This document is primarily designed for foam manufacturers who would like to apply for the CertiPUR label, the Safety, Health and Environment (SHE) standard of the European flexible polyurethane (PU) block foams industry.

I. General Information

This chapter presents the advantages of the CertiPUR standard and explains the procedure.

II. Application Form

This chapter provides details on the three phases of the application process and other additional information.

Phase A: Opening of the CertiPUR dossier
Phase B: Sending of the analytical test results and payment to EUROPUR
Phase C: Recognition of approval
Important additional information

III. Technical Requirements

This chapter specifies which substances are restricted or prohibited under the CertiPUR standard.

Restrictions on substances used in formulations or which may be formed during the production of flexible PU foams

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   1.2. Phthalate plasticizers
   1.3. TDA and/or MDA (resp. for TDI and/or MDI based foam)
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I. General Information
CertiPUR Label for Flexible Polyurethane Foams

The CERTIPUR label is a voluntary standard for the environmental properties of flexible polyurethane foams used in bedding and upholstered furniture applications. It specifies substances that may not be used in the production of PU foam and sets stringent maximum limits for components.

In daily life flexible Polyurethane foams contribute to comfort, safety and aesthetic benefits. Their unique performance, however, cannot be looked at without having a close focus also on the environmental aspects of PU: downstream industry clients, final consumers and, last but not least, regulators expect the proof of conformity with the state-of-the-art knowledge on minimizing any impact on consumer’s health and the environment.

CertiPUR meets these expectations through a clear commitment to avoid absolutely or limit strictly the presence of any potentially harmful substance in flexible PU foams. In this approach it stays ahead of evolving EU legislation, such as the EC General Product Safety Directive 2001/95/EC, REACH or other regulations. The CertiPUR label enables individual foam producers to reassure bedding and furniture manufacturers on environmental matters, allowing them to give customers and consumers confidence in certified Polyurethane foams.

The CertiPUR label is valid for three years.

How CertiPUR works

CertiPUR sets criteria in two categories:

- Measurable upper limits with regard to the finished foam on certain substances that are either used to produce foam or that can be found in foams. CertiPUR designates these restricted substances and defines accepted test methods to determine these limits.

- Prohibited substances, which participating companies are required to declare that these substances are not being used to produce certified foams

The above is a brief summary. For more detailed information please see the ‘Technical Requirements’ or contact Europur, the European Association of Polyurethane Block Foam Manufacturers, which is in charge of the PU foam standard and its label CertiPUR.
II. Application Form
CertiPUR Label for Flexible Polyurethane Foams

Procedure:

The CertiPUR label covers three years; the first year the selected foam grade is analysed according to all parameters described in phase B. You may choose an accredited laboratory by EUROPUR from the list.

In the second and third year, control tests will be carried out. Therefore the Europur Office will contact you and indicate the foam family and foam grade to be tested. The laboratory will also be indicated. The control test includes at least a VOC test and determination of TDA/MDA.

The test results as well as the bill will be sent to the EUROPUR Secretariat directly by the laboratory. These testing costs will be chargeable to EUROPUR. EUROPUR will inform you about the results.

If the control testing results are in conformity with the standard, the foamer can continue using the label. If the control testing reveals a deviation from the threshold values, you will have one month to take corrective actions and send a new sample of the same foam family and foam grade to the same laboratory. In this case, costs will be charged to you, the foamer.

If further deviations are found, EUROPUR may withdraw the authorisation to use the CertiPUR label with immediate effect. The use of existing advertising materials, displays, etc. is limited to 1 month from the time of withdrawal. Failure to stop using the label will lead to a penalty sum of €10,000 per incident.
The CertiPUR application procedure as such comprises of three phases:

Phase A: Opening of the CertiPUR dossier
Phase B: Sending of the analytical test results and payment to EUROPUR
Phase C: Recognition of approval

Please read the “important additional information” at the end of the application form and submit all documents in English.

All information provided to EUROPUR will be kept strictly confidential.

Should you have any difficulties, please contact Europur at the address below or your national federation.

