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I-TREND Substance briefing: 4-HO-Met

This technical folder provides information on 4-HO-Met. The information provided is based on a number of existing data sources and work undertaken as part of the I-TREND project. Research informing the folder includes an analysis of user discussions on popular Polish drug forums, an analysis of marketing on popular Polish web shops selling the substance, and scientific laboratory analysis of the compound through test purchasing of the substance from Polish web shops.

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1. Substance name(s)

Chemical name: 3-(2-(ethyl(methyl)amino)ethyl)-1H-indol-4-ol

Other names (e.g. popular/street/slangname(s)): 4-hydroxy-N-methyl-N-ethyltryptamine; metocin;
3-{2-[ethyl(methyl)amino]ethyl}-1H-indol-4-ol

Branded products containing the compound:

2. Classification and effect

Substance analysis results:

Polish drug forum monitoring: Tryptamine

Polish web shops marketing:

Poland web shop analysis found no web shop advertised branded products as containing 4HO-MET substance.

3. Legal status and identification of the substance

Legal status/acts/laws in Polish: Not controlled as a narcotic drugs or psychotropic substances by Polish law. As such, it is not listed in the schedules of drugs of act of counteracting drug addiction (the main drug law). The possession and trafficking is not punishable by criminal sanctions.

But the substance, as all NPS is controlled as substitute drug (*środek zastępczy*). Its manufacturing and introducing to trade is forbidden in territory of Poland under punishment of fine ranging from 20000PLN (~4600 euro) to 1000000 PLN (~230.000 euro).

EMCDDA Notifications of 4-HO-Met

4-HO-MET was first reported to EMCDDA by Sweden in 2007. In December 2010 the substance was identified for the first time in Poland. The substance has been reported to the EMCDDA by the following EU countries:

Country	Date
Sweden	2007
Finland	2008
Poland	December 2010
Bulgaria	July 2011
Norway	December 2011
Belgium	July 2014
Spain	April 2015
France	May 2015

4. Photographs of the substance

Images used in the marketing of the product on the web shops the compound was purchased:

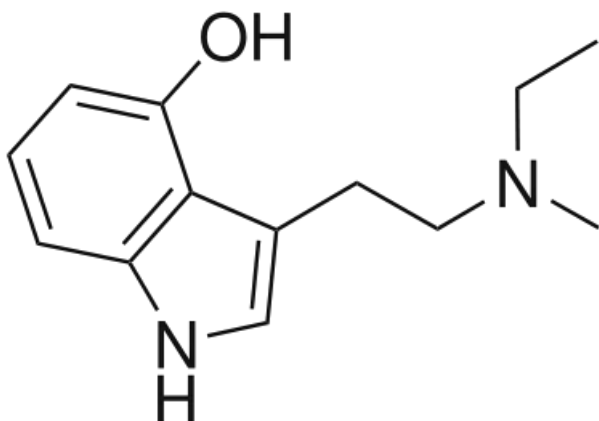


5. Chemistry

Chemical Abstracts Service (CAS) registry number: 77872-41-4

Chemical information (other chemical names or variants):

Structure (picture of structural formula):



Molecular formula: C₁₃H₁₈N₂O

Molecular weight: 218.29 g·mol⁻¹

Structural comparison with a related substance

6. Analytical composition: results of substance analysis carried out on samples purchased online

(PL IPIP address web shops)

Details of laboratory analysis technique used:

Web shop	Date of purchase	Form	Substance named on package/web shop	Confirmed substances
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7. Price and marketing strategies on Polish web shops selling 4-HO-MET

Compound Prices: Powder

	Polish zloty	Quantity
Minimum price	None information	None information
Maximum price	None information	None information

Description of availability and marketing strategies on Polish web shops selling the:

The 4-HO-MET substance was not found on any web shop selected for web shops marketing analysis¹.

8. Law enforcement and health data

Number of law enforcement seizures in Poland in 2013/2014: 14 in 2013 and 6 in 2014

EMCDDA health alerts in Poland: 0

Confirmed deaths and acute cases reported in Poland: 0

9. User experiences of the substance: results from an analysis of discussions in 3 Polish Drug Forums

Four topics were devoted to 4-HO-MET and two were selected for analysis. The rest of the topics did not contain any relevant information and were short.

