Health Canada
Santé Canada

STATUS DECISION OF CONTROLLED AND NON-CONTROLLED SUBSTANCE(S)

Substance: AM-2201

**** SECONDARY REVIEW ****

Based on the current information available to the Office of Controlled Substances, it appears that the above substance is:

Controlled	X
Not Controlled	☐

under the schedules of the *Controlled Drugs and Substances Act* (CDSA) for the following reason(s):

- The substance has been reported in the scientific literature to be a potent cannabinoid receptor agonist and therefore must be included under item 1 of Schedule II to the CDSA.

Prepared by: _____ Date: _____
Evelyn C Soo

Verified by: _____ Date: _____
Mark Kozlowski

Approved by: _____ Date: _____
DIRECTOR, OFFICE OF CONTROLLED SUBSTANCES

This status was requested by: HPFB

Drug Status Report

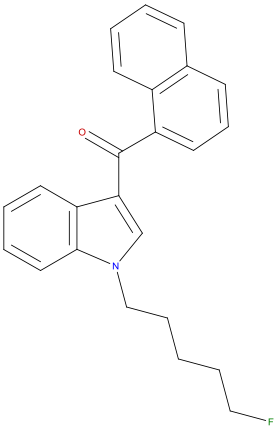
Drug: AM-2201

Drug Name Status: AM-2201 is the common name.

Chemical Name: 1-(5-Fluoropentyl-1H-indol-3-yl)-(naphthalen-1-yl)methanone

Other Names: 1-(5-Fluoropentyl)-3-(naphthalen-1-oyl)indole

Chemical structure:



Molecular Formula: $C_{24}H_{22}FNO$

Pharmacological class / Application: Synthetic cannabinoid

CAS-RN: 335161-24-5

International status:

US: AM-2201 is not listed specifically in the Schedules to the US *Controlled Substances Act*. However, the substance has been identified by the DEA to be present in products marketed as 'herbal incense' and is recognised by the DEA as an emerging designer drug.

United Nations: The substance is not listed on the Yellow List - List of Narcotic Drugs under International Control, the Green List - List of Psychotropic Substances under International Control, nor the Red List - List of Precursors and Chemicals Frequently Used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances under International Control.

Canadian Status: The status of AM-2201 was previously reviewed in January 2011 and at the time, there was no information in the scientific literature on the efficacy of AM-2201 as a cannabinoid receptor agonist. However, Nakajima and co-workers recently evaluated and published data on the potency of a number of synthetic cannabinoids, including AM-2201. The efficacy of the synthetic cannabinoids was evaluated using functional assays and the results from

the study show that AM-2201 is a potent cannabinoid receptor agonist[1]. "Cannabis, its preparations, derivatives and similar synthetic preparations" are currently listed as item 1 in Schedule II to the CDSA. Cannabinoid receptor agonists have been declared included under item 1of Schedule II to the CDSA whereas cannabinoid receptor antagonists have been specifically excluded. Based on the data published by Nakajima and co-workers on the efficacy of AM-2201 as a cannabinoid receptor agonist, AM-2201 must be included under item 1 of Schedule II to the CDSA.

Recommendation: AM-2201 is included in item 1 of Schedule II to the CDSA and is a controlled substance.

Date: April 10th, 2012.

[1] Nakajima, J et al. (2011) Identification and quantification of a benzoylindole (2-methoxyphenyl)(1-pentyl-1H-indol-3-yl)methanone and a naphthoylindole 1-(5-fluoropentyl-1H-indol-3-yl)-(naphthalene-1-yl)methanone (AM-2201) found in illegal products obtained via the Internet and their cannabimimetic effects evaluated by in vitro [^{35}S]GTPγS binding assays, For. Toxicol. **29**:132-141.