

EU Early Warning System: Formal Notification

Formal notification of 1-(3-methylphenyl)-2-(pyrrolidin-1-yl)hexan-1-one (3'-Me-PHP) by Sweden as a new psychoactive substance under the terms of Regulation (EU) No 2023/1322 and Council Framework Decision 2004/757/JHA

Date issued

30.08.2024

Issued by

EUDA

RCS ID

EU-EWS-RCS-FN-2024-0027

Transmitted by

Action on New Drugs Sector, EUDA

1. Read me first

This document provides formal notification of the analytical identification of 1-(3-methylphenyl)-2-(pyrrolidin-1-yl)hexan-1-one (3'-Me-PHP) for the first time in Europe.

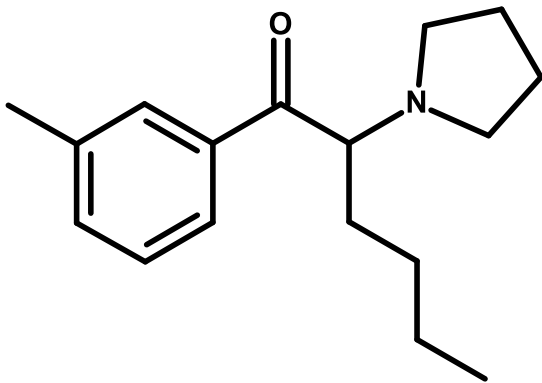
Please report any additional data you have on this substance to: ews@euda.europa.eu

2. Data use restrictions

As with all formal notifications issued by the EU Early Warning System (EWS), remember that they may contain information that could be regarded as sensitive. Should you provide some of the information in this notification to other groups we would ask that you exercise your best judgment on what information needs to be provided. If you have any questions in this respect, please contact us.

3. Names of substance and other identifiers

- **IUPAC name:** 1-(3-methylphenyl)-2-(pyrrolidin-1-yl)hexan-1-one
- **Chemical names:** 1-(3-methylphenyl)-2-(1-pyrrolidinyl)-1-hexanone; 1-(m-tolyl)-2-pyrrolidin-1-yl-hexan-1-one; 1-(3-methylphenyl)-2-1-pyrrolidinylhexan-1-one
- **Common name:** 3'-Me-PHP
- **Other names:** 3-Me-PHP; 3-methyl-alpha-PHP; 3-methyl- α -PHP; 3-methyl- α -pyrrolidinohexiophenone; 3-methyl-alpha-pyrrolidinohexiophenone, 3-Methyl-alpha-PHP, 3-Methyl- α -PHP; 3-Me-alpha-PHP; 3-Me- α -PHP; 3-methyl-PHP; 3-MPHP
- **EMCDDA framework name [1]:** 3Me- α P-hexanophenone; 3Me- α P-HP
- **Chemical formula:** C₁₇H₂₅NO
- **Molecular weight:** 259.39
- **CAS Registry number:** not registered
- **InChIKey:** JVWXQJXUNJXIQE-UHFFFAOYSA-N

Molecular structure:

4. Substance classification

Cathinone

5. Detection

Type: Seizure

Case Report identifier: [EDND-CR-2024-520](#)

Details: 3'-Me-PHP was identified in 2.05 grams white powder seized by the Swedish Police on March 2024

The substance was analytically confirmed using GC-MS and NMR by the Swedish National Forensic Centre.

6. Chemistry and Analysis

Chemical classification: Arylalkylamine; Cathinone

3'-Me-PHP (also known as 3-methyl- α -PHP) is the 3-methyl derivative of the internationally controlled [\$\alpha\$ -pyrrolidinohexanophenone \(\$\alpha\$ -PHP\)](#) (Schedule II of the 1971 United Nations Single Convention on Psychotropic Substances).

3'-Me-PHP is a positional isomer of [4'-Methyl- \$\alpha\$ -pyrrolidinohexanophenone \(MPHP\)](#), formally notified in 2012, differing in the position of the methyl group on the phenyl ring. 3'-Me-PHP is also a higher homologue of [3'-Me-PVP](#), formally notified in 2023, differing on the length of the alkyl chain attached at the α -position.

[\$\alpha\$ -PEP \(PV8\)](#), formally notified in 2013; [4'-methyl- \$\alpha\$ -PiHP](#), formally notified in 2018; [4'-ethyl- \$\alpha\$ -PVP](#), formally notified in 2019; [4,4-dimethyl-1-phenyl-1-pyrrolidin-1-yl-pentan-3-one](#), formally notified in 2020; [2-Methyl- \$\alpha\$ -PHiP](#), formally notified in 2022 and [3-Methyl- \$\alpha\$ -PHiP](#), formally notified in 2024 are structural isomer of 3'-Me-PHP.

The identification and discrimination of these isomers can pose analytical challenges due to the fact that these substances have the same molecular weight and may have similar fragmentation patterns. As a result, other analysis techniques, in addition to GC-MS, such as FTIR or NMR may be required.



Reference standards are available for the hydrochloride salts of the structural isomers 4'-Methyl- α -pyrrolidinohexanophenone (MPHP) [2], α -PEP (PV8) [3], 4'-methyl- α -PiHP [4], 4'-ethyl- α -PVP [5], 2-Methyl- α -PHiP [6], and 3-Methyl- α -PHiP [7].

3'-Me-PHP contains one stereogenic centre and therefore two possible enantiomers may exist.

7. Pharmacology and toxicology

Pharmacological classification: Stimulant

There is no information available on the pharmacology and toxicology of 3'-Me-PHP. Based on its structural similarity with α -PHP, the substance is expected to have stimulant effects.

8. Further information

Further information on this substance is available on the EDND profile:

<https://ednd2.emcdda.europa.eu/ednd/management/substance/1507>

9. Acknowledgements

The Swedish National Focal Point, Swedish Police and the Swedish National Forensic Centre are kindly acknowledged for the information and analytical data provided.

10. Attachments

None

11. References

[1] Pulver B, et al. EMCDDA framework and practical guidance for naming cathinones. Drug Test Anal. 2024.

[2] [https://www.caymanchem.com/product/10448/4'-methyl-%CE%B1-pyrrolidinohexanophenone-\(hydrochloride\)](https://www.caymanchem.com/product/10448/4'-methyl-%CE%B1-pyrrolidinohexanophenone-(hydrochloride))

[3] [https://www.caymanchem.com/product/14762/pv8-\(hydrochloride\)](https://www.caymanchem.com/product/14762/pv8-(hydrochloride))

[4] [https://www.caymanchem.com/product/31013/4-methyl-%CE%B1-pyrrolidinoisohexanophenone-\(hydrochloride\)](https://www.caymanchem.com/product/31013/4-methyl-%CE%B1-pyrrolidinoisohexanophenone-(hydrochloride))

[5] [https://www.caymanchem.com/product/30226/4-ethyl-%CE%B1-pyrrolidinopentiophenone-\(hydrochloride\)](https://www.caymanchem.com/product/30226/4-ethyl-%CE%B1-pyrrolidinopentiophenone-(hydrochloride))

[6] [https://www.caymanchem.com/product/37759/2-methyl-%CE%B1-pyrrolidinoisohexanophenone-\(hydrochloride\)](https://www.caymanchem.com/product/37759/2-methyl-%CE%B1-pyrrolidinoisohexanophenone-(hydrochloride))

[7] [https://www.caymanchem.com/product/40713/3-methyl-%CE%B1-pyrrolidinoisohexanophenone-\(hydrochloride\)](https://www.caymanchem.com/product/40713/3-methyl-%CE%B1-pyrrolidinoisohexanophenone-(hydrochloride))