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

Substance: - Sassafras root

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):

- Sassafras falls under the UN definition of safrole and safrole-rich oils and must be included under item 17 of Part 1 of Schedule VI to the CDSA.

Prepared by: _____ Date: Sept 2nd 2010
Evelyn Soo

Verified by: _____ Date: _____
Marianne Tang

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: Sassafras root

Drug Name Status: Sassafras root is a common name.

International status:

US: The substance is not listed specifically in the CSA and is not mentioned anywhere on the DEA website. However safrole, including sassafras oil, are List 1 Regulated Chemicals.

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. However, safrole is listed in Table I of Part I to the Red List and pursuant to the Commission on Narcotic Drugs resolution 49/7, this includes safrole and safrole-rich oils which are defined as “any mixture or a natural products containing safrole present in such a way that it can be used or recovered by readily applicable means”.

Canadian Status:

Sassafras is a family of trees native to North America and eastern Asia, with *Sassafras albidum* representing the most economically important species¹. Safrole from sassafras has been used as fragrance additive in foods and perfumes and the substance is also dried and ground for use as herbal products and teas². Safrole obtained from the roots of the sassafras plant is known to be used in the illicit manufacture of 3,4-methylenedioxymethamphetamine (MDMA)^{3,4}.

The root bark and root wood of Sassafras has been shown in the scientific literature to consist

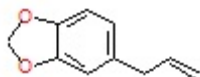
¹Huhn, C. et al. (2008) Separation of very hydrophobic analytes by micellar electrokinetic chromatography 1. Optimization of the composition of the sample solution for the determination of the aromatic ingredients of sassafras and other essential oils of forensic interest, *Electrophoresis*, **29**:526-537.

²Carlson, M. and Thompson, RD. (1997) Liquid chromatographic determination of safrole in sassafras-derived herbal products, *J AOAC Int.* **80**:1023-1028.

³Noggle Jr., FT. et al. (1991) Gas chromatographic and mass spectrometric analysis of n-methyl-1-aryl-2-propanamines synthesized from the substituted allylbenzenes present in sassafras oil, *J. Chromatographic Sci.* **29**:267-271.

⁴Noggle Jr., FT. et al. (1991) Gas chromatographic and mass spectrometric analysis of samples from a clandestine laboratory involved in the synthesis of ecstasy from sassafras oil, *J. Chromatographic Sci.* **29**:168-173.

mainly of essential oils in which safrole is present at between 61 and 89%^{5,6}.



Common Name: Safrole

Chemical Name: 5-(2-propen-1-yl)-1,3-benzodioxole

Other Names: 5-Allyl-1,3-benzodioxole; 4-allyl-1,2-(methylenedioxy)-benzene

CAS RN :94-59-7

Sassafras is not listed specifically in the CDSA. However, safrole is currently listed as item 17 in Part 1 of Schedule VI to the CDSA under the heading “Safrole (5-(2-propenyl)-1,3-benzodioxole and any essential oil containing more than 4% safrole”, and is considered a Class A Precursor.

In contrast to ephedrine and pseudoephedrine, where plants containing either of these two substances are captured under the item headings and included under Part 1 of Schedule VI, plants containing safrole is not mentioned specifically under the heading of item 17 of Part 1 of Schedule VI. However, the Commission on Narcotic Drugs resolution 49/7, defines safrole and safrole-rich oils as “any mixture or a natural products containing safrole present is such a way that it can be used or recovered by readily applicable means”. As safrole can readily be obtained from sassafras root, the substance falls under the UN definition of safrole and safrole-rich oils. Accordingly, sassafras must be included under item 17 of Part 1 of Schedule VI to the CDSA.

Recommendation: Sassafras is included under item 17 of Part 1 of Schedule VI to the CDSA and is considered a Class A precursor.

Date: 2 September 2010

⁵Zwaving, JH. and Bos, R. (1996) Composition of the essential oil from the root of *Sassafras albidum* (Nutt.) Nees, J. Essential Oil Res. **8**:193-195.

⁶Kamdem DP. and Gage, DA. (1995) Chemical composition of essential oil from the root bark of *Sassafras albidum*, *Planta Medica*, **61**:574-575.