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

Substance: 4-Hydroxyestrone

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

- Controlled
- Not Controlled

Not Controlled

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

- The substance has not been shown in the scientific literature to display anabolic activity, and is not included under item 23 of Schedule IV to the CDSA.

Prepared by: ___________________________ Date: August 17th 2011

Zack Li

Verified by: ___________________________ Date: __________

Mark Kozlowski

Approved by: ___________________________ Date: __________

DIRECTOR, OFFICE OF CONTROLLED SUBSTANCES

This status was requested by: Eva Roig
Drug Status Report

Drug: 4-Hydroxyestrone

Drug Name Status: 4-Hydroxyestrone is the common name.

Chemical Name: Estra-1,3,5(10)-trien-17-one, 3,4-dihydroxy-

Other Names: 3,4-Dihydroxyestra-1,3,5(10)-trien-17-one; BRN 1999480

Chemical structure:

![Chemical Structure](image)

Molecular Formula: $C_{18}H_{22}O_3$

Pharmacological class / Application: Steroid

CAS-RN: 3131-23-5

International status:

US: 4-Hydroxyestrone 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: 4-Hydroxyestrone is not currently listed in the CDSA. The substance is a catechol endogenous estrogen metabolite with no evidence of anabolic activity and is a
major risk factor for female breast cancer. Since 4-Hydroxyestrone does not display any anabolic activity and is not a derivative of an anabolic steroid, it cannot be included under the heading “Anabolic steroids and their derivatives:” of item 23 of Schedule IV to the CDSA.

**Recommendation:** 4-Hydroxyestrone is not included under the Schedules to the CDSA and is not a controlled substance.

**Date:** 17 August 2011

---