

## Miglik Marion

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**Von:** Kurtulus Sümeyye  
**Gesendet:** Mittwoch, 8. April 2020 11:59  
**Betreff:** WG: EWS\_EU

Sehr geehrte Damen und Herren,

im Rahmen des EWS übermitteln wir Ihnen die beiliegenden Informationen und ersuchen Sie, diese in Ihren Einrichtungen weiterzuleiten und – sollten Sie Informationen aus Ihren Bereichen dazu erhalten – diese an die GÖG via E-Mail-Adresse [ews@goeg.at](mailto:ews@goeg.at) rückzumelden.

Mit freundlichen Grüßen

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**Sucht- und Drogenkoordination Wien gemeinnützige GmbH**  
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**Von:** \*EXTERN\* Susanna Dorner-Schulmeister [mailto:[Susanna.Dorner@goeg.at](mailto:Susanna.Dorner@goeg.at)]  
**Gesendet:** Dienstag, 7. April 2020 09:31  
**An:** Ews  
**Betreff:** EWS\_EU

Sehr geehrte Fachleute!

Anbei leite ich Ihnen aktuelle Informationen aus dem europäischen EWS (EMCDDA) weiter.  
Es wurde folgende neue psychoaktive Substanz in Schweden identifiziert:

**Subject:** Formal notification of **N-(2,6-dimethylphenyl)-2-(2-oxopyrrolidin-1-yl)acetamide (nefiracetam)** by Sweden as a new psychoactive substance under the terms of Regulation (EU) 2017/2101

**Common name:** nefiracetam, **Substance classification:** Other

Chemical classification: azacyclic; pyrrole; pyrrolidone **Nefiracetam** is a racetam containing a pyrrolidone core and a cyclic derivative of  $\gamma$ -aminobutyric acid (GABA). **Nefiracetam** shares structural similarities with other racetams, such as piracetam and aniracetam. **Nefiracetam** and 4-AcO-DMT are structural isomers. Solid state forms of **nefiracetam**, a monohydrate and two polymorphic phases of the anhydrate form have been identified and characterized from a structural and thermodynamic perspective to evaluate the potential use of these forms in alternative formulations. Pharmacological classification: unclassified;

**Nefiracetam** was synthesized by Natterman in Germany and then developed by Daiichi Pharmaceutical Co. Ltd., Japan, in the 1990's, as a therapeutic drug for dementia. **Nefiracetam** (DM-9384), like some other racetams, is considered a cognition-enhancing agent or nootropic, with reported anti-amnesic properties. **Nefiracetam** has been reported to have neuroprotective, antidepressant, antinociceptive, and anticonvulsant effects, as well as cognition-enhancing effects. It is suggested that the cholinergic and GABAergic systems play a role in the reported effects of nefiracetam. Electrophysiologic and neurochemical studies have demonstrated that nefiracetam activates N/L-type  $Ca^{2+}$  channels, and cholinergic, monoaminergic, and  $\gamma$ -aminobutyric acid (GABA)-ergic systems. Unlike other racetams, such as sunifiram and oxiracetam, studies demonstrated that nefiracetam has a high affinity for the GABAA receptor ( $-\log IC_{50} = 8.07$  M). **Nefiracetam** may increase GABAergic neurotransmission by promoting processes such as the biosynthesis, uptake and release of the transmitter. **Nefiracetam** was found to have a delayed effect on brain monoaminergic metabolism. After chronic administration of nefiracetam (10 mg/kg, po, once daily), the levels of MHPG (metabolite of noradrenaline), DOPAC (metabolite of dopamine), and 5-HIAA (metabolite of serotonin) were higher than the control in all regions (mouse hippocampus, frontal cortex, hypothalamus, and striatum) on the 14th day only. Acute administration of nefiracetam (10 mg/kg, po) had no effect on the levels of noradrenaline (NA), dopamine (DA), or 5-hydroxytryptamine (5-HT), or on the levels of their metabolites. **Nefiracetam** has been investigated in trials in patients with dementia secondary to cerebrovascular disorders. Mean total scores for the Hasegawa Dementia Rating Scale (HADRS), which measures cognitive function, increased significantly overall in patients receiving long term nefiracetam therapy (up to 1 year) in 2 studies. In one of these studies, adverse effects were reported by six of 59 patients (10.2%): mild to moderately severe epigastric pain (1 patient), skin rash (4) and dizziness (1). No symptoms suggesting drug dependence have been observed in a rat model of psychological and physical dependence. **Nefiracetam** is extensively metabolized and its major metabolites in humans are 5-hydroxy-nefiracetam, 4-hydroxy-nefiracetam and N-[(2,6-dimethylphenylcarbamoyl)methyl]succinamic acid. Elimination half-life of the metabolites is approximately 8 to 22 hours. After single oral doses, 10 to 1200mg of nefiracetam administered to 39 healthy volunteers, peak plasma concentrations ( $C_{max}$ ) were reached within 2 hours ( $t_{max}$ ). The elimination half-life was reported as 3 to 5 hours.

