Health Canada Santé Canada

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

Substance: I- Estrone-3-glucuronide
II- Estrone-3-beta-D-glucuronide, sodium salt

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 substances have not been shown in the scientific literature to display any anabolic activity and are not included under item 23 of Schedule IV to the CDSA.

Prepared by: _____ Date: August 22, 2011
Vincent Marleau

Verified by: _____ Date: _____
Mark Kozlowski

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

**This status was requested by:** Eva Roig

# Drug Status Report

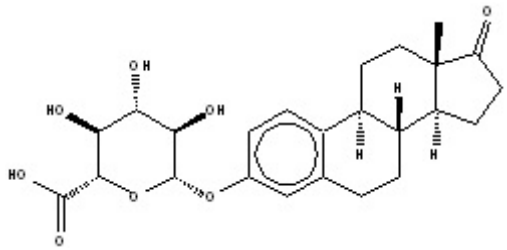
**Drug:** I- Estrone-3-glucuronide
II- Estrone-3-beta-D-glucuronide, sodium salt

**Drug Name Status:**
I- Estrone-3-glucuronide
II- Estrone-3-beta-D-glucuronide, sodium salt are the common names.

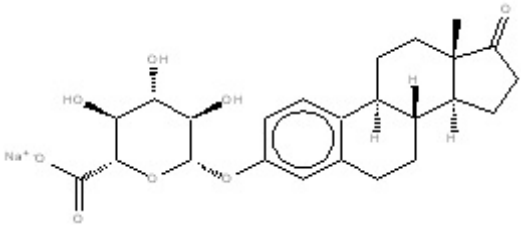
**Chemical Name:**
I- beta-D-Glucopyranosiduronic acid, 17-oxoestra-1,3,5(10)-trien-3-yl
II- beta-D-Glucopyranosiduronic acid, 17-oxoestra-1,3,5(10)-trien-3-yl, monosodium salt

**Other Names:**
I- Estrone-beta-glucuronide; Estrone-3-glucuronide; Estrone glucuronide;
Estrone-3-glucosiduronate; 1,3,5(10)-Estratrien-3-ol-17-one glucosiduronate;
1,3,5(10)-Estratrien-3-ol-17-one 3(o-1beta)-d-glycopyranosiduronic acid;
1,3,5(10)-Estratrien-3-ol-17-one glucosiduronate;
17-Oxoestra-1,3,5(10)-trien-3-yl-d-glucopyranosiduronic acid.
II- 1,3,5(10)-Estratrien-17-one 3-glucuronide sodium salt; Glucopyranosiduronicacid,
17-oxoestra-1,3,5(10)-trien-3-yl, monosodium salt, beta-D- (8CI);
Estra-1,3,5(10)-trien-17-one, 3-(b-D-glucopyranuronosyloxy)-, monosodium salt (8CI);
Sodium estrone glucuronide**.**

**Chemical structure:**



**I**



**II**

**Molecular Formula:** I- $C_{24}H_{30}O_8$; II- $C_{24}H_{29}NaO_8$

**Pharmacological class / Application:** Steroids

**CAS-RN:** I- 2479-90-5; II- 15087-01-1

**International status**:

US: Estrone-3-glucuronide and estrone-3-beta-D-glucuronide, sodium salt 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: Estrone-3-glucuronide and its sodium salt are not currently listed in the CDSA. Estrone-3-glucuronide is a metabolite of estrogen and is used for predicting the start of a potentially fertile period of women. Estrone-3-glucuronide is considered to be the most important urinary parameter for this prediction[1]. There are no reports in the scientific literature that estrone-3-glucuronide and its sodium salt display any anabolic activity. They are not derivatives of an anabolic steroid. Therefore, estrone-3-glucuronide and estrone-3-beta-D-glucuronide, sodium salt cannot be included under the heading "Anabolic steroids and their derivatives:" of item 23 of Schedule IV to the CDSA.

**Recommendation:** Estrone-3-glucuronide and estrone-3-beta-D-glucuronide, sodium salt are not included under the Schedules to the CDSA and are not controlled substances.

**Date:** 22 August 2011

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[1]Behre. H.M., et al(2000). Prediction of ovulation by urinary hormone measurements with the home use ClearPlan® Fertility Monitor: comparison with transvaginal ultrasound scans and serum hormone measurements. Human Reproduction (Oxford, England) **15**: 2478-2482.