EUROPUR
Avenue de Cortenbergh 71
B-1000 Brussels
Belgium

Tel: +32-2-741.82.83
Fax: +32-2-736.60.72
E-mail: info@certipur.org
PHASE A: Opening of the CertiPUR dossier

Instructions:

1. Please fill out this section (‘Phase A’) of the English application form and submit it to the EUROPUR Secretariat in Brussels by post (EUROPUR needs the original application form)

2. The EUROPUR Secretariat will confirm the receipt of your application and review it

3. If the application form ‘Phase A’ meets all requirements, EUROPUR will:
   - contact you
   - select with you one sample* among the PU foam families for which you have applied. You then will send the sample of that foam for testing to the accredited laboratory of your choice. This sample should follow the sampling and testing procedures set out in the ‘Technical Requirements for the CertiPUR label’. The testing costs will be covered by you (the applicant).
   - send you a copy of your application ‘Phase A’ indicating the selected sample to be tested and confirming the selected laboratory with a sample submitting form
   - invite you to start the procedure of ‘Phase B’

* The choice of the foam quality to be sent for analysis is an important matter: CertiPUR is based upon the fact that the applicant takes the full responsibility. This means that, when the chosen foam sample meets the analytical test requirements, the applicant is convinced that all other foam qualities of the foam families for which he applies, will also pass the analytical tests. In case of any doubt more samples may of course be introduced for analysis.
Application:

1. Company details

<table>
<thead>
<tr>
<th>Name of legal entity*</th>
<th>…………………………………………………………………………………………………………………………………………………</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant(s) name(s)/location(s)</td>
<td>…………………………………………………………………………………………………………………………………………………</td>
</tr>
<tr>
<td></td>
<td>…………………………………………………………………………………………………………………………………………………</td>
</tr>
<tr>
<td></td>
<td>…………………………………………………………………………………………………………………………………………………</td>
</tr>
<tr>
<td>VAT number:</td>
<td>…………………………………………………………………………………………………………………………………………………</td>
</tr>
<tr>
<td>Country of the legal entity</td>
<td>…………………………………………………………………………………………………………………………………………………</td>
</tr>
<tr>
<td>Are you a EUROPUR member?</td>
<td>□ Yes □ No</td>
</tr>
</tbody>
</table>

* Please fill in one application form per legal entity. A legal entity is defined as one company in one country

2. Contact details

| Name: | ………………………………………………………………………………………………………………………………………………… |
| Function: | ………………………………………………………………………………………………………………………………………………… |
| Tel.: | ………………………………………………………………………………………………………………………………………………… |
| Fax: | ………………………………………………………………………………………………………………………………………………… |
| E-mail: | ………………………………………………………………………………………………………………………………………………… |
| Address: | ………………………………………………………………………………………………………………………………………………… |

3. Foam families

Application for the following foam families (please tick the appropriate boxes):

- □ Standard Ether foams
- □ High Resilience foams
- □ Combustion Modified High Resilience foams
- □ Combustion Modified Ether foams
- □ Visco-Elastic (VE) foams
- □ Combustion Modified Visco-Elastic (CMVE) foams
- □ Flame Retardant Foams containing Brominated Flame Retardants
To be filled in by the EUROPUR Secretariat:

Selection of the following foam family and foam grade for testing:

------------------------------------------------------------------------------------------------------------------

4. Selection of accredited laboratories

Please select from the list of accredited laboratories below the one to which you would like to send the sample for testing (please tick the appropriate box).

- □ Denmark: Eurofins Environment A/S
- □ France: Eurofins Environnement
- □ Germany: TÜV Rheinland Products LGA GmbH
- □ United Kingdom: Hall Analytical Ltd
- □ Spain: TÜV Rheinland Group en Espana
- □ Italy: TÜV Rheinland Italia S.r.l.

5. Prohibited Substances

We, (the legal entity) .............................................................................................................................., declare that we do not intentionally add any of the prohibited substances identified in the ‘Technical Requirements’ (section 2 - Substances that are prohibited) in the foam families indicated.

Signature: .................................................................................................................................

6. Disclaimer & hold harmless letter

If we receive the CertiPUR label, we, (the legal entity)........................................................................, acknowledge full responsibility for all our foams mentioned in the application form and all qualities as mentioned in Section 3 above; we will not hold EUROPUR liable for any product claim introduced by a customer or customers. Should EUROPUR be confronted with a product claim by customer(s), which is based on one of our products, we shall hold EUROPUR harmless and indemnify it completely for any loss suffered or damages incurred.

Signature: .................................................................................................................................
7. **Declaration of commitment on control testing**

We, (the legal entity) .................................................................................................................., allow an authorised laboratory to carry out control tests at any time and on any product under application in accordance with the indicated foam families in the event that a label be granted by EUROPUR and until the label is no longer used. These testing costs are chargeable to EUROPUR.

