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

Substance: I - Dihydro Normorphine
 II - Dihydro Normorphine 3-O-β-D-glucuronide
 III - Dihydro Normorphine 6-O-β-D-glucuronide

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 substances are metabolites of dihydromorphine and captured item 1 of Schedule I 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: “third party information removed as per agreement with applicant”
Drug Status Report

**Drug:**  
I - Dihydro Normorphine  
II - Dihydro Normorphine 3-O-β-D-glucuronide  
III - Dihydro Normorphine 6-O-β-D-glucuronide

**Drug Name Status:**  
I - Dihydro Normorphine  
II - Dihydro Normorphine 3-O-β-D-glucuronide  
III - Dihydro Normorphine 6-O-β-D-glucuronide are the common names.

**Chemical Name:**

I – (5alpha,6alpha)-4,5-Epoxymorphinan-3,6-diol  
II - (5alpha,6alpha)-4,5-Epoxymorphinan-6-hydroxymorphinan-3-yl-beta-D-Glucopyranosiduronic acid  
III- (5alpha,6alpha)-4,5-Epoxymorphinan-3-hydroxymorphinan-6-yl-beta-D-Glucopyranosiduronic acid

**Other Names:**

I – 4,5alpha-Epoxymorphinan-3,6alpha-diol; Dihydronormorphine  
II – Dihydronormorphine 3-beta-D-glucuronide  
III – Dihydronormorphine 6-beta-D-glucuronide

**Chemical structure:**

![Chemical structure images]

**Molecular Formula:**  
I - C_{16}H_{19}NO_{3}, II - C_{22}H_{27}NO_{9}, III - C_{22}H_{27}NO_{9}

**Pharmacological class / Application:**  Pharmaceutical-related substances

**CAS-RN:**  
I – 1421-13-2; II – 491847-30-4; III - 561323-10-2

**International status:**
US: Dihydro normorphine, dihydro normorphine 3-O-β-D-glucuronide and dihydro normorphine 6-O-β-D-glucuronide are not listed specifically in the Schedules to the US Controlled Substances Act and are not mentioned anywhere on the DEA website.

United Nations: The substances are 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: Dihydro normorphine, dihydro normorphine 3-O-β-D-glucuronide and dihydro normorphine 6-O-β-D-glucuronide are not listed specifically in the schedules to the CDSA. The substances have been reported in the scientific literature to be urinary metabolites of dihydromorphine which is currently listed as sub-item 1(12) “Dihydromorphine (4,5-epoxy-17-methylmorphinan-3,6-diol)” in Schedule I to the CDSA under the heading “Opium Poppy (Papaver somniferum), its preparations, derivatives, alkaloids and salts, including”. As metabolites of dihydromorphine, dihydro normorphine, dihydro normorphine 3-O-β-D-glucuronide and dihydro normorphine 6-O-β-D-glucuronide must be included under sub-item 1(27) of Schedule I to the CDSA as derivatives of dihydromorphine.

Recommendation: Dihydro normorphine, dihydro normorphine 3-O-β-D-glucuronide and dihydro normorphine 6-O-β-D-glucuronide are included under item 1 of Schedules I to the CDSA and are controlled substances.

Date: June 8th, 2012.

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