

## Chemicals of Abuse: Synthetic Cannabinoids, Mephedrone, & Bath Salts



Special Agent Kelly Page  
Special Services Unit  
North Carolina State Bureau of Investigation

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## Current Drug Trends

- There has been a new wave of synthetic psychoactive drugs produced and sold over the past few years.
- These include cannabinoids, hallucinogens, psychedelics, and stimulants.
- Dangers are relative to each substance, each user, lack of quality control, and lack of research on the effects of human consumption.
- Everything is evolving.....



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## Synthetic Cannabinoids



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## Synthetic Cannabinoids

- Often referred to as “Spice” or “K2”
- Bouncing Bear Botanicals was the first major online company which sold these products
- Sold as a legal herbal alternative to cannabis, with a high similar to marijuana
- Discovered that the herbs were sprayed with research chemicals



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## The Herbs



Blue Egyptian water lily  
(*Nymphaea caerulea*)



Lion's Tail  
*Leonotis leonurus*

- Used for medicinal purposes
- Herbs are normally smoked, eaten, or brewed in tea
  - Baybean – smoked as a marijuana substitute
  - Blue Lotus – inebriating effects
  - Pink Lotus – euphoric effects
  - Lion's Tail – euphoric, calming effects
  - Indian Warrior – muscle relaxer
  - Blue Egyptian Water Lilly – mild psychoactive properties
  - Dwarf Skullcap, Indian Lotus, Honeyweed
  - Tobacco



Indian warrior  
(*Pedicularis densiflora*)

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## Which Brings Us Back Around to Spice and K2

- Usually a legal herbal blend “laced” with research chemicals
- You may find the chemicals which are white powders
- You may find the tobacco like or plant-like material
- Known for its foil packets and small pouches
- A typical packet contains about 3 grams of material
- Smoked in pipe, bong, or hand-rolled cigarette or cigar
- Marketed as herbal incense or potpourri
- Most are labeled “Not for human consumption”
- The cost is \$14.99 - \$29.99 per pouch
- Sold as a legal herbal alternative to cannabis, with a high similar to marijuana
- Sold in head shops, botanical stores, convenience stores, internet, gas stations, tobacco stores, smoke shops, and hookah lounges
- Chemicals are reported to be 100x as potent as THC



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## Product Names

- K2 Summit, K2 Blonde
- Spice, Dragon Spice
- K2 Blue, K2 Melon, K2 Peach
- Homespice
- Summit Spice
- Spice Diamond
- Spice Gold
- Spike
- Red Dragon
- Mojo Platinum
- Wicked X
- Aurora X
- Purple Flake
- Kush
- Texas Gold
- King Weedy
- Black Magic
- Euphoria
- Jamaican Breeze
- Warlock
- White Dragon
- Kryptonite
- Black Mamba
- Blue Dream
- GI Jane
- Blueberry Blues
- Eclipse
- Genie
- Yucatan Gold
- Skunk
- Volcano




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## An Increasing Problem



❖ On July 26, 2010, the American Association of Poison Control Centers reported there had been 567 K2-related calls in 2010, which was up from 13 in 2009.

❖ They ended up with over 2000 calls nationwide by the end of 2010.




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## Effects of Spice

- Marijuana like high
- Headaches
- Agitation
- Nausea
- Vomiting
- Disorientation
- Anxiety attacks (to the point of suicide)
- Paranoid behavior
- Dangerous hallucinations (Exorcisms)
- Elevated blood pressure
- Racing heart rate
- Seizures or convulsions
- Psychotic episodes
- Loss of consciousness
- Unknown long term effects possibly to include cancer and liver damage
- Users can present to ER with no symptoms or may be very sick and unresponsive




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## Legal Status



- ❑ Banned in all branches of US military in 2010
- ❑ Federal: On November 24, 2010, the DEA announced that it would make **JWH-018, JWH-073, JWH-200, CP-47,497 and CP-47,497 C8 cannabicyclohexanol**, illegal using emergency powers. They will be placed in Schedule I of the Controlled Substances Act. The temporary ban, for at least a year, came in to effect on **March 1, 2011**, while permanent scheduling is being considered.
- ❑ John William Huffman was the man who synthesized the compound. Hence the “JWH” designation.