Signature: .................................................................................................................................

8. **Additional information**

Please mention here if you have any additional information or if you do not want to have your name listed on the EUROPUR public website under companies registered with CertiPUR.

We, (the legal entity) .................................................................................................................., have read carefully and understood the application procedures including the “important additional information” and the details of the application form and agree with all of these.

Date: .............................................. Signature: ..............................................................

**To be filled in by the EUROPUR Secretariat:**

**Application number:** ........................................................................................................

**Date of reception of application form ‘Phase A’:** ..............................................................

**Date of contact with applicant:** ...........................................................................................

**Approval to go further:** Yes - No  **Date:** .................................................................

**Additional comments:** ........................................................................................................

Date: .............................................. Signature: ..............................................................

End of ‘Phase A’
PHASE B: Reporting of the analytical test results and payment to EUROPUR

Instructions and procedure:

1. The laboratory will send you the results of the testing of the sample that you submitted in ‘Phase A’.
2. After receiving the results, fill in ‘Phase B’ of the English application form and submit it together with the analytical test report in English from the laboratory to the EUROPUR Secretariat.
3. EUROPUR will evaluate the results of the analytical test report and keep you informed on whether your application has been accepted or not.
4. In case of approval, EUROPUR will send you the invoice for the use of the CertiPUR label and you will be invited to make the payment (see section 3 below). EUROPUR will proceed with ‘Phase C’ after reception of the payment.

Application:

Application number (please see box filled in by EUROPUR in ‘Phase A’): .................................
Sample identification (foam family, foam grade and company production ref. N°):
..................................................................................................................................................................................
..................................................................................................................................................................................

Production date: ..............................................................................................................................................
Date of sampling: ...............................................................................................................................................
Date of mailing to laboratory: ............................................................................................................................

1. Restricted substances

Please enclose the original version of the analytical test report in English (not older than 3 months) showing that your sample complies with the restriction for the following substances:

□ TBT, DBT, MBT and sum of the mentioned tin organic compounds
□ Sum of the 6 mentioned phthalate plasticizers
□ TDA, MDA
□ Total VOC and individual VOCs
2. Declaration of conformity

We, (the legal entity) ………………………………………………………………………………………………………………….,
declare that all products manufactured or sold for which we request the authorisation to use the CertiPUR label fulfil the requirements of the CertiPUR standard with regard to the threshold values of substances which are known to us. We are entirely responsible for the quality assurance of CertiPUR labelled products (as mentioned in point 6 of phase A).

Signature: …………………………………………………………………………………

3. Payment upon receipt of the EUROPUR invoice

Please wait for the invoice from EUROPUR before making any payment.

To obtain the label CertiPUR and use it for a period of 3 years, please transfer the following amount to the EUROPUR account:

For EUROPUR members: €3,000 for a 3-year period
For non-EUROPUR members: €5,000 scheme entry fee + €3,000 for a 3-year period

Bank: BNP Paribas Fortis - De Brouckère, account N° 210-0081935-22
       Boulevard Anspach 3
       B-1000 Brussels
       Belgium

Iban code: BE06 2100 0819 3522

BIC-Swift code: GEBABEBB

Communication: CertiPUR + name of legal entity + application number (please see box filled in by EUROPUR in ‘Phase A’)

If the application forms ‘Phase A’ and ‘Phase B’ have been approved in their entirety and after the payment has been received by EUROPUR, the Secretariat will forward you a ‘Recognition of approval’ for the families of foams for which you have applied. FROM RECEPTION OF THIS ‘RECOGNITION OF APPROVAL’ AND THE CertiPUR LOGO YOU WILL BE AUTHORISED TO USE THEM ON ALL YOUR MARKETING DOCUMENTS AND PRODUCTS FOR WHICH THE LABEL HAS BEEN GRANTED (see ‘Phase C’).

Date: ………………………………………… Signature: ……………………………………………………………………….
To be filled out by the EUROPUR Secretariat:

Date of reception of application form ‘Phase B’: .................................................................
Date of reception of test results: ...........................................................................................
Date of contact with applicant: ...........................................................................................
Approval to go further: Yes - No  Date: ..................................................................................
Payment received on date: ....................................................................................................

Date: .............................................  Signature: .................................................................

