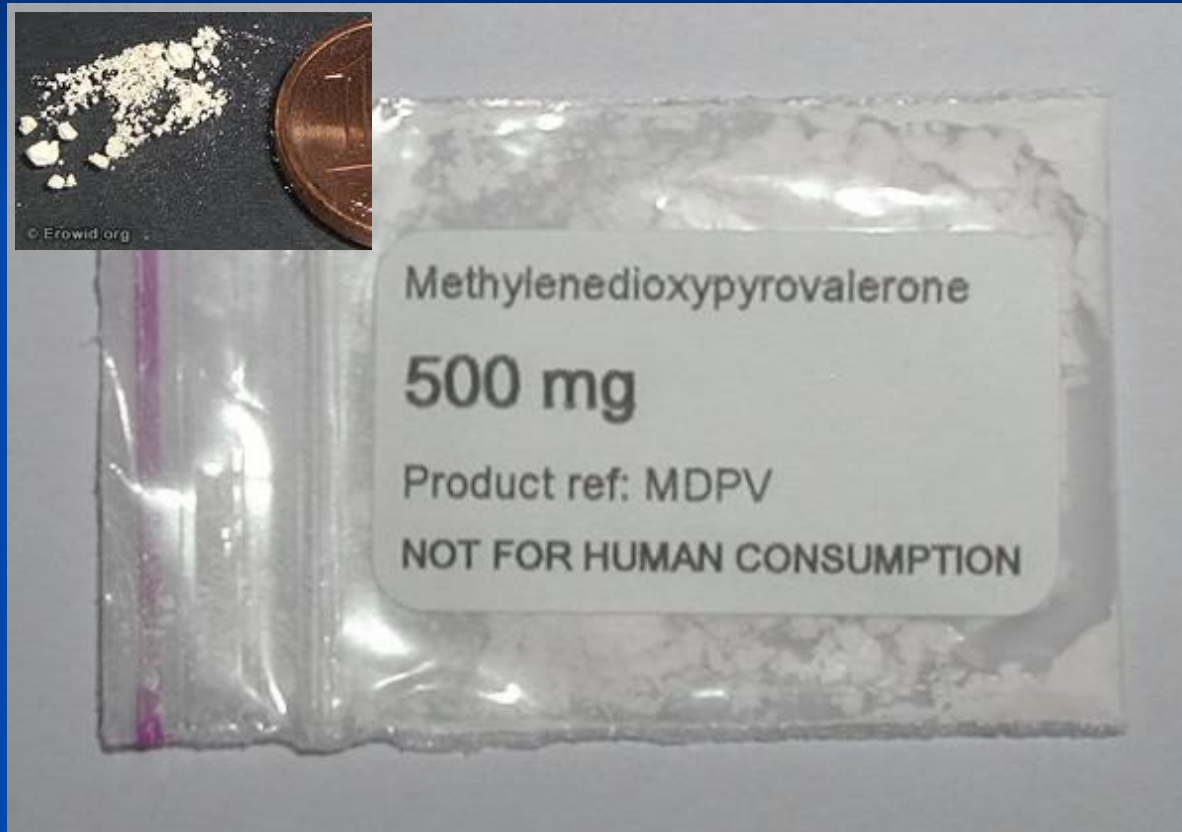


Emerging Substances of Abuse – 3, 4-Methylenedioxypropylone MDPV (a.k.a. “Bath Salts”)

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3, 4-Methylenedioxypropylvalerone - MDPV



What is MDPV (bath salts)

- The term 'bath salts' refer to commercially available products that have as part of their composition a legal stimulant called 3, 4-Methylenedioxypropylone, or MDPV.
- Currently illegal in New Jersey, however legal nationally. They are sold mostly on the internet, but can also be found in select shops locally. They're known by a variety of names, including "Red Dove," "Blue Silk," "Zoom," "Bloom," "Cloud Nine," "Ocean Snow," "Lunar Wave," "Vanilla Sky," "Ivory Wave," "White Lightning," "Scarface" "Purple Wave," "Blizzard," "Star Dust," "Lovey, Dovey," "Snow Leopard," "Aura," and "Hurricane Charlie." While they have become popular under the guise of selling as 'bath salts', they are sometimes sold as other products such as insect repellent, or plant food with names like "Bonsai Grow" among others.
- Much like the marketing of Synthetic Cannabinoids (Spice/K2) as incense, MDPV has been market as "bath salts" and just like Spice/K2 MDPV is specifically labeled "not for human consumption."

