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

Substance: Norlaudanosine

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):

• The substance is a metabolite of laudanosine, an alkaloid present in Opium Poppy, and therefore included under item 1 of Schedule I to the CDSA.

Prepared by: ________________________________ Date: December 6th, 2011
Evelyn C Soo

Verified by: ________________________________ Date: ___________
Mark Kozlowski

Approved by: ________________________________ Date: ___________
DIRECTOR, OFFICE OF CONTROLLED SUBSTANCES

This status was requested by: “third party information removed as per agreement with applicant”
Drug Status Report

Drug: Norlaudanosine

Drug Name Status: Norlaudanosine is the common name.

Chemical Name: 17-(Cyclopropylmethyl)-4,5-epoxymorphinan-3,6beta,14-trol

Other Names: 1-(3,4-dimethoxybenzyl)-6,7-dimethoxy-1,2,3,4-tetrahydroisoquinoline

Chemical structure:

![Chemical structure of Norlaudanosine]

Molecular Formula: C_{20}H_{25}NO_{4}

CAS RN: 13074-31-2

Pharmacological class / Application: Pharmaceutical-related substance

International status:

US: Norlaudanosine is not listed on 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: Norlaudanosine is not listed specifically in the CDSA. The substance is a tetrahydroisoquinoline alkaloid and has been reported in the scientific literature to be identified as an impurity in illicit samples of heroin\(^1\). It is also a major metabolite of laudanosine which itself a minor alkaloid constituent of opium\(^2\) and a metabolite of the neuromuscular blocking


drug, atracurium. Currently, atracurium is listed in Schedule F to the *Food and Drugs Regulations* while item 1 of Schedule I is “Opium Poppy (Papaver somniferum), its preparations, derivatives, alkaloids and salts including”. As norlaudanosine is a derivative of the opium alkaloid laudanosine, the substance is considered captured under item 1 of Schedule I to the CDSA. It is noteworthy a review of 8,14-dihydrooripavine considered the substance to be included under item 1 of Schedule I to the CDSA as a derivative of the oripavine, which is a metabolite of thebaine (sub-item 1(4)).

**Recommendation:** Norlaudanosine is included under item 1 of schedule I to the CDSA and is a controlled substance.

**Date:** December 6th, 2011

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