



Critical Review Report: 5-MEO-DALT

Expert Committee on Drug Dependence

Forty-third Meeting

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Executive summary

The method for synthesizing 5-MeO-DALT was first published in 2004 on Erowid, an online drug user forum (1), and it was identified as a new psychoactive substance in the European Monitoring Centre for Drugs and Drug Addiction Early Warning System in 2007 (2). It is a ring-substituted *N,N*-diallyltryptamine that is most often purchased online through the “research chemical” market.

5-MeO-DALT binds to many different types of receptors. It has similar binding affinities (<10 nM) for all of the serotonin (5-hydroxytryptamine; 5-HT) receptor subtypes, and similarly high affinities at adrenergic α_{2A} , α_{2B} , α_{2C} , histamine H₁ and H₃, kappa opioid receptors, σ_1 and σ_2 receptors, as well as the dopamine and serotonin receptor transporters (DAT and SERT (3)). In rodents, 5-MeO-DALT produced dose-related increases in locomotor activity and fully substituted for the (-)-2,5-dimethoxy-4-methylamphetamine (DOM), but not the \pm -3,4-methylenedioxymethamphetamine (MDMA) discriminative stimulus (4). Overall, 5-MeO-DALT produced discriminative stimulus effects that were more similar to a classical hallucinogen – DOM – than an enactogen like MDMA, which has both stimulant and hallucinogenic effects. However, unlike DOM, 5-MeO-DALT also increased locomotor activity, which was more similar to MDMA. Furthermore, 5-MeO-DALT produced an inverted U-shaped dose–response curve in mice for the head-twitch response, which occurs following activation of 5-HT_{2A} receptors (5).

Fatalities have seldom been attributed directly to 5-MeO-DALT although a few case reports have reported the substance in confiscated drugs and in human body fluids. It appears to be used most often via the oral route of administration although it is also reportedly used by other routes such as smoking and insufflation. It currently has no legitimate medical or veterinary uses and is only available commercially for research and industrial purposes. Overall, the data currently available on 5-MeO-DALT suggest that it has abuse potential.

1. Substance identification

A. International Nonproprietary Name (INN)

5-MeO-DALT

B. Chemical Abstract Service (CAS) Registry Number

928822-98-4

1370252-04-2 (HCl)

C. Other chemical names

5-methoxy-*N,N*-diallyltryptamine

tryptamine, *N,N*-diallyl-5-methoxy

indole, 3-[2-(diallylamino)ethyl]-5-methoxy

3-[2-(diallylamino)ethyl]-5-methoxyindole

5-methoxy-*N,N*-di-2-propen-1-yl-1H-indole-3-ethanamine

N,N-diallyl-5-methoxytryptamine

5-methoxy-*N,N*-diallyl-1H-indole-3-ethanamine

N-allyl-*N*-(2-(5-methoxy-1H-indol-3-yl)ethyl)prop-2-en-1-amine

D. Trade names

5-methoxy DALT

E. Street names

Foxtrot

Lucy-N-Nate

Purple Bomb

Psychedelic crack

5-MeO-DALT

5-methoxy DALT

DALT

Meo-dalt-5

Street names for substances that contained 5-MeO-DALT in combination with other substances include: Street Magic (combined with caffeine and ethylphenidate), Black Mamba, Formula X, Project X, Dizzle Dust, Street Magic, B2, B3, Magic, iMerge, Purple Bombs Extreme, Banshee Dust, Blue Snowball, MM1, NRG-2, Bubble, NRG-3, Red Part Mix, Blue Party Mix and N Madcat.

F. Physical appearance

5-MeO-DALT is a solid, crystalline powder. Its colour has been described as white, off-white, grey, or light brown/tan. It has also been identified in yellow, purple or green tablets on the illicit drug market.

G. WHO review history

5-MeO-DALT has not previously been reviewed by the WHO Expert Committee on Drug Dependence.