End of ‘Phase B’
PHASE C: Recognition of approval

After satisfactory completion of phases A and B, you will be free to start using the CertiPUR label and will receive the following ‘Recognition of Approval’ and the CertiPUR logo in electronic format.

CertiPUR™ RECOGNITION OF APPROVAL

This is to attest that the legal entity

has been granted the right to use the safety, health and environmental standards CertiPUR™

in connection with the following families of foams:

- Standard Ether Foams
- Combustion Modified Ether Foams
- Combustion Modified Visco-Elastic Foams

manufactured or sold for which Europur has provided the authorisation to use the CertiPUR™ label and which fulfil the requirements of the CertiPUR™ standard with regard to the limit values of substances by measurement and prohibited substances by declaration.

Application No.: C-RL-001:012-0015
Original Label Approval: 26 May 2009
Current Label: 26 May 2009
Label Expiry: 26 May 2019

Issued by Secretary General Europur: Dr. Axel Kamprath
Europur – ASSC - European non-profit association of PUR foam block manufacturers
www.europur.com
Important additional information:

1. Scope

The Standard only covers foams used in bedding and upholstery applications. It is designed as a common European standard covering the chemical compounds and substances used to produce flexible PU foams or which may be contained in them. CertiPUR concerns SHE only and does not apply to physical characteristics, such as density, hardness etc.

2. Geographical validity

The label can be used worldwide but is only protected in the EU27 countries as well as in Norway and Turkey.

3. Modification of technical, legal & other requirements

The EUROPUR CertiPUR Working Group may meet at any time and at least once every 3 years to review and update the technical, legal and other requirements of the CertiPUR label.

All CertiPUR holders will be immediately informed of any changes and will be responsible to make the necessary adjustments.

The composition of the CertiPUR Working Group is available upon request.

4. Legal entity

An application is required for each legal entity. A legal entity is defined as a company in a country. Consequently, one application form is required per legal entity per country.

5. Laboratory

Applicant companies must use the following accredited laboratories applying the prescribed test methods:

List of accredited laboratories:

**Denmark**

Eurofins Product Testing A/S  
Mr. Thomas Neuhaus  
tne@eurofins.dk  
Smedeskovvej 38 - DK - 8464 Galten  
Tel: +45-70.22.42.76. - Fax: +45-70.22.42.75. - E-mail: eurofins@eurofins.dk

Eurofins has representatives in Germany (Tel. +49-40.49.29.43.33), Italy (Tel. +39-02.25.07.15.1.), The Netherlands (Tel. +31-3.43.59.20.03), Spain (Tel. +34-9.34.03.45.55), United Kingdom (Tel. +44-16.18.68.76.00) and France (see hereunder)
6. Start date to use the CertiPUR label

You will be authorised to use the CertiPUR label from reception of the ‘Recognition of approval’.

7. Control checks

EUROPUR will organise control checks for compliance on a random basis during the 3-year period and will ask the applicant to send fresh samples for control testing. The sampling and the testing procedure are as mentioned in the ‘Technical Requirements’ document. These one-week-old samples will be analysed at EUROPUR’s cost:

- If the spot check meets the CertiPUR specifications, the use of the label is confirmed and you will receive a copy of the test results.
- If the spot check does not meet the specifications, the company will be notified and given one month to take corrective action. In this case, the company will need to undertake new tests at its own cost and send the results to EUROPUR.
8. Revocation

Once the label has been granted, it can be revoked in two cases:
- If your certified foam family does not meet the CertiPUR specifications after the procedure mentioned here above (7. control tests)
- If there is no renewal of the CertiPUR label at the end of the 3-year period.

Failure to stop using the label will lead to a penalty sum of €10,000 per incident.

9. Third party claims

EUROPUR is not responsible for any third party claim. Consequently, foamers will not hold EUROPUR liable for any product claim introduced by a customer or customers. Should EUROPUR be confronted with a product claim by customer(s), which is based on one of our products, we shall hold EUROPUR harmless and indemnify it completely for any loss suffered or damages incurred.

10. Renewal

After 3 years, the application will need to be renewed with the same procedure (as from Phase A).

EUROPUR will send a reminder for the renewal of the CertiPUR label 3 months before the expiration date mentioned in the CertiPUR ‘Recognition of Approval’.
Introduction

Foam producers applying for the CertiPUR label are required to demonstrate by external testing and declaration that their products comply with the criteria explained hereafter in the ‘Technical Requirements’.