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## NC Cannabinoid Possession Penalties

### SECTION 7. G.S. 90-95(d) reads as rewritten:

#### Class 3 Misdemeanor (Simple Possession)

- Marijuana: Any amount
- Synthetic Cannabinoid: Any amount



#### Class 1 Misdemeanor

- Marijuana: More than 1/2 ounce
- Synthetic Cannabinoid: More than 7 grams

#### Class I Felony

- Marijuana: More than 1 1/2 ounces
- Synthetic Cannabinoid: More than 21 grams

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## NC Trafficking Penalties

### SECTION 8. G.S. 90-95(h) is amended by adding a new subdivision to read:

"(1a) For the purpose of this subsection, a "dosage unit" shall consist of 3 grams of synthetic cannabinoid or any mixture containing such substance. Any person who sells, manufactures, delivers, transports, or possesses in excess of 50 dosage units of a synthetic cannabinoid or any mixture containing such substance, shall be guilty of a felony, which felony shall be known as "trafficking in synthetic cannabinoids," and if the quantity of such substance involved:

- ❑ 4 TRAFFICKING LEVELS in NC:
- 1. Greater than 50 dosage units, but less than 250 dosage units – Class H Felony.
- 2. 250 dosage units or more, but less than 1250 dosages unit – Class G Felony.
- 3. 1250 dosage unit or more, but less than 3750 dosage units – Class F Felony.
- 4. 3750 dosage units or more – Class D Felony.

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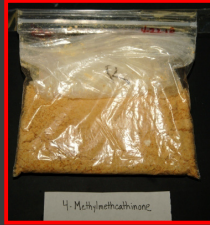
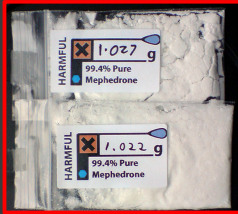
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# Mephedrone



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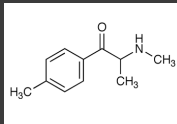
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## Mephedrone



❑ Chemical Name: 4-Methylmethcathinone or 2-Methylamino-1-p-tolylpropan-1-one

❑ Street Names: Meow Meow, 4-MMC, M-Cat, Bubbles, MC, Miaow, Drone, Bubbles, Meph, Charge, Bounce

❑ Chemical structure is similar to methamphetamine and methcathinone

❑ Description: Stimulant and Euphoriant

❑ Effects similar to MDMA



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## Mephedrone

➢ Little has been published about the history of Mephedrone prior to on-line introduction in 2007

➢ Was used increasingly in UK, Ireland, Europe, Australia, and New Zealand from 2007-2009

➢ Several deaths in the UK attributed to the use of this substance

➢ In 2010, Mephedrone became the fourth-most popular drug in Britain behind cannabis, cocaine, and ecstasy

➢ Very addictive

➢ Made in China



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## Mephedrone

- ❑ When snorted, it takes approximately 15 - 45 minutes to take full effect. Peaks within 30 minutes.
- ❑ High lasts about 2-3 hours with lingering effects when taken orally
- ❑ Strong urge to redose or “boost” as effects wear off
- ❑ Difficult to go to sleep between 1-4 hours
- ❑ A dose is between 5 mg – 200 mg
- ❑ Snorting is more associated with addiction
- ❑ Effects have been compared to those of MDMA, cocaine, and methamphetamine
- ❑ Risks of death usually involve cardiovascular problems, overheating, and dangerous drug interactions as well as accidents related to intoxication and multi-drug combinations



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## Bath Salts



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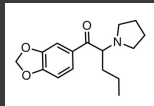
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## Bath Salts



- ❑ Chemical Name: **MDPV** (3,4-methylenedioxypropylvalerone)
- ❑ Street Names: Bath Salts, MDPK, MTV, Magic, Maddie, **Super Coke**, PV, and PeeVee
- ❑ Chemical structure is similar to cathinone and MDMA
- ❑ Description: Stimulant and Euphoriant
- ❑ Effects similar to **cocaine** because a stimulant, euphoric MDMA sensation, and an amphetamine like high
- ❑ Intense cravings like meth and cocaine, so sometimes called “fake cocaine”
- ❑ Several times stronger than cocaine when snorted