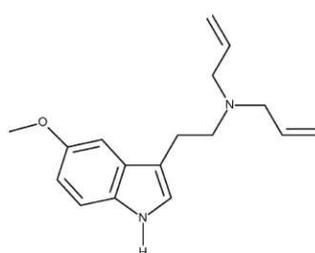
2. Chemistry

A. Chemical name

IUPAC name: *N*-[2-(5-methoxy-1*H*-indol-3-yl)ethyl]-*N*-prop-2-enylprop-2-en-1-amine

CA Index name: Not found

B. Chemical structure



Molecular formula: C₁₇H₂₂N₂O

Molecular weight: 270.37 g/mol

5-MeO-DALT is a ring-substituted *N,N*-diallyltryptamine whose crystalline structure was described recently (6).

C. Stereoisomers

No descriptions of 5-MeO-DALT stereoisomers were found in the scientific literature.

D. Methods and ease of illicit manufacturing

The illicit manufacture of 5-MeO-DALT was first described by Shulgin & Shulgin in 2004 and published on Erowid (1). Synthesis of 5-MeO-DALT was subsequently described by Cozzi & Daley (3) as follows: “using the method of Speeter and Anthony, the 5-substituted-glyoxylamides (1b–6b) were obtained by acylation of the 5-substituted-indoles (1a–6a) with oxalyl chloride, followed by reaction with *N,N*-diallylamine to give the 5-substituted-*N,N*-diallylglyoxylamides (1c–6c). The *N,N*-diallylglyoxylamides were rapidly reduced to the *N,N*-diallyltryptamines (1–6) using lithium aluminum hydride in sealed glass tubes under microwave-accelerated conditions as described.”

E. Chemical properties

Boiling point

422.8 °C ± 45.0 °C at 760 mmHg

(Obtained from an online chemical structure database – Chempider (8).)

F. Identification and analysis

5-MeO-DALT is a structural analogue of DALT and 5-MeO-DIPT. Various analytical tests have been used to identify 5-MeO-DALT, including a selective reagent ionization–time of flight-mass spectrometry (SRI-ToF-MS (9)) method. Strano-Rossi et al. (10) used single quadrupole gas chromatography–mass spectrometry (GC-MS), followed by liquid chromatography–high-resolution mass spectrometry (LC-HRMS) in the positive electrospray ionization (ESI) mode at 100 000 full width at half maximum resolution (FWHM) without fragmentation to identify 5-MeO-DALT. Several other techniques, such as nuclear magnetic resonance spectroscopy (NMR), gas chromatography (GC) quadrupole and ion trap (EI-CI) mass spectrometry (MS), low and high mass accuracy MS/MS, photodiode array detection and GC solid-state infrared analysis, used to identify *N,N*-diallyltryptamines were described in detail by Brandt et al. (11).

3. Ease of convertibility into controlled substances

No reports of conversion of 5-MeO-DALT into other controlled substances were found.

4. General pharmacology

A. Routes of administration and dosage

Information from drug user forums indicates that 3-FPM is used orally or smoked (12, 13). Oral doses purportedly range between 4 mg and 35 mg or more: common doses are 12–25 mg and strong doses are 25–35 mg. Vaporized doses range between 3 mg and 15 mg or more: common doses are 5–10 mg and a strong dose is 15 mg. 5-MeO-DALT appears to be used most commonly by the oral route.

Intravenous, intranasal and rectal use of 5-MeO-DALT has also been reported but the amounts used by these routes were not specified (14).

B. Pharmacokinetics

The primary metabolic pathways for 5-MeO-DALT are *O*-demethylation, hydroxylation, and *N*-deallylation (15, 16). Twenty phase I and eight phase II metabolites were identified in vivo in Wistar rats (16) and an additional eight phase I metabolites were identified in the zygomycete fungus *Cunninghamella elegans* (15).

Information from drug user forums indicates that the duration of action of 5-MeO-DALT is 2–6 hours when used orally, with an onset of action of less than 15 minutes (1, 12, 13). When smoked, the duration of action of 3-FPM is 15–20 minutes with an onset of action within 15–60 seconds. The following doses and perceived

effects, which varied depending on the route of administration, were reported in drug user forums: 4–5 mg (threshold), 5–35 mg (light), 40–100 mg (strong).

