

First edition  
2016-04-01

---

---

---

**Water quality — Determination  
of short-chain polychlorinated  
alkanes (SCCPs) in sediment, sewage  
sludge and suspended (particulate)  
matter — Method using gas  
chromatography-mass spectrometry  
(GC-MS) and electron capture  
negative ionization (ECNI)**

*Qualité de l'eau — Détermination des alcanes polychlorés à chaîne  
courte dans les sédiments et matières en suspens (particules) —  
Méthode par chromatographie en phase gazeuse-spectrométrie de  
masse (CPG-SM) et ionisation chimique négative (ICN)*



Reference number  
ISO 18635:2016(E)



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, 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  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
[copyright@iso.org](mailto:copyright@iso.org)  
[www.iso.org](http://www.iso.org)

## Contents

	Page
<b>Foreword</b>	<b>iv</b>
<b>Introduction</b>	<b>v</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Principle</b>	<b>1</b>
<b>4 Interferences</b>	<b>2</b>
<b>5 Reagents</b>	<b>3</b>
<b>6 Apparatus</b>	<b>6</b>
<b>7 Sampling and sample pretreatment</b>	<b>7</b>
<b>8 Procedure</b>	<b>7</b>
8.1 Extraction	7
8.2 Extract clean-up	7
8.3 Measurement and integration of the chromatogram	8
8.4 Calibration	8
8.4.1 General	8
8.4.2 Basic calibration	9
8.4.3 Identification and quantification with mass fragment combinations	10
8.4.4 Calculation of the results	10
8.4.5 Quality checks for internal standardization	11
<b>9 Expression of results</b>	<b>11</b>
<b>10 Test report</b>	<b>11</b>
<b>Annex A (normative) Programme for pressurized liquid extraction</b>	<b>12</b>
<b>Annex B (informative) Explanation of the calibration of the sum of SCCPs with multiple linear regression</b>	<b>13</b>
<b>Annex C (informative) Examples of typical GC-MS conditions</b>	<b>18</b>
<b>Annex D (normative) Alternative clean-up with column chromatography</b>	<b>22</b>
<b>Annex E (informative) Alternative clean-up with gel chromatography</b>	<b>24</b>
<b>Annex F (informative) Typical chromatograms of standard solutions 1 µg/ml</b>	<b>25</b>
<b>Annex G (informative) Presentation of goodness of fit of the calibration</b>	<b>26</b>
<b>Annex H (informative) Example for recoveries of quality assurance solutions</b>	<b>27</b>
<b>Annex I (informative) Chromatograms of real samples</b>	<b>29</b>
<b>Annex J (informative) Performance data</b>	<b>31</b>
<b>Annex K (informative) Quality control check solutions</b>	<b>32</b>
<b>Bibliography</b>	<b>33</b>