Emerging Designer Drug Monograph

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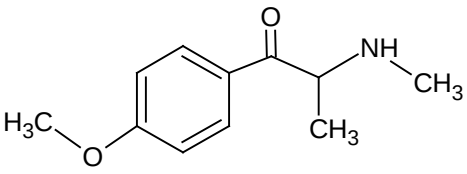
Drug Name: **Methedrone**

Synonyms: para-Methoxymethcathinone, PMMC, Methoxyphedrine, 4-Methedrone, 1-(4-methoxyphenyl)-2-(methylamino)-1-propanone (hydrochloride)

Structure:



Formula: $C_{11}H_{15}NO_2$

Molecular Weight: 193.1

Pharmacological Drug Class: Central nervous system stimulant. Methedrone inhibits monoamine oxidase reuptake increasing synaptic catecholamine concentrations (1).

Metabolism: Unknown.

Blood Concentrations: Recorded methedrone blood concentrations range from 0.2 to 4.8 µg/g. Fatal blood concentrations have been recorded above 8 µg/g. (1,2).

Effects and Toxicity: Users describe psychoactive effects similar to ecstasy including mild euphoria and increased alertness. However, users feel the effects diminish quickly and feel compelled to redose (see www.erowid.com). Toxicity is associated with hypertension and tachycardia (2).

Analysis: Methedrone is a basic compound that chromatographs well with GC-MS following derivatization. GC-MS analysis has been used to quantitate methedrone in blood. LC-MS has been used for hair and urine methedrone screening and quantitation. (2,3).

References:

1. Prosser, J. M., Nelson, L. S. (2012) The toxicology of bath salts: a review of synthetic cathinones. *Journal of Medical Toxicology*, 8(1), 33 - 42. http://www.ncbi.nlm.nih.gov/pubmed/22108839

2. Wilkstrom, M., Thelander, G., Nystrom, I., Kronstrand, R. (2010) Two fatal intoxications with the new designer drug methedrone (4-methoxymethcathinone). *Journal of Analytical Toxicology*, 34(9), 594 - 598. http://www.ncbi.nlm.nih.gov/pubmed/21073814

3. Al-Saffar,Y., Stephanson, N. N., Beck, O. (2013) Multicomponent LC-MS/MS screening method for detection of new psychoactive drugs, legal highs, in urine-experience from the Swedish population. *Journal of Chromatography B, Analytical Technologies in the Biomedical and Life Sciences*, 930, 112 - 120. http://www.ncbi.nlm.nih.gov/pubmed/23727875

Cayman Chemical
https://www.caymanchem.com/pdfs/10529.pdf

Forendex
http://forendex.southernforensic.org/index.php/detail/index/1093

Methedrone Erowid
http://www.erowid.org/experiences/subs/exp_4Methoxymethcathinone.shtml