C. *Pharmacodynamics*

Radioligand binding assays in rat brain membranes demonstrated that 5-MeO-DALT binds to 5-hydroxytryptamine (5-HT) receptor subtypes (17). It had the highest affinity at 5-HT_{2B}, 5-HT₆ and 5-HT₇ receptors, and the least affinity for 5-HT_{2A} and 5-HT_{2C} receptors (17). Although one study of monoamine uptake and release showed that 5-MeO-DALT had no activity at dopamine, norepinephrine and serotonin receptors in rat brain synaptosomes (18), another study demonstrated that 5-MeO-DALT stimulated G protein binding using the [³⁵S]GTPγS binding assay (19). The half maximal effective concentration (EC₅₀) value was 6.6×10^{-7} M and the percentage of maximum 5-HT activation (% E_{max}) was 39.6, indicating high potency and efficacy at 5-HT receptors relative to the other drugs tested, including several tryptamines (19).

A more recent study examined the binding affinities of 5-MeO-DALT for several different receptor classes and subtypes (3). These data demonstrate that 5-MeO-DALT has similar binding affinities (<10 μM) for all of the 5-HT receptor subtypes, and similarly high affinities at adrenergic α_{2A}, α_{2B}, α_{2C}, histamine H₁ and H₃, kappa opioid receptors, σ₁ and σ₂ receptors, as well as the dopamine and serotonin receptor transporters (DAT and SERT). It did not bind to any appreciable extent to muscarinic M₁-M₅, adrenergic β₁₋₃, histaminergic H₄, central benzodiazepine sites or gamma-aminobutyric acid (GABA)_A receptors.

Pottie et al. (20) described an assay to measure 5-HT_{2A} activation via βarr2 recruitment. The maximal efficacy of 5-MeO-DALT was similar to lysergic acid diethylamide (LSD) and its rank order of potency in this bioassay was LSD > 5-MeO-DALT > mescaline. However, the authors warned that the high activity exerted by endogenous compounds, such as serotonin, may “impede” use of this procedure so these results should be interpreted cautiously.

In mice, 5-MeO-DALT produced dose-related increases in locomotor activity up to a dose of 10 mg/kg intraperitoneally, relative to saline (4). The locomotor stimulating effects occurred within 40 minutes after administration of 10 mg/kg 5-MeO-DALT and lasted for 3 hours. A dose of 25 mg/kg 5-MeO-DALT depressed locomotor activity for the first 1.5 hours after administration. In rats trained to discriminate either 1.5 mg/kg (±)-3,4-methylenedioxymethamphetamine (MDMA) or 0.5 mg/kg (-)-2,5-dimethoxy-4-methylamphetamine (DOM, a 5-HT_{2A} agonist) from saline, 5-MeO-DALT fully substituted for DOM (maximum 84% DOM-appropriate responding) but not MDMA (7). Overall, 5-MeO-DALT produced discriminative stimulus effects that were more similar to a classical hallucinogen (DOM) than an enactogen like MDMA. However, unlike the other compounds tested, including DOM, 5-MeO-DALT increased locomotor activity, which was more similar to MDMA. 5-MeO-DALT also produced an inverted U-shaped dose–response curve in mice for the head-twitch response, which occurs following activation of 5-HT_{2A} receptors and is suppressed by simultaneous administration of 5-HT_{1A} agonists (5).

No controlled studies of 5-MeO-DALT have been reported in the scientific literature but a drug user website described its effects as follows: “Anecdotal reports characterize the effects of this substance as being primarily physical in nature, lacking the characteristic visual distortions or perceptual depth of most psychedelics. Its headspace has been described as ‘shallow’, albeit suited for sexual contexts due to its potent stimulating and libidinous effects. It is also reported to produce more uncomfortable cardiovascular effects such as increased blood pressure and heart rate relative to other psychedelics” (obtained from a drug user forum (12)).

5. Toxicology

No formal toxicology studies on 5-MeO-DALT have been performed.

6. Adverse reactions in humans

No controlled clinical studies have been conducted with 5-MeO-DALT but various case reports have described adverse reactions that may be associated with its use.