¹ The total number of web shops selling new synthetic drugs for Poland (16.3.2015) was 74. (For detail information about methodology of monitoring and selecting the web shops see methodology on <http://www.i-trend.eu/>). For the marketing analysis we chose 15% of the most popular web shops from Polish list of shops. The shops operating on platform otwarte24.pl and shops which provide just bulk/wholesale order were removed from our selection. In addition another 6 web shops, previously chosen for the purchase of substances, were added to the marketing analysis. The final number of web shops used for analysis was 15. For latter analysis, we use only shops where product was available.

Both topic originated from <http://hyperreal.info/talk>. The first topic was devoted exclusively to 4-HO-MET and was created in August 2013. The number of posts increased from 14 in September 2013 to 471 in December 2014. The number of views increased from 652 in September 2013 to 25873 in December 2014. The second topic was devoted to two substances – 4-HO-MET and 4-AcO-DMT. For this topic the number of posts did not increased because it was blocked by moderators. The number of views increased from 256854 in September 2013 to 272192 in December 2014.

Dosage specified by drug forum users (n = 37 posts, 24 users)

Besides unspecified dosages, some references are related to different ROA due to assumption in case of rectal or in muscle/in vain administration the substance absorb faster and stronger than in case of oral or nasal route of administration. Also the type of salt used diversifies the absorption level (for example, higher in case of nasal administration when salt of hydrochloride is being used, alike – nasal and oral route of administration – when salt of fumorate is being used).

- **light (9 references by 4 users):** 10-20mg [oral and nasal: 15-20mg (very light: 5-15mg); rectal: 15-20mg (very light: 5-15mg); in muscle: about 5mg; in vain: about 5mg].
- **common (19 references by 14 users):** 25mg (20-30mg) [oral, nasal and rectal: 20-25mg; in muscle: 10-15mg; in vain: 7-12mg].
- **strong (14 references by 8 users):** 30-45mg [oral and nasal: strong – 35-45mg, very strong – 40-50mg, to strong – more than 45-50mg; rectal: strong – 25-30mg, very strong – 35-45, to strong – more than 45mg; in muscle: strong – 15-20mg, very strong 20-25mg, to strong – more than 25mg; in vain: strong 10-12mg, very strong – 12-15, to strong – more than 15mg).
- **initial (1 reference by 1 user):** 12-15mg
- **boosting (1 reference by 1 user):** 20-25mg
- **threshold (2 references by 1 user):** regular dosage of 25mg (in user's opinion there is no need to make allergic tests)

The substance seems not to be frequently and willingly boosted by successive dosages.

Duration (n = 23 references by 6 users discussion)

Total duration of 4-HO-MET depends on ROA and it's being described as between 4-6 hours in case of ingestion and 2-4 hours in case of injection. First effects appear the fastest in case of injection (in vein, a little slower in muscle), than rectal, snorting and the slowest in case of ingestion (when onset also depends on filling of a stomach).

- **Onset (4 references by 4 users): 5 to 45 minutes**
- **Coming up (3 references by 3 users): 45 to 90 minutes**
- **Plateau/peak (3 references by 3 users): 90 to 150 minutes**
- **Coming down (4 references by 4 users): 150 minutes to 360 minutes**
- **After effects (2 references by 2 users): not noticed**
- **Hangover (1 references by 1 users): not noticed**

Effects (n= 50 references reported by forum users 32 (n = .. discussions)

Physical effects (n = 26 references by 19 users.):

Desired

The substance is mentioned to be moderately safe and not much physically addictive, causing only few side effects (it was once called a "candy psycho"). In the opinion of users, the substance is also one of the softest psychedelic drugs: it causes relatively weak body load, insignificant coming down and hangover, doesn't cause problems with falling asleep.

Undesired

body load (especially during onset, decreasing just before or just after peak), dilated pupils (sometimes stare), nausea, vomiting (especially when the dosage is too high), feeling cold, increased body's temperature (fever) and sweats (hyperhidrosis), possible shivers, high blood pressure and heart rate, salivation, jaw clenching, yawning, lack of appetite and sex appeal, vasoconstriction; cardiological problems when mixed with marijuana or other cannabinoids.

