

## Drug Status Report

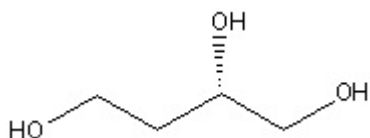
**Drug:** (S)-(-)-1,2,4-Butanetriol

**Drug Name Status:** (S)-(-)-1,2,4-Butanetriol is the common name.

**Chemical Name:** (S)-(-)-1,2,4-butanetriol

**Other Names:** (S)-(-)-1,3,4-butanetriol; (S)-butane-1,2,4-triol

**Chemical structure:**



1,4-butanediol

**Molecular Formula:** C<sub>4</sub>H<sub>10</sub>O<sub>3</sub>

**Pharmacological class / Application:** fine chemical

**International status:**

**US:** The substance is not listed on the schedules to the CSA and is not mentioned on the DEA website.

**United Nations:** The substance is not listed on the Yellow List - List of Narcotic Drugs under International Control. The drug is not listed on the Green List - List of Psychotropic Substances under International Control.

**Canadian Status:** 1,2,4-Butanetriol is a chiral compound that is a widely used chemical reagent in the organic synthesis of a variety of compounds which range from pharmaceuticals, such as antivirals<sup>1</sup>, antibacterial<sup>2</sup> and cationic lipids<sup>3</sup>, to elastomers<sup>4</sup>. The substance also exists as its

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<sup>1</sup>Yamada-Onodera, K. et al. (2007) Production of optically active 1,2,4-butanetriol from corresponding racemate by microbial stereoinversion, *J. Biosci. Bioeng.* **103**:494-496.

<sup>2</sup>Borsuk, K. et al. (2001) Six-membered cyclic sulfites derived from glucofuranose and 1,2,4-butanetriol, *Chirality*, **13**:533-540.

<sup>3</sup>Ren, T. And Liu, D. (1999) Synthesis of cationic lipids from 1,2,4-butanetriol, *Tetrahedron Lett.* **40**:209-212.

<sup>4</sup>Barrett, D. G. And Yousaf, M. N. (2008) Poly(triol α-ketoglutarate) as biodegradable, chemoselective, and mechanically tunable elastomers, *Macromolecules*, **41**:6347-6352.

individual enantiomers i.e. (S)-(-)- and (R)-(+)- 1,2,4-butanetriol.

1,2,4-butanetriol is not currently listed in any of the Schedules to the CDSA. While the substance is similar in structure to 1,4-butanediol, which is listed specifically as a Class A precursor as item 19 in Part 1 of Schedule VI to the CDSA, 1,2,4-Butanetriol and its separate enantiomers are not included under item 19 of Part 1 of Schedule VI.

Recommendation: 1,2,4-butanetriol is not included in the schedules to the CDSA and is not considered a controlled substance.

April 16<sup>th</sup> 2010