The following pages indicate restrictions on substances used or formed during PU production

1. Substances subject to measurable limits and test methods
2. Substances that are prohibited
Restrictions on substances used in formulations or which may be formed during the production of flexible PU foams

1. Substances subject to measurable limits

Sampling procedure

For all the following substance testing, these are the agreed sampling procedures:

1. Please be sure to wear phthalate-free PU or latex gloves while handling samples. This will keep the samples free from contamination by soap or fragrances.

2. Origin of the samples: the samples are to be cut out of the centre of a short block (minimum length 2 m from block end) that represents routine production or is part of it.

3. Size of the test samples: 25 cm x 20 cm x 15 cm

4. Conditioning period: the samples shall be cut out the block less than one week after production of the foam, crushed if necessary, and immediately packaged and shipped.

5. Seal four unmarked samples tightly in individual aluminium foil wrappers and in addition in a PE foil.

6. Please complete the Sample Submission Form, which you will receive from the Europur office.

7. Place the samples in a cardboard box, including the completed Sample Submission Form, and ship it to the accredited laboratory of your choice via express delivery service. Tape a duplicate Sample Submission Form to the outside of each foil package.

8. Keep one packed sample as a control for a period of 6 months.
1.1. Tinorganic substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
<th>CertiPUR Standard Limit (ppb)</th>
<th>LOQ [ppb]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tributyltin (TBT)</td>
<td></td>
<td>&lt; 50</td>
<td>5</td>
</tr>
<tr>
<td>Dibutyltin (DBT)</td>
<td></td>
<td>&lt; 100</td>
<td>5</td>
</tr>
<tr>
<td>Monobutyltin (MBT)</td>
<td></td>
<td>&lt; 100</td>
<td>5</td>
</tr>
<tr>
<td>Tetrabutyltin (TeBT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monoctyltin (MOT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dioctyltin (DOT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tricyclohexyltin (TcyT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triphenyltin (TPhT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum*</td>
<td></td>
<td>&lt; 500</td>
<td>50</td>
</tr>
</tbody>
</table>

Test method
The sample must be a composite of 6 pieces to be taken from beneath each sample face (to a maximum of 2 cm from the surface). The sample is cut and extracted for 1 hour with the extracting agent** in an ultrasonic bath at room temperature. After extraction the alkyl tin species are derivatized by adding sodium tetraethylborate solution in THF. The derivative is then extracted with n-hexane. The sample is then submitted to a second extraction procedure. Both hexane extracts are combined and further used to determine the organotin compounds by gas chromatography with mass selective detection in SIM modus.

* Besides the CertiPUR limit for the individual organic tin substances MBT, DBT and TBT, a specification limit is also set for the sum of n-butyltin, di-n-butyltin, tri-n-butyltin, tetra-n-butyltin, n-octyltin, di-n-octyltin, tri-cyclohexyltin and tri-phenyltin

** Extracting agent: 250 ml buffer*** + 1750 ml methanol + 300 ml acetic acid
*** Buffer (pH 4,5): 164 g sodium acetate + 1200 ml water + 165 ml acetic acid, to be diluted to 2000 ml with water

1.2. Phthalate plasticizers

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
<th>CertiPUR Standard Limit</th>
<th>LOQ [ppm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum of 6 phthalates°:</td>
<td></td>
<td>≤ 0.01 wt %</td>
<td>50</td>
</tr>
<tr>
<td>Di-iso-nonylphthalate</td>
<td>28553-12-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Di-n-octylphthalate</td>
<td>117-84-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Di (2-ethylhexyl)-phthalate</td>
<td>117-81-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diiso-decylphthalate</td>
<td>26761-40-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butylbenzylphthalate</td>
<td>85-68-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dibutylphthalate</td>
<td>84-74-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

° Note: see also section 2.3
Test method
Soxhlet extraction with dichloromethane using validated method and followed by analysis with GC/MS or HPLC/UV.

The sample must be a composite of 6 pieces to be taken from beneath each sample face (to a maximum of 2cm from the surface).

