Drug Status Report

**Drug:** Arachidonyl trifluoromethyl ketone

**Drug Name Status:** Arachidonyltrifluoromethane

**Chemical Name:** 6,9,12,15-Heneicosatetraen-2-one, 1, 1, 1-trifluoro-, (6Z, 9Z, 12Z, 15Z)-

**Other Names:** 1,1,1-Trifluoro-6Z,9Z,12Z,15Z-heneicosatetra-2-one; Aacof3; arachidonoic acid trifluoromethyl ketone; arachidonyl trifluoromethyl ketone

**Chemical structure:**

![Chemical structure image]

**Molecular Formula:** C_{21}H_{31}F_{3}O

**Pharmacological class / Application:** 85kDa cytosolic phospholipase A\(_2\) (cPLA\(_2\)) inhibitor

**International status:**

**US:** Arachidonyl trifluoromethyl ketone is not listed in the Schedules to the CSA and is not mentioned on the DEA website

**United Nations:** The substance is not listed on the Yellow List - List of Narcotic Drugs under International Control. The drug is not listed on the Green List - List of Psychotropic Substances under International Control.

**Canadian Status:** Arachidonyl trifluoromethyl ketone is an inhibitor of the 85kDa cytosolic phospholipase A\(_2\) (cPLA\(_2\)), an enzyme which is believed to be involved in the cellular mobilization of arachidonic acid\(^1\). Arachidonyl trifluoromethyl ketone is similar in structure to some cannabinoid related substances and cannabinoid receptor agonists are included under Item 1 of Schedule II to the CDSA. Cannabinoid receptor antagonists have been declared to fall outside item 1 of Schedule II to the CDSA. There is no evidence in the scientific literature to suggest that arachidonyl trifluoromethyl ketone displays any agonistic activity at the cannabinoid receptors and therefore the substance is not included under Item 1 of Schedule II to the CDSA.

**Recommendation:** Arachidonyl trifluoromethyl ketone is not included in item 1 of Schedule II to the CDSA.

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\(^1\) Riendeau, D. *et al.* (1994) Arachidonyl trifluoromethyl ketone, a potent inhibitor of 85-kDa phospholipase A\(_2\), blocks production of arachidonate and 12-hydroxyeicosatetraenoic acid by calcium ionophore-challenged platelets, J. Biol. Chem. **269:**15619-15624.
the CDSA and is not a controlled substance.

April 7th, 2010.
STATUS DECISION OF CONTROLLED AND NON-CONTROLLED SUBSTANCE(S)

Substance: Methyl Arachidonyl Fluorophosphonate

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

- Controlled
- Not Controlled

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

- Methyl arachidonyl fluorophosphonate is similar in structure to some cannabinoid related substances. Status decisions have been made on several other cannabinoid receptor agonists and antagonists. See decisions for anandamide; methanandamide; WIN 555212; JWH 015; O-2050 and SR 141716A. Cannabinoid receptor agonists have been declared to be included within item 1 of Schedule II to the CDSA by virtue of being “similar synthetic preparations.” Cannabinoid receptor antagonists have been declared to fall outside item 1 of Schedule II to the CDSA. There is no information that methyl arachidonyl fluorophosphonate is a cannabinoid receptor agonist.

Supporting document(s) attached: X Drug Status Report By Mr. LeBelle

Prepared by: ______________________ Date: June 27, 2006

Xiao peng Feng

Drug Status Report By: Mr. M. LeBelle Date: June 27, 2006
Drug Status Report

Drug: Methyl arachidonyl fluorophosphonate

Drug Name Status: Methyl arachidonyl fluorophosphonate is the chemical name

Chemical Name: Methyl arachidonyl fluorophosphonate

Chemical structure:

Molecular Formula: $C_{21}H_{36}FO_2P$

Pharmacological/chemical class / Application: inhibitor of anandamide amidase

International status:

US: The substance is not listed on the US Controlled Substances Act and is not mentioned on the DEA website.

United Nations: The substance is not listed on the Yellow List - List of Narcotic Drugs under International Control nor the Green List - List of Psychotropic Substances under International Control.

Canadian Status: Methyl arachidonyl fluorophosphonate is similar in structure to some cannabinoid related substances. Status decisions have been made on several other cannabinoid receptor agonists and antagonists. See decisions for anandamide; methanandamide; WIN 555212; JWH 015; O-2050 and SR 141716A. Cannabinoid receptor agonists have been declared to be included within item 1 of Schedule II to the CDSA by virtue of being “similar synthetic preparations.” Cannabinoid receptor antagonists have been declared to fall outside item 1 of Schedule II to the CDSA. There is no information that methyl arachidonyl fluorophosphonate is a cannabinoid receptor agonist.
Recommendation: Methyl arachidonyl fluorophosphonate is not included in the schedules to the CDSA and is not a controlled substance.

June 27, 2006