A 2012 report from the United Kingdom described the presence of 5-MeO-DALT “alongside ethanol detection” in a man in his mid-twenties who was involved in a motor vehicle accident after he walked into traffic (14). The man had reportedly snorted 350 mg 5-MeO-DALT and the cause of death was reported as “injuries sustained after being hit by a lorry while under the influence of 5-MeO-DALT” (14).

A 2014 report from the United States of America (USA) (St Louis, MO) described the case of a 20-year-old college student who was brought to the emergency room after ingesting a capsule purchased at a convenience store under the name “Lucy-N-Nate”, which contained an unknown quantity of 5-MeO-DALT (21). A sample of his urine tested positive for cannabinoids and amphetamines, but the report did not specify whether the presence of 5-MeO-DALT was verified by analytical testing. The man had:

“complained of feeling ill while at home as though his ‘heart was caving in’, near fainting, consciously falling to the ground and screaming ‘I’m going to die!’ while flailing all four extremities in his parents’ presence. He reported his muscles were ‘going back and forth’ with extraordinary strength; there was no loss of consciousness. In the emergency department of the referring hospital, he was reported to be agitated, combative, warm, flushed and diaphoretic. He had marked tachycardia (180–200 bpm) and tachypnoea. More than eight people attempted to restrain him; he was given several benzodiazepines intramuscularly for sedation (lorazepam and diazepam) as well as a dose of IM haloperidol with little response” (21).

He was ultimately given deep sedation and transferred to an intensive care unit where he was found to have rhabdomyolysis and acute renal failure, which eventually resolved. He was discharged from hospital after several days.

A 2016 report from Denmark described a case of over-intoxication with a combination of oral 5-MeO-DALT and alcohol (22). A 34-year-old man had ingested an unknown amount of 5-MeO-DALT and alcohol, after which he exhibited aggressive behaviour while lying on the

floor for several hours (22). After he became unresponsive, he was taken to an emergency department where he was noted to be in an altered state of consciousness and exhibited tachypnoea, tachycardia, mydriasis with no light reflex and elevated temperature. Initial blood work showed rhabdomyolysis and acute renal failure. He was put under deep sedation by clinical staff to depress metabolic demand and control his aggressive behaviour. After 10 days, he was discharged from hospital. The report did not specify whether the presence of 5-MeO-DALT was verified by analytical testing.

A 2018 report from France described the presence of various substances in 558 blood and 199 oral fluid samples taken during roadside tests obtained in Belgium from individuals suspected of driving under the influence of drugs (7). Although multiple drugs were most often present in these samples, the one individual who tested positive for 5-MeO-DALT did not test positive for any other drugs. The observed symptoms included “shiny eyes, mydriasis, pale skin tone, resignation, euphoria, repetition of words, talkative, aggressive and impolite behavior” (7).

7. Dependence potential

A. *Animal studies*

No preclinical studies of dependence potential were found in the published scientific literature.

B. *Human studies*

No clinical studies of dependence potential were found in the published scientific literature. However, as noted by iTrend (Internet tool for research in Europe on new drugs (23)) users reported that tolerance developed when 5-MeO-DALT was used daily at high doses and that tolerance decreased when the drug was used every other day.

8. Abuse potential

A. *Animal studies*

As noted above, 5-MeO-DALT shared discriminative stimulus effects with DOM, a classical serotonergic hallucinogen, but not with MDMA (4). However, like MDMA, it did increase locomotor activity (4) and it produced a head-twitch response, which occurs when 5-HT_{2A} receptors are activated (5).

B. *Human studies*

No controlled clinical studies of abuse potential in humans were found in the published scientific literature.

9. Therapeutic applications and extent of therapeutic use and epidemiology of medical use

5-MeO-DALT is not approved in any country for therapeutic use.

10. Listing on the WHO Model List of Essential Medicines

5-MeO-DALT is not included in the WHO Model List of Essential Medicines.

11. Marketing authorizations (as a medicinal product)

5-MeO-DALT is not approved in any country as a medicinal product.

12. Industrial use

5-MeO-DALT is available for use in research and for industrial purposes.

13. Nonmedical use, abuse and dependence

The magnitude of misuse and abuse of 5-MeO-DALT is unknown.