1.3. **TDA or MDA (resp. for TDI or MDI based foam)**

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
<th>CertiPUR Standard Limit</th>
<th>LOQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4 Toluenediamine (2,4 TDA)</td>
<td>95-80-7</td>
<td>≤ 5.0 ppm</td>
<td>0,5 ppm</td>
</tr>
<tr>
<td>4,4' Diaminodiphenylmethane (4,4' MDA)</td>
<td>101-77-9</td>
<td>≤ 5.0 ppm</td>
<td>0,5 ppm</td>
</tr>
</tbody>
</table>

Test method
Extraction with 1 % aqueous acetic acid solution. The sample must be a composite of 6 pieces to be taken from beneath each samples face (to a maximum of 2 cm from the surface). Four repeat extractions of the same foam sample must be performed maintaining the sample weight to volume ratio of 1:5 in each case. The extracts are combined, made up to a known volume, filtered and analysed by HPLC-UV or HPLC-MS. If HPLC-UV is performed and interference is suspected, reanalysis with HPLC-MS should be performed.

1.4. **Emission of volatile organic compounds**

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
<th>CertiPUR Standard Limit [µg/m³]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>10</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>100</td>
</tr>
<tr>
<td>Styrene</td>
<td>100-42-5</td>
<td>5</td>
</tr>
<tr>
<td>Each CMR substance class 1a or 1b (*)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Sum of all CMR substances class 1a and 1b (*)</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>Aromatic hydrocarbons</td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>Organic volatiles (total)</td>
<td></td>
<td>500</td>
</tr>
</tbody>
</table>

*Note: according to EU legislation (http://www.dguv.de/ifa/de/fac/kmr/kmr_neue_bezeichnungen.pdf)*

Test method:
The foam sample is placed on the bottom of an emission test chamber and is conditioned for 3 days at 23 °C/50%RH, applying an air exchange rate n of 0.5 per hour and a chamber loading L of 0.4 m²/m³ (= total exposed surface of sample in relation to chamber dimensions without sealing edges and back) in accordance with ISO 16000-9 and ISO 16000-11.

Sampling will be done 72 ± 2 h after loading of the chamber during 1 hour on Tenax TA and DNPH cartridges for respectively VOC and formaldehyde analysis.
The emissions of volatile organic compounds (VOC) are being trapped on Tenax TA sorbent tubes and subsequently analysed by means of thermo-desorption-GC-MS in accordance to ISO 16000-6. Results are semi-quantitatively expressed as toluene equivalents. All specified individual components are reported from a concentration limit >= 1 μg/m³. TVOC value is the sum of all components with a concentration >= 1μg/m³ and eluting within the retention time window from n-hexane (C6) to n-hexadecane (C16) inclusive. The sum of all CMR substances class 1a & 1b is the sum of all these substances with a concentration >= 1 μg/m³. In case the test results exceed the standard limits, substance specific quantification needs to be performed.

Formaldehyde can be determined by collection of the sampled air onto DNPH cartridge and subsequent analysis by HPLC/UV in accordance to ISO 16000-3.

Note:
Chamber volume has to be 0.5 or 1 m³.
1 sample (25 cm x 20 cm x 15 cm) is used in a test chamber of 0.5 m³ standing vertically on one 20 cm x 15 cm side.
2 samples (25 cm x 20 cm x 15 cm) are used in a 1 m³ test chamber standing vertically on one 20 cm x 15 cm side; in this case both samples are placed in the test chamber with 15 cm distance in between.

2. Substances that are prohibited

Applicant companies must declare they do not add the following substances. It is however not excluded that impurities may be present unintentionally. See following tables for further details by category.

2.1. Heavy metals

The Applicant declares that he does not intentionally add substances that may, to actual knowledge, result in the foam having extractable heavy metal concentrations above those given in the table below.

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
<th>EUROPUR Standard Limit [ppm] (mg/kg of foam)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony (Sb)</td>
<td>7440-36-0</td>
<td>0.5</td>
</tr>
<tr>
<td>Arsenic (As)</td>
<td>7440-38-2</td>
<td>0.2</td>
</tr>
<tr>
<td>Cadmium (Cd)</td>
<td>7440-43-9</td>
<td>0.1</td>
</tr>
<tr>
<td>Chromium total (Cr)</td>
<td>7440-47-3</td>
<td>1.0</td>
</tr>
<tr>
<td>Chromium VI (Cr VI)</td>
<td>18540-29-9</td>
<td>0.01</td>
</tr>
<tr>
<td>Cobalt (Co)</td>
<td>7440-48-4</td>
<td>0.5</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>7440-50-8</td>
<td>2.0</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>7439-92-1</td>
<td>0.2</td>
</tr>
<tr>
<td>Nickel (Ni)</td>
<td>7440-20-0</td>
<td>1.0</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>7439-97-6</td>
<td>0.02</td>
</tr>
<tr>
<td>Selenium (Se)</td>
<td>7782-49-2</td>
<td>0.5</td>
</tr>
</tbody>
</table>
2.2. **Dyes**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EU legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyes which are cleavable into arylamines</td>
<td>Directive 2002/61/EC and its amendments</td>
</tr>
<tr>
<td>Dyes which are classified as carcinogenic</td>
<td>Directive 76/769/EEC and its amendments</td>
</tr>
<tr>
<td>Dyes which are classified as allergens</td>
<td>Directive EC/1896/2000 and its amendments</td>
</tr>
</tbody>
</table>

