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N,N-Dimethylpentylone: A Novel Synthetic Cathinone

In recent months, a novel psychoactive substance has begun to emerge in the state of Florida. N,N-Dimethylpentylone is part of a group of drugs called synthetic cathinones and known informally as “bath salts” (note: these substances are different than Epsom salt used for bathing). Data show that in 2020 and 2021, the majority of synthetic cathinone cases involved eutylone which was marketed to people who use drugs as MDMA, ecstasy, or molly. However, international efforts in 2021 recommended control of this substance. Since that time, n,n-dimethylpentylone has largely replaced eutylone, and it is increasingly showing up on toxicology and laboratory tests. Data suggest that a large number of these cases are in Florida.

Florida media reports note that n,n-dimethylpentylone is typically sold in large chunks which dealers or users can then cut into small pieces or powders to snort, smoke, or inject. The drug may also be sold in tablet form. Effects of the drug include increased energy, similar to stimulant-type effects, in addition to feelings of euphoria reminiscent of opioids. The drug is usually marketed as cocaine, MDMA, or ecstasy. Thus, people who purchase the drug are likely unaware of what substance they are actually consuming.

Adverse consequences from consuming synthetic cathinones like n,n-dimethylpentylone include high blood pressure, rapid heart rate, hyperthermia, dehydration, arrhythmias, hallucinations, loss of consciousness, and death. These problems are likely compounded with polysubstance use, in which individuals unknowingly or intentionally consume multiple substances at once.

Data from the Florida Medical Examiners 2022 Interim Report list 23 occurrences of n,n-dimethylpentylone among deceased individuals in Broward County. These included 19 men and 4 women ages 25-67. All of the occurrences involved polysubstance use, with the average number of substances being 3.4. As see in the chart, fentanyl and fentanyl analogs, cocaine, cannabinoids, alcohol, and benzodiazepines were the most frequently co-occurring substances among decedents in the county.

N,N-Dimethylpentylone Polysubstance Use (not exhaustive)	
	Number of occurrences
Fentanyl + analogs	15
Cocaine	10
Cannabinoids	4
Alcohol	4
Benzodiazepines*	3

*Alprazolam, clonazepam, diazepam

Sources: Walton, S., Fogarty, M., Papsun, D., Lamb, M., Logan, B., & Krotulski, A. (2022). N, N-Dimethylpentylone—an emerging NPS stimulant of concern in the United States. *Toxicologie Analytique et Clinique*, 34(3), S67-S68.

<https://www.sciencedirect.com/science/article/abs/pii/S2352007822001639>; U.S. Customs and Border Protection, [Dulles CBP Officers Seize 70 Pounds of a Dangerous, Newer Cathinone Analogue Destined to D.C. | U.S. Customs and Border Protection](#).

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