Health Canada
Santé Canada

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

Substance: Tetrahydropalmatine

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

Controlled	☐
Not Controlled	X

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

- The substance is not structurally similar to any of those listed in the CDSA.

Prepared by: _____ Date: _____
Zack Li

Verified by: _____ Date: _____
Mark Kozlowski

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

This status was requested by: Napol Shalvardjian, DAS

Drug Status Report

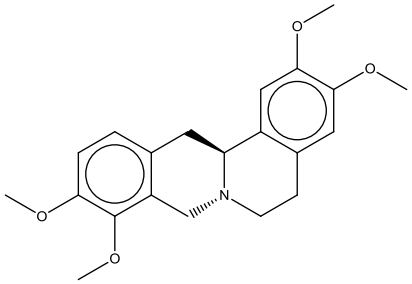
Drug: Tetrahydropalmatine

Drug Name Status: Tetrahydropalmatine is the common name.

Chemical Name: 6H-Dibenzo(a,g)quinolizine, 5,8,13,13a-tetrahydro-2,3,9,10-tetramethoxy-

Other Names: 5,8,13,13a-Tetrahydro-2,3,9,10-tetramethoxy-6H-dibenzo(a,g)quinolizine; Berbine, 2,3,9,10-tetramethoxy- (8CI)

Chemical structure:



Molecular Formula: $C_{21}H_{25}NO_4$ **CAS-RN:** 10097-84-4

Pharmacological class / Application: Pharmaceutical-related substance

International status:

US: Tetrahydropalmatine is not listed specifically in the Schedules to the US *Controlled Substances Act* and is not mentioned anywhere on the DEA website.

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: Tetrahydropalmatine is not listed specifically in the CDSA. The substance is an alkaloid found in the *Corydalis* plant and was found to be effective in opiate addiction treatment[1]. It does not contain the morphinan structure nor is it structurally similar to any of those listed in the CDSA.

Recommendation: Tetrahydropalmatine is not included in the Schedules to the CDSA and is not a controlled substance.

Date: June 13th, 2012.

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[1] Yang, Z. et al (2008). Medication of l-tetrahydropalmatine significantly ameliorates opiate craving and increases the abstinence rate in heroin users: a pilot study. Acta Pharmacol Sin. **29:** 781-788