

**Cosmetics - Analysis of cosmetic products -  
Determination of 3-iodo-2-propynyl butylcarbamate  
(IPBC) in cosmetic preparations, LC-MS methods**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|                                                                                                                     |                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| See Eesti standard EVS-EN 16343:2013 sisaldab Euroopa standardi EN 16343:2013 ingliskeelset teksti.                 | This Estonian standard EVS-EN 16343:2013 consists of the English text of the European standard EN 16343:2013.                      |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.                                                  | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.05.2013. | Date of Availability of the European standard is 22.05.2013.                                                                       |
| Standard on kättesaadav Eesti Standardikeskusest.                                                                   | The standard is available from the Estonian Centre for Standardisation.                                                            |

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 71.100.70

### Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Aru 10, 10317 Tallinn, Eesti; [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

### The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:  
Aru 10, 10317 Tallinn, Estonia; [www.evs.ee](http://www.evs.ee); phone 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

ICS 71.100.70

English Version

**Cosmetics - Analysis of cosmetic products - Determination of 3-iodo-2-propynyl butylcarbamate (IPBC) in cosmetic preparations, LC-MS methods**

Cosmétiques - Analyse des produits cosmétiques -  
Détermination quantitative du carbamate 3-iodo-2-  
propynylbutyle (IPBC), méthodes CL-SM

Kosmetische Mittel - Untersuchung von kosmetischen  
Mitteln - Bestimmung von 3-Iod-2-propinylbutylcarbamat  
(IPBC) in kosmetischen Mitteln, LC-MS-Verfahren

This European Standard was approved by CEN on 25 April 2013.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Contents

Page

|                                                                 |   |
|-----------------------------------------------------------------|---|
| Foreword.....                                                   | 3 |
| 1 Scope.....                                                    | 4 |
| 2 Principle.....                                                | 4 |
| 3 Reagents.....                                                 | 4 |
| 4 Apparatus and equipment .....                                 | 5 |
| 5 Procedure.....                                                | 5 |
| 6 Evaluation.....                                               | 7 |
| 7 Test report .....                                             | 7 |
| Annex A (informative) Results of the inter-laboratory test..... | 8 |
| Bibliography.....                                               | 9 |

## Foreword

This document (EN 16343:2013) has been prepared by Technical Committee CEN/TC 392 “Cosmetics”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2013, and conflicting national standards shall be withdrawn at the latest by November 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This European Standard specifies a method for the quantitative determination of 3-iodo-2-propynyl butylcarbamate (IPBC) in the concentration range from 0,005 g/100 g to 0,1 g/100 g - Annex V No. 56 in Regulation (EC) No 1223/2009 on cosmetic products.

## 2 Principle

IPBC is extracted from the cosmetic preparation using methanol. IPBC present in the sample extract is separated using reverse phase HPLC with mass specific detection (LC-MS or LC-MS/MS). Quantitative determination of IPBC is made using the external standard method of calibration or standard addition.

## 3 Reagents

### 3.1 General

If not otherwise specified, analytical-grade chemicals shall be used; water shall be distilled or of a suitable purity. "Solution" shall be understood as an aqueous solution unless otherwise specified.

**3.2 Iodopropynyl butylcarbamate**, CAS number: 55406-53-6 (Supplier : Sigma-Aldrich<sup>1)</sup> (521949), Dr. Ehrenstorfer GmbH<sup>1)</sup> (C 14335000)).

**3.3 Methanol**, HPLC grade, CAS number: 67-56-1.

**3.4 Formic acid**, CAS number: 64-18-6.

**3.5 Tetrahydrofuran (THF)**, CAS number: 109-99-9.

**3.6 Propan-2-ol**, CAS number: 67-63-0.

### 3.7 Eluents

**3.7.1 Eluent A**, 1 ml of formic acid (3.4) is mixed with 1 000 ml of water.

**3.7.2 Eluent B**, Methanol (3.3).

**3.8 IPBC stock solution**,  $\rho = 1$  mg/ml.

Weigh approximately 0,05 g of IPBC (3.2) into a 50-ml-volumetric flask. Firstly, dissolve in a small amount of methanol (3.3) and then fill up to the calibration mark with methanol. This solution has a shelf life of 8 weeks if it is stored in a refrigerator.

### 3.9 Calibration solutions (standard solutions)

5,0 ml of the stock solution (3.8) is transferred into a 50-ml-volumetric flask and filled to the calibration mark with methanol (3.3), ( $\rho = 0,1$  mg/ml or 100  $\mu$ g/ml). From this solution, at least 5 solutions are prepared by dilution to obtain IPBC concentrations of  $\rho = 0,05$   $\mu$ g/ml to  $\rho = 1,0$   $\mu$ g/ml. These solutions have a shelf life of 8 weeks if they are stored in a cool place. Examples of dilutions are given in Table 1.

---

<sup>1)</sup> This is an example of a suitable product available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by CEN of this product. Equivalent products may be used if they can be shown to lead to the same results.