electrolytes
- Agitation can be treated with benzodiazepines
- Symptoms are often short-lived, lasting less than 6 hours
References

References

- Photo credits:
  - https://www.benzochemicals.com/?product=acetylfentanyl
  - https://crackbillionair.wordpress.com/page/117/

- Video credits:
  - https://www.youtube.com/watch?v=HfEepVOQrpE
  - https://www.youtube.com/watch?v=CtD2rNKaStU
  - https://www.youtube.com/watch?v=JCC2bkV49rE
  - https://www.youtube.com/watch?v=dA0Qhgmuvrc
  - http://youtu.be/zP1xwT_njTA