The Welsh Emerging Drugs and Identification of Novel Substances Project reported on 50 samples that were either intended to be purchased as 5-MeO-DALT or other substances and/or positively identified as 5-MeO-DALT (24). Eight samples obtained from two web shops in the United Kingdom in December 2013 and January 2014 contained 5-MeO-DALT almost exclusively (25).

An online drug user forum reported that “5-MeO-DALT is not habit-forming” (12).

14. Nature and magnitude of public health problems related to misuse, abuse and dependence

Only one study reported the confirmed presence of 5-MeO-DALT alone (7) in an individual who was tested after driving under the influence of drugs. The nature and magnitude of public health problems related to misuse of 5-MeO-DALT is therefore unclear.

According to iTrend (23) and EMCDDA (26), 5-MeO-DALT was involved in the fatal intoxication of a male drug user in Scotland. Other drugs that were thought to contribute to the fatality were α -methyltryptamine/5-(2-aminopropyl)indole and ketamine. Drugs that were present but thought not to be involved in the death were: lignocaine, propofol, thiopentone and fentanyl.

15. Licit production, consumption and international trade

5-MeO-DALT does not appear to have any licit medicinal or veterinary use in any country.

As described in iTrend (23) 5-MeO-DALT was sold in United Kingdom web shops before a ban went into effect for the following prices: £ 7.99 for 250 mg to £ 675.00 for 100 g.

16. Illicit manufacture and traffic and related information

As described in iTrend (23) 5-MeO-DALT was first reported in Europe by authorities in Finland in 2007 and by the United Kingdom National Focal Point in 2010. As of 2015, it had been notified to the EMCDDA in reports from: Finland (2007), United Kingdom (2010), Belgium (2011), Bulgaria (2011), Germany (2011), Sweden (2011), Hungary (2012), Denmark (2013), France (2013), Croatia (2014), Cyprus (2014), Italy (2014), Norway (2014) and Romania (2014).

5-MeO-DALT appears to be most often sold on the Internet, with prices ranging from “from €17–€29 (US\$23–US\$39) for 1 g (sufficient for 40 to 50 doses) up to €4600–€5400 (US\$6200–US\$7300) for 1 kg” (14).

“According to the European Database on New Drugs (EDND), it was first seen (as two grey tablets) in a customs seizure at Helsinki airport, Finland, in December

2006, of a postal package with apparent Danish origins. The second report was the present death. Since then, German police seized 687 g of powder in June 2010, Swedish police seized 0.8 g of a dried herbal substance in January, 2011, UK police seized a green mixture containing several substances including 5-MeO-DALT at a 'headshop' in March 2011, the Bulgarian authorities seized a capsule in May 2011, and Belgian police seized three minigrip bags at a Brussels Internet shop in August 2011: one contained 20.3 g of beige powder (with traces of methylone) and two contained 18.7 g and 19.0 g respectively of white powder (EDND, 2011)" (14).

As of 2015, 39 seizures had been reported in the United Kingdom in 2013 and 2 were reported in 2014 (iTrend (23)).

One hundred and seventy-seven drug samples seized by police in Finland between 2011 and 2012 and by customs from 2011 to 2013 were analysed by liquid chromatography-chemiluminescence nitrogen detection (27). 5-MeO-DALT, which was identified in one sample confiscated at the border, had a purity of 102%. Four other seizures of "herbal product samples" by customs agents contained low levels of 5-MeO-DALT (0.15–0.7%) combined with JHW-018 (5.3–8.5%) and/or JHW-073 (3.8–4.7%) (27).

Between 2013 and 2015 in Italy, 162 police seizures of drugs purchased on the Internet were analysed, 5 samples of which contained 5-MeO-DALT (28). Most of the samples contained only one substance, but others included multiple drugs. For example, some of the samples contained 5-MeO-DALT with other substances including ethylphenidate and caffeine, or a combination of 5-MeO-DALT and methylone, ethylone, methedrone, 4-fluoroamphetamine and 5-MeO-MiPT (28).

In a study conducted in the Netherlands, 11 samples that purportedly contained 5-MeO-DALT were purchased from the Internet (8 from the United Kingdom and 3 from France; Brandt et al., 2017). The purity of the samples was nearly 100% and they predominantly contained what was advertised (i.e. 5-MeO-DALT).