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## MDPV – Bath Salts



- Marketed as bath salts or aromatherapy, fake fertilizer, and fake insect repellent
- Can be purchased online, convenience stores, gas stations, or at smoke shops. Made in China or India.
- Sold as a white powder or tan powder depending on the lab it was produced in. Is also seen in tablet form.
- Most packets come in 200 mg or 500 mg and prices range between \$20 - \$50
- Can be taken orally, snorted, smoked, injected, and taken rectally
- A dose is between 5 – 20 mg
- Ivory Wave is the most popular bath salt. It is sold in packets labeled "for novelty use only" for around \$25 for 200 mg. The instructions say "PLEASE do not use this as SNUFF!!!" and "NOT FOR HUMAN CONSUMPTION". The contents in the product are Epsom salt and other ingredients; no mention of MDPV.

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## Product Names

- White Girl
- Lust
- Scarface
- Red Dove
- Lovey Dovey
- Charley Sheene
- Silverback bath salt
- Diamond Mist bath salt
- 8 Ballz bath salts
- Ivory Wave bath salt
- Ocean Burst Extreme
- Sextacy Ultimate bath salt
- Lunar Wave
- Exotic Super Strong plant fertilizer pills
- Dynamite plant feeder pills
- Mind Candy plant feeder pills
- Diablo XXX Extreme plant fertilizer pills




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## Product Names

- Cloud 9
- Vanilla Sky
- Cosmic Blast
- Blue Magic
- Blue Silk
- Lady Bubbles
- Serenity
- Zoom
- Bloom
- Pixie Dust
- Himalayan
- Ivory Gold
- Bolivian
- Charge Plus
- White Horse
- Magic Powder
- Marketers also use names with a local feel, such as *Hurricane Charlie* in Louisiana & *White Lightie* in Kentucky




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- o Euphoria
- o Sociable, creativity, empathy, talkativeness
- o Increased sexual arousal
- o Loss of weight
- o Loss of hair
- o Difficulty sleeping
- o Teeth grinding
- o Muscle tension and pain
- o Depression
- o Eye spasms
- o Involuntary body movements such as twitching and lip smacking
- o Gastrointestinal issues
- o Agitation, anxiousness and nervousness
- o Fiending (compulsive redosing repeatedly without planning to do so)
- o Excessive excitation & hyperactivity
- o Headache
- o Elevated heart rate
- o Chest pains, heart problems, stroke
- o Hallucinations and paranoia
- o Confusion and suicidal thoughts
- o Painful hangover
- o Can be in hospital for a couple of days to a couple of weeks

## Effects of Bath Salts




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## North Carolina Legal Status



- Mephedrone and MDPV were controlled by the NC legislature in 2011.
- The statute became effective on June 1, 2011.

GENERAL ASSEMBLY OF NORTH CAROLINA SESSION 2011  
SESSION LAW 2011-12 SENATE BILL 7

\*S7-v-5\*

AN ACT TO ADD MEPHEDRONE, METHYENEDIOXYPROVALERONE  
AND CERTAIN DERIVATIVES OF 2-AMINO-1-PHENYL-1-PROPANONE,  
AND SYNTHETIC CANNABINOIDS TO THE LIST OF CONTROLLED  
SUBSTANCES.

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## NC Mephedrone and MDPV Possession Penalties

SECTION 2. G.S. 90-95(d)(1) reads as rewritten:

"(d) Except as provided in subsections (h) and (i) of this section, any person who violates G.S. 90-95(a)(3) with respect to:

(1) A controlled substance classified in Schedule I shall be punished as a Class I felon. However, if the controlled substance is MDPV and the quantity of the MDPV is 1 gram or less, the violation shall be punishable as a Class 1 misdemeanor."