Psychological effect (n = 41 references by 21 users.)

Desired

Using 4-HO-MET, in opinion of users, doesn't cause addiction due to tolerance growing, trips (good

or bad alternately) and unwillingness of boosting. Close eyes visualizations (often) and open eyes visualizations (less often): abstract shapes, neon-like patterns, fractals, glow around objects, jitters; colors oscillating between blue, green and sometimes red; “beautiful” 3D visualizations.

Modified perception and intensification of feelings, also in case of music – often mentioned to be extremely important in course of using the substance; synesthesia.

Improved well-being, moderate euphoria and affirmation of life, willingness to talk and laugh, awe and admiration over ordinary objects and situations.

The substance’s influence is mentioned to be the worthiest at home (while spending time talking or listening to the music) or outside (during travels and walks – alone or with friend, also accompanied with music).

Undesired

The substance is not recommended for people already suffering from psychological and emotional problems as using 4-HO-MET may enhance them and the effect of coming down may last longer.

It may cause perceptual distortions (in case of: distance, time, space) and thought loops (“mindfuck”). Users claim also to feel strange in their own body under the influence of 4-HO-MET.

Mood swings are also being observed frequently in relation to switching trips (good to bad and opposite).

Sought/expected (n=3 references by 3 users)

The same as in case of other hallucinogens: visualizations with open (often) and closed (less often) eyes, resembling abstract shapes, neon patterns, sometimes fractals, glow around objects and trembling; modified perception, intensification of feelings (colors, tastes, sounds); synesthesia; affirmation and joy of life, moderate euphoria. 4-HO-MET is perceived as a soft hallucinogen.

The most important intended effects - online survey result: (n= 26, several answers are possible)

To bond with others, to socialize
To get high
(sexual performances not)
To improve sexual intercourse
To increase the positive effects of another drug
To reduce the negative effects of another drug
To modify perception
To soothe pain
To allay or alleviate anxiety
To fight sleeplessness
To fight tiredness
To relax
to stimulate the brain activity for learning or work
others

4-HO-MET	65,4 %	38,5 %	,0%	15,4 %	15,4 %	,0%	76,9 %	15,4 %	3,8%	3,8%	7,7%	42,3 %	3,8%	7,7%
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Tolerance: (4 references by 3 users)

Tolerance is caused by 5HTx receptor agonist, but it grows slower than, for example, in case of MDMA. Using 4-HO-MET in small few-days intervals may result in lack of psychedelic effects (visualizations) or in turning into a different type of trip (one user claimed to feel joyful, self-concentrated and relaxed with beautiful visualizations during his first use and to feel sad and nervous without any visualization – just talking about lack of meaning of his and other beings life – during second use few days later).

Tolerance of 4-HO-MET seems to last short – about 1 to 2 weeks. After that period users recommend to use the substance again with assurance of achieving sought effects.

Route of administration (n = 36 references by 9 users.discussions)

There are four methods of using 4-HO-MET mentioned: rectal (1 reference by 1 user) – smaller dosage than in case of oral or nasal ROA, but higher than in case of injection, is needed to achieve the same effects; ingestion (5 references by 3 users) – oral (the substance is best absorbed as a hydrochloride salt) or buccal (not recommended due to the horrible taste); snorting (5 references by 4 users) – the substance is best absorbed as a salt of fumurate; and the most popular – injection (12 references by 6 users) – where the smallest dosages are needed to achieve same effects. Within injection, there were two specified methods pointed: in vein (4 references by 3 users) and in muscle (5 references by 5 users).

