Health Canada Santé Canada

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

Substance: D-Gulono-1,4-lactone

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 not similar to any of those included in the Schedules to the CDSA.

Prepared by: _____ Date: October 19th, 2011
Vincent Marleau

Verified by: _____ Date: _____
Mark Kozlowski

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

This status was requested by: Nisrine Haddad

Drug Status Report

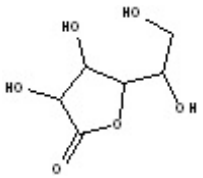
Drug: D-Gulono-1,4-lactone

Drug Name Status: D-Gulono-1,4-lactone is the proper name.

Chemical Name: D-Gulono-1,4-lactone

Other Names: D-Gulonic acid-1,4-lactone

Chemical structure:



Molecular Formula: $C_6H_{10}O_6$

Pharmacological class / Application: Fine chemical

CAS-RN: 6322-07-2

International status:

US: D-Gulono-1,4-lactone is not listed in the Controlled Substances Act and is not mentioned anywhere on the DEA website as a controlled substance.

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: D-Gulono-1,4-lactone is not specifically listed in the schedules to the CDSA. The substance has been reported to be used in the synthesis of L-glucose[1] and displays some structural similarity to gamma-butyrolactone, which is listed as item 18 in part 1 of Schedule VI to the CDSA, but cannot be included in Schedule VI as a Class A precursor.

Recommendation: D-Gulono-1,4-lactone is not included in the schedules to the CDSA and is not a controlled substance.

Date: October 19th, 2011

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[1]Hajko, J et al. (1999) Synthesis of L-glucose from D-gulono-1,4-lactone, Carbohydrate Res. **321**:116-120.