MDPV's chemical 'cousins'

- There are other drugs with a similar chemical structure to MDPV.
- These include α -pyrrolidinopropiophenone (α -PPP). Little is known about this compound, but it has been detected by laboratories in Germany as an ingredient in "ecstasy" tablets seized by law enforcement authorities.
- 4'-methyl- α -pyrrolidinopropiophenone (MPPP) is a stimulant drug. It is very structurally similar to α -PPP. MPPP was sold in Germany as a designer drug in the late 1990s and early 2000s, although it has never achieved the same international popularity as its better-known relations α -PPP and MDPV.
- 3',4'-methylenedioxy- α -pyrrolidinopropiophenone (MDPPP) is a stimulant designer drug. It was sold in Germany in the late 1990s and early 2000s as an ingredient in imitation ecstasy (MDMA) pills. It shares a similar chemical structure with α -PPP and MDPV.

Mephedrone (another drug, but not MDPV)

- Because of the emerging nature of these drugs, most specifically MDPV to the US marketplace, there seems to be confusion regarding MDPV and other drugs such as Mephedrone (4-MMC) being used in bath salts.
- **Mephedrone**, also known as **4-methylmethcathinone (4-MMC)**, or **4-methylephedrone**, is a synthetic stimulant drug of the amphetamine and cathinone classes. Slang names include “meph,” “drone,” and “MCAT.”
- It is reportedly manufactured in China and is chemically similar to the cathinone compounds found in the khat plant of eastern Africa. It comes in the form of tablets or a powder, which users can swallow, snort or inject, producing similar effects to MDMA, amphetamines and cocaine.
- In July, 2010, the DEA listed Mephedrone a “drug and chemical of concern.”

Mephedrone (another drug, but not MDPV)

- Dr. Adam Winstock, of Kings College, London, Department of Addictions, who has published 5 papers on these drugs (MDPV and 4-MMC), state they are distinct drugs that are virtually ever mixed.
- However, a DEA report from December 2010 states that ***“preliminary testing indicates that the active ingredients in many brands [of bath salts] contain MDPV (3,4-methylenedioxypropylone) and/or mephedrone.”***
- Again because of the emergent nature of this class of substances, there has been some questioning as to what is in the composition of ‘bath salts’, though most evidence is leaning towards MDPV as being the compound of choice currently in ‘bath salts’.
- Bruce Talbot, a former police officer and expert on emergent drug trends expressed the following concerns regarding MDPV and what would likely happen when MDPV becomes illegal. He suspects that when MDPV is finally added to either an emergency ban or to the controlled substance list it will likely “only to be replaced by 4'-methyl- α -pyrrolidinopropiophenone (MPPP) and 3',4'-methylenedioxy- α -pyrrolidinopropiophenone (MDPPP).” Mephedrone is another that would be substituted.

MDPV Timeline

- MDPV was developed in the 1960s, and has been used for the treatment of chronic fatigue, but caused problems of abuse and dependence.
- **1969:** Boehringer Ingelheim files a patent application for MDPV.
- **2005:** MDPV appears as a recreational drug; first mention on Drugs-Forum.
- **2007:** First seizure of MDPV as a recreational drug, by customs officials in the German state of Saxony. The drug had been shipped from China.
- **2008:** First seizure of MDPV in the United States.
- **2009:** MDPV made illegal in Denmark.
- **2010:** MDPV made a controlled drug in the UK, Sweden, Germany, Australia and Finland. First reports of the widespread retail marketing of 'bath salts' containing MDPV in the US. The US considers both Mephedrone (July, 2010) and MDPV (December, 2010) "a drug and chemical of concern".
- **2011:** MDPV sale and possession are banned in the US states of AL, FL, ID, LA, MI, MS, NC, ND and UT, with legislation being introduced in many other states.

