European Monitoring Centre for Drugs and Drug Addiction

EU EARLY WARNING SYSTEM FORMAL NOTIFICATION

Date issued	11 November 2021	RCS ID	EU-EWS-RCS-FN-2021-0039
Issued by	EMCDDA	Transmitted by	Action on New Drugs Sector, EMCDDA
Subject	Formal notification of *N*-[(*Z*)-(2-oxo-1-pent-4-enyl-indolin-3-ylidene)amino]benzamide (MDA-19 4en-pentyl analogue) by Hungary as a new psychoactive substance under the terms of Regulation (EC) No 1920/2006 and Council Framework Decision 2004/757/JHA		

1. Read me first

This document provides formal notification of the analytical identification of *N*-[(*Z*)-(2-oxo-1-pent-4-enyl-indolin-3-ylidene)amino]benzamide (MDA-19 4en-pentyl analogue) for the first time in Europe.

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

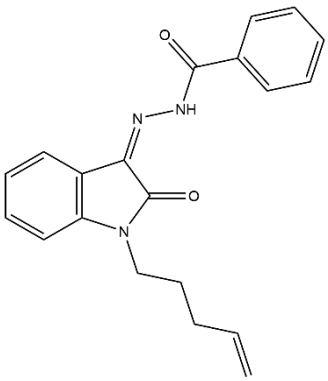
2. Data use restrictions

As with all formal notifications issued by the EU 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: *N*-[(*Z*)-(2-oxo-1-pent-4-enyl-indolin-3-ylidene)amino]benzamide
- Chemical names: *N*'-[(3*Z*)-2-oxo-1-(pent-4-en-1-yl)-2,3-dihydro-1*H*-indol-3-ylidene]benzohydrazide; *N*'-[(3*Z*)-2-oxo-1-(pent-4-en-1-yl)-1,2-dihydro-3*H*-indol-3-ylidene]benzohydrazide
- Common name: MDA-19 4en-pentyl analogue
- Other names: BZO-4en-POXIZID; BZO-4en-PentOXIZID; 4en-MDA-19
- Chemical formula: $C_{20}H_{19}N_3O_2$
- Molecular weight: 333.39
- CAS Registry number: not registered
- InChIKey: DIVZUDBOOCSMQO-UZYVYHOESA-N

Molecular structure



4. Substance classification

Synthetic cannabinoid

5. Detection

Type: Seizure
Case Report identifier: EDND-CR-2021-923

Details: MDA-19 4en-pentyl analogue was identified in 0.53 grams of orange powder seized by Hungarian Police in Szolnok on 13 August 2021.

The substance was analytically confirmed using GC-MS, FTIR and NMR by the Hungarian Institute for Forensic Sciences, Drug Investigation Department.

Other detections

MDA-19 4en-pentyl analogue has also been identified in a sample of yellow powder seized by Bulgarian Customs, based on information kindly provided in an analytical report prepared by the Joint Research Centre (JRC) in Ispra, in October 2021. The substance was analytically confirmed using GC-MS and FTIR by the Bulgarian Customs Laboratory and by NMR by the JRC.

6. Chemistry and Analysis

Chemical classification: azacyclic; indole; iminoindolinone

MDA-19 4en-pentyl analogue is a synthetic cannabinoid with an isatin-like core, where the oxo group of the 3-position of the ring is replaced by a nitrogen, a pent-4-ene tail (4-en-P), an acylhydrazone moiety as a linker and a phenyl linked group. MDA-19 4en-pentyl analogue is structurally related to MDA 19 (BZO-HEXOXIZID), formally notified in 2016, and MDA-19 pentyl analogue (BZO-POXIZID), formally notified in October 2021, differing by replacement of the hexyl and pentyl tails, respectively, with the pent-4-ene tail.

MDA-19 4en-pentyl analogue is also structurally related to MDMB-4en-PINACA. MDMB-4en-PINACA was the focus of an initial report [1], a technical report [2] and an EMCDDA risk assessment on 7 December

2020 [3]. As of 14 November 2020, MDMB-4en-PINACA is included in the definition of 'drug' of Council Framework Decision 2004/757/JHA (as amended) by a delegated directive [4]. MDMB-4en-PINACA was critically reviewed by the World Health Organisation's 43rd Expert Committee on Drug Dependence (ECDD) that took place in October 2020 [5] and is now internationally controlled.

MDA-19 4en-pentyl analogue is also known as BZO-4en-POXIZID and BZO-4en-PentOXIZID, based on a naming convention developed by scientists at Cayman Chemical and NPS Discovery at CFSRE for this subclass of synthetic cannabinoid, "OXIZIDs" [6]. Using this system, MDA 19 could also be known as BZO-HEXOXIZID. It is reported that the OXIZID subclass has recently emerged as a potential replacement for the traditional indole and indazole based synthetic cannabinoids, following the announcement by China to place synthetic cannabinoids under generic control in July 2021.

MDA-19 4en-pentyl analogue has two isomers, *E* and *Z*, which would be expected to co-elute using gas chromatography (GC) and the mass spectra are expected to be almost identical. As a result, discrimination between the isomers will require the use of other analysis techniques, in addition to GC-MS, such as NMR.

7. Pharmacology and toxicology

Pharmacological classification: cannabinoid

There is no information available on the pharmacology and toxicology of MDA-19 4en-pentyl analogue. Based on its structural similarity with other synthetic cannabinoids, such as MDA 19, MDA-19 4en-pentyl analogue is expected to act as a cannabinoid receptor agonist.

8. Further information

Further information on this substance is available on the EDND profile:
https://ednd2.emcdda.europa.eu/ednd/substanceProfiles/1260

9. Acknowledgements

The Hungarian National Focal Point, Hungarian Police, the Hungarian Institute for Forensic Sciences, Drug Investigation Department and the Joint Research Centre (JRC) are kindly acknowledged for the information and analytical data provided.

10. Attachments

None.

11. References

[1] EMCDDA initial report on the new psychoactive substance methyl 3,3-dimethyl-2-(1-(pent-4-en-1-yl)-1*H*-indazole-3-carboxamido)butanoate (MDMB-4en-PINACA). 2020.
https://www.emcdda.europa.eu/publications/initial-reports/mdmb-4en-pinaca_en
[2] EMCDDA technical report on the new psychoactive substance methyl 3,3-dimethyl-2-{[1-(pent-4-en-1-yl)-1*H*-indazole-3-carbonyl]amino}butanoate (MDMB-4en-PINACA). 2020.
https://www.emcdda.europa.eu/publications/technical-reports/technical-report-mdmb-4en-pinaca_en

[3] EMCDDA risk assessment report on the new psychoactive substance 3,3-dimethyl-2-{[1-(pent-4-en-1-yl)-1*H*-indazole-3-carbonyl]amino}butanoate (MDMB-4en-PINACA). 2020. https://www.emcdda.europa.eu/publications/risk-assessments/mdmb-4en-pinaca_en
[4] https://eur-lex.europa.eu/eli/dir_del/2020/1687/oj
[5] https://www.who.int/docs/default-source/controlled-substances/43rd-ecdd/mdmb-4en-pinaca-review-2020.pdf?sfvrsn=5cd6e97e_4
[6] https://www.npsdiscovery.org/wp-content/uploads/2021/08/New-Systematic-Naming-for-MDA-19-and-Related-Analogues_NPS-Discovery_083121.pdf