Type: Seizure; Case Report identifier: EDND-CR-2020-62; nefiracetam was identified in 14.6 grams of white powder seized by Swedish Police in Uppsala, on 6 August 2014. The substance was analytically confirmed using GC-MS and NMR by the Swedish National Forensic Centre (originally the National Laboratory of Forensic Science).

Es wurde folgende neue psychoaktive Substanz in den Niederlanden identifiziert:

**Subject:** Formal notification of **2-(1H-indol-3-yl)-N-methyl-ethanamine (N-methyltryptamine)** by the Netherlands as a new psychoactive substance under the terms of Regulation (EU) 2017/2101

**Common name:** N-methyltryptamine, **Substance classification:** Tryptamine

Chemical classification: arylalkylamine; indole alkylamine; tryptamine **N-methyltryptamine** (NMT) is a tryptamine and a structural isomer of AMT ( $\alpha$ -methyltryptamine), 5-IT and 6-IT. AMT was critically reviewed by the Expert Committee on Drug Dependence (ECDD) in 2014 and was recommended for surveillance, mainly due to the lack of data regarding dependence, abuse and risks to public health. 5-IT was risk-assessed in 2015 and subsequently subject to EU-control measures; 6-IT was formally notified in 2016. The identification and discrimination of these isomers can pose analytical challenges due to the fact that these substances have the same molecular weight and similar fragmentation patterns. The isomers of **N-methyltryptamine**, 5-IT and AMT, have been reported to produce virtually identical mass spectra, especially when applying conventional Electron Impact-Mass Spectrometry (EI-MS) procedures. **N-methyltryptamine** is also a lower homologue of the internationally controlled substances DET (3-[2-(diethylamino)ethyl]indole) and DMT (3-[2-

(dimethylamino)ethyl]indole) (Schedule II of the 1971 United Nations Single Convention on Psychotropic Substances). **N-methyltryptamine** has been found in the bark, shoots and leaves of several species of Virola, Acacia and Mimosa. **N-methyltryptamine** has also been identified in the leaves of Psychotria viridis, P. aquatica, M. ophthalmocentra, as well as in samples of ayahuasca. The synthesis of **N-methyltryptamine** (compound #50) was described in Tryptamines I have Known And Loved (TIHKAL). A study of a DMT synthesis route proposed online, the 'Breath of Hope Synthesis', identified trace amounts of **N-methyltryptamine** but not DMT in the final product, using LC-MS. NMR, HRESIMS and GC-MS analysis of N-methyltryptamine has also been reported.

Pharmacological classification: hallucinogen; N-methyltryptamine can be synthesised in the human body from tryptamine and **N-methyltryptamine** can subsequently act as a substrate for indolethylamine-N-methyl-transferase (INMT), producing DMT. In the commentary on **N-methyltryptamine** in TIHKAL, Shulgin noted that there had been no reports of oral activity. A single report documented that 'smoking of 50–100 mg gave visuals that lasted for maybe 15 seconds', suggesting that **N-methyltryptamine** may elicit mild psychoactive effects. In a study investigating the interaction of psychoactive tryptamines with biogenic amine transporters and serotonin receptor subtype in rat brain, **N-methyltryptamine** was found to have 5-HT releasing activity and also displayed releasing activity at dopamine (DA) and norepinephrine (NE) transporters, although with much lower potency when compared to activity at the 5-HT transporter (SERT). **N-methyltryptamine** was reported to be a potent and efficacious 5HT2A agonist, with a reported EC50 of 1.9 nM and 96% efficacy, as measured in a calcium mobilization assay, however, **N-methyltryptamine**, like DMT, did not promote the recruitment of  $\beta$ -arrestin. **N-methyltryptamine** reportedly affected the release of DA, 5-HT and their metabolites in a study to determine the changes of DA, 5-HT and their metabolites in brain microdialysates from rats following exposure to 11 new psychoactive substances.

Type: collected sample; Case Report identifier: EDND-CR-2019-4967; **N-methyltryptamine** was identified in a sample of white-beige powder collected by the Drugs Information & Monitoring System (DIMS) on 1 February 2018. The substance was analytically confirmed using GC-MS and LC-DAD by DIMS. The internationally controlled substance DMT was identified as the main component in the sample.

Sollten Ihnen zu einer dieser Substanzen Informationen aus Österreich vorliegen, bitten wir Sie diese an uns weiterzuleiten.

Mit freundlichen Grüßen  
Susanna Dorner-Schulmeister

Informations – und Frühwarnsystem über besondere Gesundheitsgefahren im Zusammenhang mit Substanzkonsum

Aktuelle Informationen und Warnungen: <https://forum.goeg.at/ewsforum/>

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