2.3. **Phthalate plasticizers**

The Applicant declares that he does not intentionally add phthalates to the foam formulation.

Note: The CertiPUR standard prohibits the intentional addition of any phthalates to the foam formulation. However phthalates traces may be found even when not intentionally added. Therefore the maximum limit of the sum of the phthalates mentioned in §1.2 is limited to ≤ 0.01 wt % by measurement.

2.4. **Substances with certain R-Phrases**

Raw materials which, in their most recent MSDS, mention the R-phrases R45, R46, R49, R60, R61 shall not be used.

<table>
<thead>
<tr>
<th>R-Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>R45 (may cause cancer)</td>
</tr>
<tr>
<td>R46 (may cause heritable genetic damage)</td>
</tr>
<tr>
<td>R49 (may cause cancer by inhalation)</td>
</tr>
<tr>
<td>R60 (may impair fertility)</td>
</tr>
<tr>
<td>R61 (may cause harm to the unborn child)</td>
</tr>
</tbody>
</table>

2.5. **Blowing agents**

<table>
<thead>
<tr>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFC*</td>
</tr>
<tr>
<td>HCFC*</td>
</tr>
<tr>
<td>Halons</td>
</tr>
</tbody>
</table>

* Note: CFC and HCFC are forbidden by Council Regulation on substances that deplete the ozone layer, EC 3093/94 of 15 December 1994.
2.6. **Total chlorine content of isocyanates (only to be declared based on the input from the raw material supplier)**

The isocyanates used in the production of the PU foam have to fulfil a limit of max 0.07% total chlorine.

**Test method**
ASTM D4661-93.

2.7. **Other prohibited substances**

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorinated or brominated dioxines or furans</td>
<td></td>
</tr>
<tr>
<td>Chlorinated hydrocarbons (1,1,2,2-Tetrachloroethane, Pentachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethylene)</td>
<td></td>
</tr>
<tr>
<td>Chlorinated phenols (PCP, TeCP)</td>
<td>87-86-5</td>
</tr>
<tr>
<td>Hexachlorocyclohexane</td>
<td>58-89-9</td>
</tr>
<tr>
<td>Monomethyl dibromo-Diphenylmethane</td>
<td>99688-47-8</td>
</tr>
<tr>
<td>Monomethyl dichloro-Diphenylmethane</td>
<td>81161-70-8</td>
</tr>
<tr>
<td>Nitrites</td>
<td></td>
</tr>
<tr>
<td>Polybrominated Biphenyls (PBB)</td>
<td>59536-65-1</td>
</tr>
<tr>
<td>Pentabromodiphenyl Ether (PeBDE)</td>
<td>32534-81-9</td>
</tr>
<tr>
<td>Octabromodiphenyl Ether (OBDE)</td>
<td>32536-52-0</td>
</tr>
<tr>
<td>Polychlorinated Biphenyls (PCB)</td>
<td>1336-36-3</td>
</tr>
<tr>
<td>Polychlorinated Terphenyls (PCT)</td>
<td>61788-33-8</td>
</tr>
<tr>
<td>Tri-(2,3-dibromo-propyl)-phosphate (TRIS)</td>
<td>126-72-7</td>
</tr>
<tr>
<td>Trimethyl phosphate</td>
<td>512-56-1</td>
</tr>
<tr>
<td>Tris-(aziridinyl)-phosphinoxide (TEPA)</td>
<td>5455-55-1</td>
</tr>
<tr>
<td>Tris(2-chloroethyl)-phosphate (TCEP)</td>
<td>115-96-8</td>
</tr>
<tr>
<td>Dimethyl methylphosphonate (DMMP)</td>
<td>756-79-6</td>
</tr>
</tbody>
</table>

End of text