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## NC Trafficking Penalties



### SECTION 3, G.S. 90-95(h) is amended by adding a new subdivision to read:

“(3d) Any person who sells, manufactures, delivers, transports, or possesses 28 grams or more of MDPV or any mixture containing such substance shall be guilty of a felony, which felony shall be known as “trafficking in MDPV,” and if the quantity of such substance or mixture involved:”

- Greater than 28 grams but less than 200 grams – Class F felony
- Greater than 200 grams but less than 400 grams – Class E felony
- Greater than 400 grams – Class C felony

“(3e) Any person who sells, manufactures, delivers, transports, or possesses 28 grams or more of mephedrone or any mixture containing such substance shall be guilty of a felony, which felony shall be known as “trafficking in mephedrone,” and if the quantity of such substance or mixture involved:”

- Same as MDPV

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## Local Statistics



❖ In April, 2011 Carolina Poison Center stated that they get 1.6 – 1.7 calls regarding bath salts everyday regarding usage, symptoms, and overdoses.

❖ On May 5, 2011, there were 4 Emergency Department cases of “bath salt” use at Pitt Memorial Hospital. The patients were so hyped up that Xanax and Haldol had no effect. The doctors had to put the patients in a drug induced coma using anesthesia to sedate them.

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## Recent NC News Stories

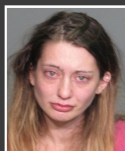
October 2, 2010

Two NC State students were found dead on the fire escape of their apartment near downtown Raleigh. Autopsy showed mephedrone as well as other drugs including oxymorphone.



February 27, 2011

A Wake County woman, Dana Crawford, was arrested after her 18 month old son tested positive for cocaine. Crawford and the baby's father were hallucinating and “thought snipers had shot a hole in the baby.” Crawford was high on bath salts.



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## Recent NC News Stories

March 4, 2011

A Fayetteville man, Abdulla Smith, kidnapped a man at gunpoint and threatened to kill him. No one was shot in the incident. Smith was high on bath salts.



April 3, 2011

A Wilmington man, Thomas Howard Grooms, fatally struck from behind and killed a man (46) and his 17 year old son who were riding bicycles on River Road in a bike lane. Grooms was intoxicated and high on mephedrone. He had white powder on his nose, shirt, and mustache.



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## Recent NC News Stories

May 7, 2011

A Newport man, Ryan Burbage, led deputies on a high speed chase from Carteret to Craven County. The chase began after Burbage attacked and bit his neighbor for cutting the grass too close to Burbage's home. Burbage fled the scene with his 10 year old daughter in the car as officers tried to arrest him.



Burbage was high on bath salts and had been drinking.

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## More bath salt stories from around the country...

- “An indiscriminate drug experimenter who wrote a letter to a newspaper warning others to steer clear of bath salts after he repeatedly slashed his face and abdomen with a skinning knife while under their influence.”
- “A middle-aged female who burst into her mother’s bedroom, swinging a machete and “trying to kill” the elderly woman. This, after she spoke of “hearing voices,” raced “back and forth to the window to see who was outside,” and dug frantically in her backyard in search of “jewels.””
- An extended skirmish in which a would-be burglar was Tasered twice--and twice yanked out probes while continuing to fight violently. “The guy was an animal,” the involved officer said. “In 8 years on the job, I’ve never dealt with anybody like that--never. He still had a lot of fight in him when we had him handcuffed.”
- “A 21-year-old male, the son of 2 physicians, who slashed his throat, then shot and killed himself after 3 sleepless days and nights on a bath salts high. Paranoid and intermittently delirious, the last night he hallucinated that the family’s house was surrounded by police helicopters and dozens of squad cars.”

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## So What’s Next?

- We will continue to see more of these designer drugs and analogs especially as chemicals become illegal.
- Here are just a few:
  - Phenazepam – A benzodiazepine that is not controlled. It is sold online. In 2009, the crime lab saw a submission of phenazepam soaked on blotter paper similar to LSD. Seen mixed with JWH’s.
  - Methylone – Sold as a product called “Explosion” in the Netherlands. Marketed as a “room odorizer” and sold in plastic tubes containing liquid. Euphoric similar to MDMA.
  - MDAI – Just banned in Britain after it replaced mephedrone
  - 4-MEC
  - Methoxetamine
  - Naphyrone
- And many, many, many more!



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## QUESTIONS



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