Additional facts regarding MDPV

- MDPV is also illegal in Germany, Australia, Finland and Israel.
- In the United States, MDPV was packaged as “bath salts” but easy research from the internet showed that “bath salts” such as ‘Ivory Wave’ were being packaged as legal alternative stimulant drugs, and avoid prosecution by putting “Not For Human Consumption” on the packaging.
- However, some of these can barely contain themselves for what they really are, with one brand having a picture of Al Pacino’s ‘Scarface’ on its packaging.
- They are sold over the internet, and on the street, in convenience stores, discount tobacco outlets, gas stations, pawnshops, tattoo parlors, and truck stops, among other locations. The various brands are sold in 50-milligram to 500-milligram packets. Prices range from \$25 to \$50 per 50-milligram packet.

The Effects of MDPV

- MDPV is a powerful stimulant that functions as a dopamine-norepinephrine reuptake inhibitor (NDRI). It has stimulatory effects on the central nervous system and cardiovascular system.
 1. physical: rapid heartbeat, increase in blood pressure, vasoconstriction, sweating.
 2. mental: euphoria, increases in alertness & awareness, increased wakefulness and arousal, anxiety, agitation, perception of a diminished requirement for food and sleep.
- MDPV reportedly has four times the potency of Ritalin and Concerta.
- MDPV is sometimes labeled online as legal cocaine or legal amphetamines.
- The effects have a duration of roughly 3 to 4 hours, with after effects such as tachycardia, hypertension, and mild stimulation lasting from 6 to 8 hours. High doses have been observed to cause intense, prolonged panic attacks in stimulant-intolerant users, and there are anecdotal reports of psychosis from sleep withdrawal and addiction at higher doses or more frequent dosing intervals.

Any Dangers Involved in MDPV

- Yes. Until a drug is tested, it cannot be considered safe. MDPV and its 'chemical cousins' have not been tested by the FDA and thus little is known as to the harm potential. Some anecdotal stories involving 'bath salt' usage and their potential for harm come in news stories from across the nation, local emergency room reports and data collected from the American Association of Poison Control Center.
- In New Jersey, on March 16, 2011 a young man reportedly addicted to Bath Salts and also suffering from Bipolar Disorder, killed his girlfriend at his home. This tragic death of a Rutgers University student prompted three NJ legislatures to introduce a bill to ban the active ingredients in these "bath salts".
- There have been reports that clients are reporting chest pains, increased blood pressure, increased heart rate, agitation, hallucinations, extreme paranoia, and delusions and suicidal thoughts. One online report from Louisiana has attempted to correlate 3 deaths with prior usage of MDPV. Many of the anecdotal reports are saying these compounds found in "bath salts" can quickly cause people to crave re-use of the substance, and are strongly addicting.

Dangers/Legal Issues

- In 2010 there were 302 calls about MDPV (bath salt) products according to the American Association of Poison Control Centers' National Poison Data System (NPDS).
- As of May 12, 2011 poison centers reported 2,237 calls (1,782 calls as of April 20, 2011). This shows the trend of how popular this class of drug has become, and the dangers associated with its increased popularity (**over seven times as many calls in the first 5 months of 2011 than there were for all of 2010**).
- NIDA has made a public statement about MDPV on their website, stating that it is a dangerous chemical and giving some limited information the drug.
- Dr. Volkow, the NIDA Director stated: "Because these products are relatively new to the drug abuse scene, our knowledge about their precise chemical composition and short- and long-term effects is limited."
- In February, 2011, Congressman Charles Schumer (D-NY) introduced legislation that would add bath salts to a list of federally controlled substances. How fast that legislation will move is yet to be seen.

Which States have made Bath Salts Illegal?

- As of May 12, 2011, here are the known states to have banned Bath Salts; banning either Mephedrone, MDPV or both (this list has literally grown weekly, so please understand if a state has not been listed here that recently passed a ban):
 - Alabama (MDPV, Mephedrone)
 - Florida (MDPV, Mephedrone)
 - Idaho (MDPV, Mephedrone)
 - Louisiana (MDPV, Mephedrone)
 - Michigan (Mephedrone only)
 - Mississippi (MDPV, Mephedrone)
 - New Jersey (MDPV, Mephedrone, (Methylone, MDMC), (Flephedrone, 4-FMC), (3-FMC), (Methedrone, bk-PMMA, PMMC)]
 - North Carolina (MDPV, Mephedrone) – As of June 1, 2011
 - North Dakota (Mephedrone only)
 - Utah (MDPV, Mephedrone)
- Multiple other states are quickly passing 90 day, 120 day emergency bans, with the intention of making MDPV/Mephedrone (and in some states) other synthetic stimulants/hallucinogens illegal. Some states, such as Pennsylvania, are still in the process of trying to make these designer drugs illegal.