Route of administration – results of online-survey (n= 26, several answers are possible)

	Smoking	Waterpipe	Bong	Vaporizer	Chasing the dragon	Sublingual	Ingestion	Snorting	Rectal	Injection
4-HO-MET	3,8%	3,8%	,0%	,0%	,0%	19,2%	65,4%	23,1%	7,7%	3,8%

Other substances referred to when discussing (n = 84 references by 23 users discussions)

- **Comparable effects (13 references by 10 users):**
 - 4-AcO-DMT: very similar and willingly compared in almost all aspects: appearance, effects, duration, preparation, ROA, tolerance, dosing...; users claim 4-HO-MET is much “softer” than 4-AcO-DMT – causing smaller body load, giving less visual effects (especially in case of open-eyes visualizations – OEV), causing less expressive “mindfuck” (thought loops), affecting weaker mental sphere.
 - Other psychedelic hallucinogens (4-HO-MET is much softer – “a candy psycho”, even boring for some more experienced users)
 - MDMA (as 4-HO-MET “drains” less serotonin)
 - DXM (as 4-HO-MET gives greater clarity of thoughts)
 - 25I-NBOMe (visualizations in different colors: lighter gold and orange in case of 25I-NBOMe and darker blue, green, sometimes red in case of 4-HO-MET; 4-HO-MET gives weaker OEV’s but greater “depth and finesse”).
- **Other substances in the same session (14 references by 11 users):**
 - other psychedelic hallucinogens with the same duration (2c-x, 4-xx-xxT, xxT, x-NBOxx)
 - iMAO (mephedrone, 2c-t-x, aMT) – users recommend to reduce the dosage of 4-HO-MET by half
 - dissociatives (ketamine, MXE, very often DXM) – very strong mix, enhance psychodelic effects; may cause temporary amnesia
 - euphorics (MDMA, MDA, benzofurans, MDAI) – very euphoric mix, greater visualizations but also thought loops (“mindfuck”)
 - marijuana – enhances psychedelic effects, soothes mental sphere, but may cause nausea.
 - alcohol or codeine/PST – soothes mental sphere, turns trip into positive, gives euphoria; but significantly soothes also psychedelic effects and mental sphere
 - DOX – due to significantly different duration (much longer for DOX), burdensome pure stimulation lasts for hours after 4-HO-MET stops working
 - synthetic cannabinoids – enhance the trip but introduces chaos, may cause cardiovascular problems; it’s hard to measure a proper dosage and overdose it.

- **Substances used to enhance effects (7 references by 3 users):**
 - dissociatives (ketamine, MXE, especially DXM)
 - euphorics (MDMA, MDA, benzofurans, MDAI)
 - marijuana
 - synthetic cannabinoids

- **Substances used to manage negative effects (6 references by 4 users):**
 - antipsychotics (like Chlorprothixene)
 - benzodiazepines (like Clonazepam)
 - alcohol
 - codeine/PST

- **Anthagonists (9 references by 8 users):**
 - amphetamine and cathinones – enhanced pure stimulation, nervousness, raised blood pressure, possible panic attacks, bad trip possible, long-lasting and hard after effects
 - Tramadol – possible epileptic seizures
 - synthetic cannabinoids – controversial mix, may cause cardiovascular problems, it's hard to control the dosage

Appearance and preparation (n = 5 references by 3 users discussions)

It's not recommended to measure the substance without the scales if injection is the intended ROA. In this case – it's rather instructed to choose ingestion (no preparation needed) or (if the person is absolutely sure about the quality and quantity of the substance sold by concrete vendor) to dissolve the substance in ethanol (96%), store it in a freezer and to use the whole solution in 2-4 weeks. If the substance is dissolved in water or vodka – it has to be used the same day due to fast degradation of the substance.

About 20-25ml of liquid is needed to dissolve 1g of the substance. The substance and liquid should be put into the glass and mix until it completely dissolves. If the substance cannot dissolve, the glass can be placed in a bowl of warm water (max. 30-40°) and then mixed.

Many users recommend to use the substance on an empty stomach if the substance is meant to be ingested.

APPEARANCE OF THE SUBSTANCE (6 references by 4 users)

- **Color:**
 - fine, acceptable: white, light-beige, light-grey (probably turns darker in time)
 - crude, not acceptable: dark-beige or dark-grey to dark-brown or black
- **Structure:**
 - fine, acceptable: pure powder or crystal
 - crude, not acceptable: grease
- **Smell:**
 - fine, acceptable: odorless
 - crude, not acceptable: smells badly
- **Taste:** bitter (but not acrid)

4-HO-MET occurs as a salt of hydrochloride or salt of fumarate and it should be white to light-beige (light-grey). Freebase looks like crude product and may be brown with a structure resembling butter, but it's rather not being sold in this form (as freebase turns dark fast and it's not suitable for storing).

