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1. Comments based on the review report

Alpha-methyltryptamine (AMT) is a tryptamine derivative that shares properties with several other tryptamine hallucinogens. It has a high affinity for the serotonin transporter and for several serotonin (including the 5-HT2A receptor) and adrenergic receptors. Besides, it potently inhibits the reuptake of dopamine, serotonin and noradrenaline in rat brain synaptosomes.

a. Evidence on dependence and abuse potential

No studies have examined the dependence and abuse potential of AMT in humans. As a class of agents, however, the tryptamines are generally not producing dependence. This is supported by the lack of withdrawal symptoms reported by users after discontinuation of use.

Users of AMT have reported euphoria, stimulation, visual effects and hallucinogenic effects. This suggests that AMT has abuse liability similar to other hallucinogenic tryptamines.

In animals, AMT has discriminative stimulus effects similar to DOM and MDMA. No studies are available on self-administration and conditioned place preference in animal models of abuse liability.

b. Risks to individual and society because of misuse

Users of AMT have reported adverse effects like uncomfortable feelings, mental and visual-auditory disturbances, restlessness and impaired coordination. Physical adverse effects are from AMT as a stimulant (tachycardia, increased blood pressure, mydriasis, sweating, muscular tension, inability to sleep). In severe cases, seizures have been reported. AMT-associated deaths are rare but have occurred, especially after AMT use in combination with other psychoactive substances.

AMT by oral ingestion appears to have a slow onset of action. Users that are not familiar with this slow onset of action might take another dose before the first dose starts to act. This slow onset of action increases the risk of toxic effects.

c. Magnitude of the problem in countries (misuse, illicit production, smuggling etc)

There are no figures on the prevalence of AMT use. In the USA and in Europe, the recreational use of tryptamines is limited, though it seems to have increased slightly during the last few years. In the UK, there were increasing numbers of telephone calls from 2009 to 3013 to poison information centers concerning AMT use. Most patients were male (68%) and the median age was 20 years.

Sales and abuse of AMT are mostly through internet sources.

Of the tryptamines reported to the UNODC in their questionnaire on New Psychoactive Substances (NPS) in 2012, AMT was 4-5th most commonly reported.

Seventeen respondents to the WHO Questionnaire reported recreational/harmful use of AMT. Three respondents reported the occurrence of withdrawal symptoms, tolerance and other adverse effects on health caused by AMT. One respondent reported clandestine manufacture of AMT. Ten respondents reported trafficking, two reported diversion, and ten reported the existence of an internet market. The total number of seizures was 16 in 2011 (5 respondents) and 154 in 2012 (9 respondents).

d. Need of the substance for medical (including veterinary) practice

There are no medical applications for AMT.

e. Need of the substance for other purposes (e.g. industrial)

There is no industrial use of AMT.

f. Measures taken by countries to curb misuse

Several countries have taken measures to curb misuse of AMT. AMT is under national legislative control in at least ten European countries. In the USA, it is a Schedule I substance. In Australia, it is controlled under analogue legislation.

Nineteen respondents to the WHO questionnaire reported that AMT was controlled under national legislation intended to regulate its availability.

g. Impact if this substance if scheduled

AMT has no medical or industrial use.

2. Additional information to improve the critical review report

No further information.

3. Other comments or opinions

No comments.

4. Expert reviewer's view on scheduling with rationale

There is little information on the pharmacology and toxicology of AMT, both in animals and in humans. The few studies and reports available indicate that AMT shares properties with other hallucinogenic tryptamines and that it is used for its hallucinogenic and stimulating effects. Fatalities associated with AMT use are rare. Prevalence of abuse and dependence are largely unknown. Global use of AMT is low but recent data from Europe and the USA suggest that abuse of AMT has increased slightly since 2009. AMT does not have any medical or industrial use.

Despite the general lack of knowledge on AMT, the reviewer's opinion is that AMT is placed under international control. As AMT shares properties with other hallucinogenic tryptamines, it is recommended that AMT be placed in Schedule I of the 1971 Convention.