
**Tobacco — Determination of the
content of total alkaloids as nicotine
— Continuous-flow analysis method
using KSCN/DCIC**

*Tabac — Détermination de la teneur en alcaloïdes totaux exprimés en
nicotine — Méthode par analyse en flux continu à l'aide de KSCN/DCIC*

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO 22980:2020

<https://standards.iteh.ai/catalog/standards/iso/41aea483-7326-49ac-913c-8efce707f581/iso-22980-2020>



iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO 22980:2020

<https://standards.iteh.ai/catalog/standards/iso/41aea483-7326-49ac-913c-8efce707f581/iso-22980-2020>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Reagents	1
6 Preparation of solutions	2
6.1 General	2
6.2 System wash solution	3
6.3 5 % acetic acid solution	3
6.4 Sampler wash solution	3
6.5 Potassium thiocyanate solution	3
6.6 Sodium dichloroisocyanurate (DCIC) solution	3
6.7 Neutralisation solution A	3
6.8 Neutralisation solution B	3
6.9 Buffer solution A	3
6.10 Buffer solution B	3
7 Preparation of standards	3
7.1 General	3
7.2 Nicotine stock solution	4
7.3 Working standards	4
8 Apparatus	4
9 Procedure	4
9.1 Preparation of samples for analysis	4
9.2 Test portion	4
9.3 Preparation of test extract	4
10 Calculation	5
11 Repeatability and reproducibility	5
12 Test report	6
Annex A (informative) Suitable flow diagrams	7
Bibliography	8

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 126, *Tobacco and tobacco products*, Subcommittee SC 2, *Leaf tobacco*.

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.

<https://standards.iteh.ai/catalog/standards/iso/41aea483-7326-49ac-913c-8efce707f581/iso-22980-2020>

Introduction

In 2014, the CORESTA Routine Analytical Chemistry Sub-Group (RAC) undertook a collaborative study of two methods for the determination of total alkaloids in tobacco (as nicotine) by segmented continuous-flow analysis. The two methods are ISO 15152 and a new method proposed by the China National Tobacco Quality Supervision and Test Center. In ISO 15152, cyanogen chloride is generated in situ by the reaction of potassium cyanide and chloramine T. The proposed method eliminates the use of the potassium cyanide (KCN) by employing potassium thiocyanate (KSCN) with sodium dichloroisocyanurate dihydrate (DCIC) for colour development. Each method was tested using water extracted tobacco and 5 % acetic acid extracted tobacco. Calibration standards were prepared with the same extraction solutions.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO 22980:2020](https://standards.iteh.ai/catalog/standards/iso/41aea483-7326-49ac-913c-8efce707f581/iso-22980-2020)

<https://standards.iteh.ai/catalog/standards/iso/41aea483-7326-49ac-913c-8efce707f581/iso-22980-2020>

