



**THE EXPERT ADVISORY COMMITTEE ON DRUGS (EACD)
ADVICE ON:**

METHCATHINONE

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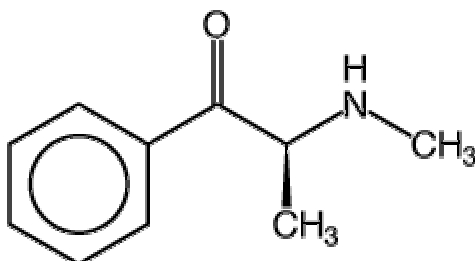
PRELIMINARY ASSESSMENT OF METHCATHINONE

Executive Summary

1. This paper considers the synthesised amphetamine-type drug methcathinone.
2. Methcathinone is not controlled under the Misuse of Drugs Act 1975 (the Act). This assessment proposes that the Expert Advisory Committee on Drugs (EACD) considers recommending to the Minister of Health that methcathinone be classified as a controlled drug, this paper presents evidence that will assist in this consideration.
3. Although the Ministry of Health is not aware of methcathinone being abused in New Zealand, its classification would fulfil New Zealand's international obligations under the United Nations drug classification framework. Additionally, if methcathinone becomes available in New Zealand in the future, appropriate domestic control will be in place.

Substance identification

4. Methcathinone is a derivative of cathinone, an alkaloid found in the leaves of the plant, *Cathus edulis forsk.*
5. Chemically, methcathinone is 2-(methylamino)-1-phenyl-propan-1-one. It has one chiral centre, so two stereoisomeric forms and one racemate are possible. Its chemical abstracts registry service ("CAS") number is 5650-44-2.



6. Methcathinone was first synthesized in Germany in 1928, and used in the Soviet Union as an anti-depressant during the 1930s and 1940s. By the 1970s Russian drug abusers knew the formula for manufacturing methcathinone and by the 1980s its use was widespread. Recent

estimates indicate that half of Russian drug abusers have used methcathinone and that it constitutes more than 20% of illicit drug use in the former Soviet Union (Calkins et al 1995).

7. Methcathinone was patented in 1957 by Parke-Davis Pharmaceuticals as an appetite suppressant, but was rejected for production due to negative side effects. In 1989 in Michigan USA an individual was able to first source samples, and later a formula for methcathinone whilst working as an intern at Parke-Davis Pharmaceuticals. From here methcathinone production and use spread through Michigan and other parts of the North-East USA.

Current Classification under the Act

8. Methcathinone is not currently classified under the Misuse of Drugs Act 1975.

Rationale for Classification

9. Section 4B(2) of the Misuse of Drugs Act 1975 sets out the matters that the Minister of Health must have regard to, and to which the EACD must give advice on, when considering a particular drug. Information on each criterion should be submitted.

Likelihood or evidence of drug abuse

10. The Ministry of Health is not aware of evidence of methcathinone being a drug of abuse in New Zealand.
11. Significant abuse of methcathinone has been reported in Estonia, Latvia, Russia and some other countries of the former Soviet Union as well as in the USA. Methcathinone is assessed to have high abuse liability.
12. Methcathinone is reported to be highly addictive by users (Calkins et al 1995). Tolerance is reported to develop quickly requiring increasing doses to achieve the desired effect. Craving for the drug also occurs after very little use (Emerson and Cisek 1993).

Specific effects of the drug

13. Long-term clinical experience with methcathinone in Russia revealed that cyclic "binge" users develop paranoid psychosis with auditory hallucinations, extreme weight loss, acne vulgaris, waxen complexion, dehydration, tremor and significantly increased reflex response, loss of euphoric effect, emotional callousness, marked personality change, antisocial behaviour, elevation of liver function studies and proteinuria (an excess of serum proteins in the urine).

14. Paranoia is also a major factor in heavy methcathinone use. One user believed that their house had been surrounded by police and lay on the floor for three hours. Later the same person believed that pizza they were eating was poisoned (Emerson and Cisek 1993).

Risks to public health

15. Long term, heavy use of methcathinone can lead to severe addiction. Some users have described methcathinone as being more 'compulsive' than cocaine, and others have not realised they were addicted until withdrawal symptoms set in (Erowid 2002)
16. Several studies have also shown that heavy users have suffered similar long-term, irreversible damage to brain dopamine neurons to those with Parkinson's Disease (McCann et al 1998).
17. In addition, following a binge, users report a "crash" that often includes severe psychological depression, and suicide ideation. One user described it as "the deepest depression of my life".
18. Users note that methcathinone can occasionally encourage violence and that it has a negative effect on concentration. Both of these characteristics would make driving and using heavy equipment under the influence of methcathinone dangerous.

Therapeutic value

19. Methcathinone has not been marketed for therapeutic purposes. Its therapeutic usefulness is assessed to be limited, if useful at all.

Potential to cause death

20. Methcathinone has potential to cause death in much the same way as methamphetamine, through toxicity, heart failure, lethal overdoses, misadventure, drug related violence and manufacturing accidents or poisoning. Although deaths have been reported in the former Soviet Union, no deaths were recorded in the USA up to 1993, it is uncertain whether any deaths have occurred in the USA since 1993 (Emerson and Cisek 1993).

Ability to create physical or psychological dependence

21. Drug discrimination and self-administration studies in animals indicate that methcathinone has dependence potential similar to central nervous system stimulants like cocaine. Case reports and a study conducted in the USA on methcathinone abusers also suggest that methcathinone has a high dependence potential (Calkins et al 1995).

22. Users of methcathinone report that the drug is more potent and addictive than cocaine. Methcathinone's stimulatory effects are also reported to be more intense and longer lasting than other similar substances, including cocaine (Calkins et al 1995).

International classification and experience

23. The United Kingdom has classified methcathinone a Class B controlled drug, under the Misuse of Drugs (Amendment) Regulations 1998.
24. The United States Federal Government has classified methcathinone in Schedule I of the Controlled Substances Act.

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