17. Current international controls and their impact

5-MeO-DALT has not been subject to international control under the 1971 United Nations Convention on Psychotropic Substances or the 1961 Single Convention on Narcotic Drugs.

18. Current and past national controls

As described in iTrend (23), 5-MeO-DALT is now scheduled in Class A in the United Kingdom under the 2014 revision of the Misuse of Drugs Act 1971 and as a Schedule 1 compound under the Misuse of Drugs regulations 2001.

Corkery et al. (14) report that "The substance is not scheduled in the USA. As an allyl-substituted tryptamine, 5-MeO-DALT does not come within the generic definition of a (Class A) substituted tryptamine under the Misuse of Drugs Act 1971 in the UK; it would do if it was an alkyl group. However, it is now a controlled substance in Bulgaria, Finland and Romania (EDND, 2011). In Japan, it is now regulated as a 'designated substance' in terms of its importation, synthesis, and sale (Kamata et al., 2010)."

A drug user website (12) reported that 5-MeO-DALT is controlled in several countries, including the following:

43rd ECDD (2020): 5-MeO-DALT

- “Austria: Since January 1, 2012, 5-MeO-DALT is illegal to possess, produce and sell under the NPSG (Neue-Psychoaktive-Substanzen-Gesetz Österreich).[\[citation needed\]](#)
- China: 5-MeO-DALT is a controlled substance in China as of October 2015.[\[3\]](#)
- Germany: 5-MeO-DALT is controlled under the NpSG (New Psychoactive Substances Act) as of July 18, 2019.[\[4\]](#)[\[5\]](#) Production and import with the aim to place it on the market, administration to another person and trading is punishable. Possession is illegal but not penalized.[\[6\]](#)
- Japan: 5-MeO-DALT became a controlled substance in Japan in April 2007 due to an amendment to the Pharmaceutical Affairs Law.[\[7\]](#)
- Sweden: 5-MeO-DALT is a Schedule I substance in Sweden as of May 1, 2012. It was published by Medical Products Agency in their regulation LVFS 2012:6.[\[8\]](#)
- Switzerland: 5-MeO-DALT is a controlled substance specifically named under Verzeichnis E.[\[9\]](#)
- United Kingdom: 5-MeO-DALT is a Class A drug in the UK as it is an ether of the drug 5-HO-DALT,[\[10\]](#) which is a Class A drug as a result of the tryptamine catch-all clause.[\[11\]](#)
- United States: 5-MeO-DALT is unscheduled in the United States. It may be considered an analogue of [5-MeO-DiPT](#), a Schedule I drug under the Controlled Substances Act. As such, the sale for human consumption or the use for illicit nonmedical or industrial intents and purposes could be prosecuted as crimes under the Federal Analogue Act.[\[citation needed\]](#)
 - Florida: 5-MeO-DALT is a Schedule I controlled substance in the state of Florida, making it illegal to buy, sell or possess.[\[12\]](#)¹ (Citations are included at the end of the References section.)

¹ Citations from quote in Section 18. Current and Past National Controls:

3. "关于印发《非药用类麻醉药品和精神药品列管办法》的通知" (in Chinese). China Food and Drug Administration. 27 September 2015. Retrieved 1 October 2015.

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10. Misuse of Drugs Act 1971 (Legislation.gov.uk) | <http://www.legislation.gov.uk/ukpga/1971/38/schedule/2/part/I/paragraph/3>

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12. Florida Statutes - Chapter 893 - DRUG ABUSE PREVENTION AND CONTROL

19. Other medical and scientific matters relevant for a recommendation on the scheduling of the substance

None.

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Annex 1. Report on WHO Questionnaires for Review of Psychoactive Substances for the 43rd ECDD: evaluation of 5-MEO-DALT

Data were obtained from 105 Member States (19 African Region, 13 Eastern Mediterranean Region, 40 European Region, 16 Region of the Americas, seven South-East Asia Region and 10 Western Pacific Region) for the WHO Questionnaires for the Review of Psychoactive Substances. The total number of countries opting out of participation in the questionnaire is 13 (three African Region, two Eastern Mediterranean Region, two European Region, three Region of the Americas, one South-East Asia Region and two Western Pacific Region), leaving 92 active countries. Of these, 30 countries had information on the substance (Table 1).