Patterns/Frequency of use (n= 5 references posts by 4 users discussion, forum)

During the days (week)

Users claim to use 4-HO-MET mostly occasionally (once a few-weeks or less often), especially due to tolerance lasting 1-2 weeks, also in case of different than 4-HO-MET psychedelic substances.

During one event

Vast majority of users claim not to feel need of boosting dosages during the course of use. An average dosage is about 25 mg and it's rather taken once during one event.

Context of consumption use (n= 26 users – results of online survey)

Last time when using the substance which you selected, what were circumstances?

	Alone at home	With friends at your or their home	Alone in a club, pub or at a party	With friends in a club, pub or at a party	Alone outside/in the countryside	With friends outside/in the countryside	At school/work	Other circumstances
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4-HO-MET	23,1%	23,1%	,0%	11,5%	,0%	42,3%	,0%	,0%
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User's views and experiences on the online market use (n= 26 online survey)

During the last 12 months, on how many different online shops have you ordered?

	Frequency	Percent
1	3	27,3%
2 to 5	5	45,5%
5 to 10	1	9,1%
More than 10	2	18,2%
Total	10	100%

Which were the most important criteria for you when you selected the shops in the last 12 months?

(no more than 5)

	Frequency	Percent
I followed the advice of other users	7	26,9%
I had a good experience with the shop already	6	23,1%
Its use the site of a Secure payment method	3	11,5%
Good profile at pages where client share their experience (fe.; SafeOrScam)	5	19,2%
It is specialized into one substance	0	0,0%
this was cheaper than other online shops	2	7,7%
The New Psychoactive Substance are of better quality than other online shops	8	30,8%
The New Psychoactive Substance are shipped in discrete packets	4	15,4%

The shipment was more reliable than other sites	2	7,7%
The New Psychoactive Substance I was looking for was not available in other online shops	3	11,5%
No online shop sends to my country the New Psychoactive Substance I was looking for	0	0,0%
No specific criterion	0	0,0%
Other	0	0,0%

Population: only users, who ordered NPS during last 12 months

Where did you look for information about New Psychoactive Substance? (*several answers are possible*)

	Frequency	Percent
from an online shop	5	19,2%
from a web forum	14	53,8%
from friends / family / acquaintances	8	30,8%
I don't need any information	2	7,7%
from my dealer	3	11,5%
from TV/radio	1	3,8%
from newspapers, magazines	0	0,0%
I don't have any information	2	7,7%
Other	6	23,1%

Population: only users, who ordered NPS during last 12 months

Harm reduction advice provided by online peers (n=20 references by 5 users)

Harm reduction messages oscillate between advices and warnings about: choosing ROA on the basis of experience; verifying if the substance is fine (pure); managing the coming-down, overdosing and negative trips; diseases precluding 4-HO-MET use.

Warnings (7 references by 4 users)

Crude substance may cause side effects like problems with: neurological system, circulatory system,

digestive system, urinary track; can also be carcinogenic. The lower limit of fineness is white or light-beige powder with a very subtle fragrance or odorless.

Overdosing may result in physical and psychological problems lasting much longer than duration of the substance. If a person already suffered from mental and emotional problems, it's not recommended to use 4-HO-MET. If a person suffers from cardiological problems, it's also inadvisable to use it as this substance increases blood pressure and heart rate.

Advice (7 references by 4 users)

Crude substance may cause side effects like problems with: neurological system, circulatory system, digestive system, urinary track; can also be carcinogenic. The lower limit of fineness is white or light-beige powder with a very subtle fragrance or odorless.

Overdosing may result in physical and psychological problems lasting much longer than duration of the substance. If a person already suffered from mental and emotional problems, it's not recommended to use 4-HO-MET. If a person suffers from cardiological problems, it's also inadvisable to use it as this substance increases blood pressure and heart rate.

Relevant literature

Shulgin, Alexander; Ann Shulgin (September 1997). TiHKAL: The Continuation. Berkeley, California: Transform Press. ISBN 0-9630096-9-9. OCLC 38503252