New Jersey Legal Issues

- On April 29th, 2011 MDPV, Mephedrone and 4 other synthetic stimulants were banned in New Jersey.
- This ban in New Jersey was caused by very swift action by the legislature and Division of Consumer Affairs. On March 16, 2011, it was announced Assembly Deputy Speaker John McKeon (D-Essex), Assemblywoman Linda Stender (D-Union), and state Senator John Girgenti (D-Passaic) sponsored the legislation introduced into the Assembly and Senate, that led to the ban on Mephedrone and MDPV and the 4 other synthetic stimulants 6 weeks later. The 6 banned substances are:
 1. 3,4 – Methylenedioxyprovalerone (MDPV)
 2. 4 – Methylmethcathinone (Mephedrone, 4-MMC)
 3. 3,4 – Methylenedioxymethcathinone (Methylone, MDMC)
 4. 4 – Fluoromethcathinone (Flephedrone, 4-FMC)
 5. 3 – Fluoromethcathinone (3-FMC)
 6. 4 – Methoxymethcathinone (Methedrone, bk-PMMA, PMMC)

New Jersey Legal Issues

- The only downside to this legislation is that it appears to suffer the same problems as the Synthetic Cannabinoid legislation, in that it specifically names Mephedrone and MDPV (and 4 other synthetic stimulants) as the proposed banned substances. It is possible that 'bath salts' will continue to be sold legally in NJ, only made with other, still unbanned synthetic stimulants.
- On March 1st, the DEA announced the ban of 5 synthetic cannabinoids (JWH-018, JWH-073, JWH-200, CP 47,497 and CP 47,497 C8), however, before the ban was in place, generation 2 of synthetic cannabinoids was already being sold in NJ non-chain convenience stores touting none of the nationally banned substances are in their product.
- This NJ legislation on "Bath Salts" has the possibility of repeating this already occurring problem with synthetic cannabinoids.

Legal Issues of MDPV

- Because of the state ban on April 29, 2011, this currently means in New Jersey MDPV and many of its derivatives and analogues (or chemical cousins to use the term from a previous slide), are no longer accessible.
- In other states where bans have not been in place, the product is being sold as 'bath salts' and labeled "Not For Human Consumption", thus there are no age restrictions on the purchase of these products (as you have with other legal, intoxicating substances such as alcohol).
- On February 1, 2011 Gil Kerlikowske, Director of National Drug Control Policy, released the following statement following recent reports indicating the emergent threat of these synthetic stimulants, stating that he was "deeply concerned," and that "public health officials are working on this emerging issue."

Pennsylvania Legal Issues

- In Pennsylvania, legislators are looking to ban 6 synthetic amphetamines.
- 3,4-METHYLEDIOXYPYROVALERONE (**MDPV**), 4-METHYLMETHCATHINONE (**MEPHEDRONE**), 3,4-METHYLEDIOXYMETHCATHINONE (**METHYLONE**) along with 3 other synthetic stimulants: 4-METHOXYMETHCATHINONE, 4-FLUOROMETHCATHINONE, and 3-FLUOROMETHCATHINONE (The same 6 chemicals banned in NJ).
- In Pennsylvania, the House Judiciary Committee voted 24-0 approving the bill [HB-365](#) in September, 2010 (proposing to ban JWH-018, JWH-019, JWH-073, JWH-200, JWH-250, HU-210, HU-211, CP 47,497, & CP 47,497 C8,).
- On April 4, 2011, the [PA House voted 195-0](#) to pass HB 365 and have now passed this bill onto the Senate for approval.
- This same bill is also looking to ban 8 synthetic cannabinoids (**none of which are currently being used in generation 2 of spice/k2 type products, so the relevance of this ban is suspect**); and sativa.