Table 1. Numbers of countries providing information on 5-MeO-DALT

Region	Number of countries without information	Number of countries with information on substance
Africa Region	15	1
Eastern Mediterranean Region	7	4
Europe Region	22	16
Region of the Americas	10	3
South-East Asia Region	5	1
Western Pacific Region	3	5
Total 92	62	30

LEGITIMATE USE

No countries reported approved human medical products or veterinary products containing 5-MEO-DALT.

One country (Region of the Americas) reported 5-MEO-DALT being currently used in medical or scientific research (excluding use as an analytical reference standard), specifically in cell line studies (binding/functional assays) and animal studies.

No countries reported 5-MEO-DALT being used in industrial or other non-medical or non-scientific use.

No countries reported approved therapeutic indications for 5-MEO-DALT.

EPIDEMIOLOGY OF NON-MEDICAL/NON-SCIENTIFIC USE – USE FOR PSYCHOACTIVE PURPOSES OR RECREATIONAL DRUG USE

Ten countries (seven European Region, one Region of the Americas, two Western Pacific Region) reported that 5-MEO-DALT is being misused or abused for its psychoactive properties/recreational use.

The most common known route of administration reported was oral (Table 2).

Table 2. Common routes of administration

Route of administration	Number of countries
Oral	8
Injection	0
Inhalation	1
Sniffing	1
Smoking	1
Don't know	16

The most common known formulation of 5-MEO-DALT reported was powder (Table 3).

Table 3. Common formulations reported by countries

Formulation	Number of countries
Powder	7
Tablets	1
Liquid for oral use	1
Solution for injection	0
Don't know	15

To the above, countries added:

- “capsules”
- “together with other synthetic cannabinoids impregnated on plant materials”.

Seven countries reported the negative health impact due to 5-MEO-DALT’s non-medical consumption as “serious” or “substantial” (Table 4).

Table 4. Level of negative health impact

Serious	Substantial	Negligible	Don't know
3	4	11	11

One country (European Region) commented, “... there may be unknown cases of negative health impacts because ... there is no reporting obligation by hospitals, poison centers, etc.”.

Three countries (two European Region, one Region of the Americas) reported emergency room admissions related to the non-medical use of 5-MEO-DALT.

Concerning adverse effects, one country (Region of the Americas) commented, “Drug-related delirium, agitation, tachycardia, diaphoresis and combativeness leading to physical restraint and sedation”.

One country (Western Pacific Region) reported users of 5-MEO-DALT presenting for drug dependence treatment.

Regarding mortality, no countries reported deaths involving 5-MEO-DALT.

STATUS OF NATIONAL CONTROL AND POTENTIAL IMPACT OF INTERNATIONAL CONTROL

Fifteen countries responded that 5-MEO-DALT is currently controlled under national legislation to regulate its availability.

Table 5 shows the main reported activities involving 5-MEO-DALT.

Table 5. Reported illicit activities involving 5-MEO-DALT

Activities	Number of countries
Smuggling from other countries	1
Manufacture of substance by chemical synthesis	1
Manufacture of substance by extraction from other products	0
Production of consumer products containing the substance	0
Trafficking	4
Diversion from legal supply chain	0
Internet sales – seller or website located in country	1
Internet sales – from abroad to buyers in country	1
Internet sales – other, or location of sellers and website unknown	3
Direct sales to people who use the substance	1
Don't know	17

To the above, countries added:

- “trafficking through postal service”.

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Six countries (three European Region, one Region of the Americas, two Western Pacific Region) reported seizures (Table 6).

Table 6. Reported seizures of 5-MEO-DALT

Year	Seizures
2020	1
2019	7
2018	27
Total	35

Twenty-three countries have the forensic laboratory capacity to analyse 5-MEO-DALT.

One country (European Region) commented, “Forensic laboratories have the capacity to analyse 5-MEO-DALT if reference material is available”.