

**Evaluation of  
Bois de rose oil  
for Use as a Cigarette Ingredient**

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## **INTRODUCTION**

Bois de rose oil (CAS # 8015-77-8) is currently used worldwide at levels below **5 ppm** in selected cigarette brands manufactured and/or distributed by Philip Morris International. This document is a review of current published toxicology information on bois de rose oil abstracted from online toxicity databases.

## **TOXICITY DATA ON UN-BURNED MATERIAL**

### ***Overview***

Bois de rose oil or rosewood oil is a natural flavouring complex. It is obtained by steam distillation from the wood of *Aniba rosaeodora*. It is an almost colourless liquid with a characteristic sweet odour, reminiscent of linalool<sup>1</sup>.

As a food flavouring additive, the material has been assessed under the provisions of the *Federal Food, Drug and Cosmetic Act, section 201 (s)*, by the Expert Committee of the USA Flavour and Extract manufacturers' Association (FEMA), to be generally recognized as safe (GRAS) under current conditions of use.

The Joint FAO/WHO Expert Committee on Food Additives has assessed bois de rose oil as presenting no safety concerns at current levels of intake when used as a flavouring agent. The daily per capita intake is estimated at 38 mg/person per day in the USA. No estimate was given for Europe<sup>2</sup>.

Bois de rose oil is a common cosmetic ingredient.

## **TOXICITY DATA ON BURNT MATERIAL**

Data on the toxicity of bois de rose oil as a cigarette ingredient has been evaluated in a series of studies. The results of these studies may be found in the following references:

R.R. Baker et al., 2004, "An overview of the effects of tobacco ingredients on smoke chemistry and toxicity", *Food and chemical toxicology*, 42S:53-83. \*\*PEER REVIEWED\*\*

E.L. Carmines, 2002, "Evaluation of the Potential Effects of Ingredients Added to Cigarettes. Part I: Cigarette Design, Testing Approach and Review of Results," *Food and Chemical Toxicology*, 40:77-91. \*\*PEER REVIEWED\*\*

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<sup>1</sup> *Ullmann's Encyclopedia of Industrial Chemistry* Copyright © 2002 by Wiley-VCH Verlag GmbH & Co. KGaA. All rights reserved. DOI: 10.1002/14356007.a11\_141 Article Online Posting Date: January 15, 2003

<sup>2</sup>The safety evaluation of natural flavouring complexes, WHO Food additives series: 52  
<http://www.inchem.org/documents/jecfa/jecmono/v52je19.htm>

K. Rustemeier et al, 2002, "Evaluation of the Potential Effects of Ingredients Added to Cigarettes Part II. Chemical Smoke Composition," Food and Chemical Toxicology, 40:93 - 104. \*\*PEER REVIEWED\*\*

Roemer et al, 2002, "Evaluation of the Potential Effects of Flavor Ingredients Added to Cigarettes. Part 3. In Vitro Genotoxicity and Cytotoxicity," Food and Chemical Toxicology, 40:105-111. \*\*PEER REVIEWED\*\*

P.M. Vanscheeuwijck et al, 2002, "Toxicological Evaluation of Cigarettes without and with the Addition of Flavor Ingredients to the Tobacco. Part 4. Subchronic Inhalation Toxicity," Food and Chemical Toxicology, 40:113-131. \*\*PEER REVIEWED\*\*

These studies indicate that the ingredients used in the production of cigarettes do not increase the overall toxicity of cigarette smoke.

## **CONCLUSION**

Cigarette smoking causes lung cancer, heart disease, emphysema and other serious diseases in smokers. Smokers are far more likely to develop serious diseases, like lung cancer, than non-smokers. There is no "safe" cigarette. Government health warnings about smoking apply to all cigarettes, regardless of the ingredients added, including those containing only tobacco and paper.

While Philip Morris International has not conducted human studies on the health effects of ingredients used in cigarette manufacture, studies have been conducted using scientifically accepted in vitro and in vivo toxicity assays with various ingredient mixtures (see Toxicity Data on Burnt Material above). These studies show there is no meaningful difference in the composition or toxicity of smoke when the smoke from cigarettes with added ingredients is compared to the smoke from cigarettes without added ingredients. These findings are supported by similar studies from the published literature. It is our scientific judgment, based on the best available data, that bois de rose oil used in our cigarettes does not increase the overall toxicity of cigarette smoke.