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Water pipe tobacco — Determination of total collected matter and nicotine using a water pipe tobacco smoking machine

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Foreword

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This document was prepared by Technical Committee ISO/TC 126, *Tobacco and tobacco products*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Tobacco smoke is a complex mixture consisting of many individual chemical constituents. These compounds exist as gases, vapours and condensed aerosol particles. Additionally, various rapid ageing processes, together with diffusional and intersolubility effects, start occurring immediately after the formation of the smoke which further complicates its composition. These processes and effects are particularly relevant to water pipe tobacco smoke where the smoke ages and passes through a water trap before it reaches the smoker.

Historically, when tobacco products are smoked in a laboratory setting, the particulate matter in smoke is collected on a glass fibre filter and this approach has been followed in this document for water pipe tobacco smoking.

The parameters used for "puffing" on the laboratory water pipe used in this document are based on published studies of human behaviour and data reported to the ISO/TC 126. It is convenient to use the term "puffing", however it is, in strict physiological terms, incorrect. Smokers of cigarettes and many other tobacco products use a two-step process to draw the smoke from the product into the mouth (the puff), followed usually by inhalation of ambient air into the lungs through either the nose or mouth. Smokers of water pipes use a one-step process to inhale smoke directly into the lungs.

It is important to note that no machine smoking regime can represent all human smoking behaviour:

— machine smoking testing is useful to characterize water pipe tobacco emissions for design and regulatory purposes, but communication of machine measurements to smokers can result in misunderstandings about differences in exposure and risk across brands;

— smoke emission data from machine measurements may be used as inputs for product hazard assessment, but they are not intended to be nor are they valid as measures of human exposure or risks. Communicating differences between products in machine measurements as differences in exposure or risk is a misuse of testing using ISO standards.