National vs. State-by-State Bans

- Because national public health officials have MDPV on their radar, it is expected by some that a national emergency ban will occur sometime in 2011.
- In December, 2010, the DEA made a brief statement: "Currently, MDPV is not a scheduled drug under the Controlled Substances Act (CSA). However, if intended for human consumption, MDPV can be considered an analogue of a schedule I drug under the CSA (Title 21 United States Code 813). Therefore, law enforcement cases involving MDPV can be prosecuted under the Federal Analogue Act of the CSA." However, all "bath salts" clearly state "Not for Human Consumption".
- What this means is that (if in your state) MDPV is not a scheduled drug currently, if the intention is to use it for human consumption, its structural similarity to illegal drugs of abuse means that it could be considered by law enforcement officials as a controllable substance analogue (under the Federal Analogue Act).

National vs. State-by-State Bans

- Just because a federal ban is enacted on a drug, it does not mean local authorities will take action on this drug.
- States still need to enact legislation to ban the substances in order for state (then local) authorities to take action.
- Federal bans will go after larger distributors, but it will be locally determined as to whether users and smaller, local distributors (such as non-chain convenience stores and gas stations) will be sought after without a state ban.

Urine Detection Information

- Redwood Toxicology Laboratory shows currently they have detection for MDPV and Mephedrone. They do not have detection for α -PPP, MPPP or MDPPP in urine drug screens. The cost for the 2 panel is \$40 (\$30 if you do enough volume and have your entire drug screen business with Redwood Lab.), and \$55 (\$40) for the 14 panel test. There is reportedly a 48-72 hour detection window, depending on dosing.

- Redwood has a 2 panel drug test (MDPV, Mephedrone) and a 14 panel drug test which tests for the following drugs:
 1. BZP (*Benzylpiperazine*)
 2. Butylone (*β -keto-N-methylbenzodioxolylpropylamine, bk-MBDB*)
 3. Cathinone (*Khat or Benzoylathanamine*)
 4. Ethylone (*3,4-methylenedioxy-N-ethylcathinone, MDEC, bk-MDEA*)
 5. MBDB (*Methylbenzodioxolylbutanamine, Methyl-J, "Eden"*)
 6. mCPP (*meta-Chlorophenylpiperazine*)
 7. MDA (*3,4-Methylenedioxyamphetamine, tenamfetamine*)
 8. MDEA (*3,4-Methylenedioxy-N-ethylamphetamine, MDEA, MDE, "Eve"*)
 9. MDPV (*Methylenedioxypropylone, Cloud 9, Ivory Wave, White Lightning*)
 10. MDMA (*3,4-Methylenedioxymethamphetamine, ecstasy, "E", "X"*)
 11. Mephedrone (*4-methylmethcathinone [4-MMC], 4-methylephedrone, "Meph", "MCat"*)
 12. Methcathinone (*α -methylamino-propiofenone, may be confused with mephedrone*)
 13. Methylone (*3,4-methylenedioxy-N-methylcathinone, bk-MDMA, MDMC, "M1"*)
 14. TFMPP (*3-Trifluoromethylphenylpiperazine, "Legal X"*)

How bad are doing “bath salts” for you?

This bad ...

<http://bit.ly/mr2xny>

- May 3, 2011. CHARLESTON, W.Va. – An Alum Creek man has been arrested after neighbors allegedly found him standing over the dead body of a boy’s stolen pet pygmy goat while wearing women's underwear.
- The goat was named Bailey, was on a leash attached to a tree in the front yard. The small white-and-gray goat wore a pink collar.
- The 19 year old man told deputies he had been high on bath salts for the last three days, said a detective with the sheriff's office.

Bath salts are ‘cross dress, then kill a little boy’s pet pygmy goat’ bad.

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About This Presentation

- A comprehensive article on this topic is available at: <http://www.hdap.org/mdpv.html>
- If you are interested in the emerging drug trend of Spice/K2 (Synthetic Cannabinoids), please visit <http://www.hdap.org/spice.html> or view the corresponding PowerPoint presentation at <http://slidesha.re/gbgRgD>.
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